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EXTRACT

From an Act prescribing Rules for the Government of the State Library, passed March 8th, 1861.

SECTION 11. The Librarian shall cause to be kept a register of all books issued and returned; and all books taken by the members of the Legislature, or its officers, shall be returned at the close of the session. If any person injure or fail to return any book taken from the Library, he shall forfeit and pay to the Librarian, for the benefit of the Library, three times the value thereof; and before the Controller shall issue his warrant in favor of any member or officer of the Legislature, or of this State, for his per diem, allowance, or salary, he shall be satisfied that such member or officer has returned all books taken out of the Library by him, and has settled all accounts for injuring such books or otherwise.

SEC. 15. Books may be taken from the Library by the members of the Legislature and its officers during the session of the same, and at any time by the Governor and the officers of the Executive Department of this State who are required to keep their offices at the seat of government, the Justices of the Supreme Court, the Attorney-General and the Trustees of the Library.

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MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

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SAN FRANCISCO, SATURDAY, JULY 5, 1873.

VOLUME XXVII. Number I.

Arctic Travel and Adventure.

The recent disastrous termination of the Polaris expedition, resulting in the death of its noble leader, Captain Hall, and the virtual abandonment of the enterprise, has turned public attention to a great extent towards those icy seas. Since the events connected with the failure of the expedition have become public, people who never gave the subject a second thought, have begun to read the numerous works on Arctic exploration, and have a better idea of the purposes for which the different expeditions were inaugurated, and the objects they sought to accomplish. Opinions differ as to the practical results to follow, even if the most sanguine expectations were realized. Some people cannot comprehend how others will risk their lives, encounter hardships and peril, in all the severity of an Arctic climate, merely to prove or disprove a theory. Some who appreciate the endeavors of Livingstone, Speke, Burton, Du Chaillu and others in exploring Africa, fail to see any good in Arctic expeditions, while others see no practical value in either. However this may be, there is no doubt but that thousands of people have a mania for reading descriptions of travel and adventure in the icy regions of the North Pole, and who would, if they had a chance, make a rough and dangerous trip there with much more pleasure than to the sunny South Sea Islands, or anywhere else.

WHALING FLEET IN THE ARCTIC REGIONS.

Leaving aside all romance and theoretical conclusions as to travel in these regions, the hardy American whalers know that there is money to be made thereabouts, which is an all-sufficient incentive for them to go there. During the whaling season, the peculiar barks whose paint, rig, and boats distinguish their calling, may be seen searching the seas on both sides of the Continent for their bulky prey, and cruising about in every direction. The men become inured to hardship and rough weather, and seem to prefer the occupation to any other. It occasionally happens, however, that most disastrous consequences result in the voyages to the Arctic, and numbers of ships are lost every year. No year, perhaps, will compare with that of 1871, in loss of life and property. Among the perils recorded may be mentioned the loss of the Arctic whaling fleet in the ice off Icy Cape. The fleet consisted of 41 ships, which arrived off the Cape on the 6th of August. The wind was blowing from the northeast, bringing down large quantities of ice, so it was with difficulty that they worked their way to Blossom Shoals, latitude 70° 20′ north and 121° west. They found a passage here from half to three-quarters of a mile from the shore to the main body of ice, through which they passed. As they advanced it became wider, and the fleet kept ascending as far as Wainwright Inlet. During several weeks they had a number of severe storms and winds from south to northwest. Soon after the wind shifted to west, setting the ice on shore and drifting it with great force against the ships. Several ships were caught and crushed at that time. The former experience of the masters told them that at this season of the year the ice would float off shore, and they expected it would then do so. The ships were lying in a narrow strip of water with ice on one side and land on the other. The northeast gale, which it was expected would liberate them, did not come, but instead the southeast and southwest gales piled the ice and berge up until the vessels were crushed. Several ships were outside, and the crews of the wrecked ones took to their boats, abandoning their ships, and boarded those of their more fortunate comrades. An idea of the situation of these vessels, raised up and crushed by the ice, can be seen in the accompanying illustration. Only seven out of the forty-one ships were saved at the time, but several have been taken out of the ice since. The majority, however, were a total loss. The sailors experienced considerable hardships while in the open boats, but were safely brought to Honolulu by the rescued vessels and thence to this city.

The immense power of moving ice is well illustrated in this instance, and no doubt the experience of that cruise damped the ardor of many a whaler and incipient explorer. As these men work on a "lay" or share of profits, the whole voyage was a dead loss to them as well as the owners. Massachusetts was the heaviest sufferer, and most of the vessels belonged there. The whaling captains on this coast became great observers of the movements of currents, ice flows, tides, etc., and have a great stock of valuable information on such subjects. Many of them are very intelligent, observant men, who keep records of many peculiar facts which would not appear in an ordinary log-book. The Coast Survey is indebted to them for considerable valuable information concerning the coast about Alaska and above.

CORRESPONDENCE.

The Vienna Exposition.

[By our Special Correspondent—GUIDO KUSTEL.]

One-sixth of the time of the World's Exposition pssed away and certainly not to general satiefaction, or rather to nobody's satisfaction; and if there is an exception it might be limited to the Berliu newspapers, who delight in putting down the Exposition, Vienna and the whole Austrian people. Why, is not known, perhaps jealonsy is the cause. Those papers say the Exposition is a grand failnre, and in this they may be right, to some degree; although oue mouth out of six cannot be considered decisive, especially when the faot is known that from the day of the opening of the Exposition to the first of Jnne, twenty-five days out of thirty, were cold, disagreable and gloomy; and fifteen of the former, raiay. The rain and the Berlin news-writers, their correspondents included, seem to be the strongest

Opponents to the Success ot thc Exposition.

The nnfinished condition is to be regretted, but some consolatiou may be found in the reoollection of the Paris Exposition of 1867, where, iu spite of a great deal earlier commencemeat of a smaller concern, the park was, a month after the opening, a great deal more in disorder than is at present in Vienna. In fact, however, there is no disorder visible here, except in some places between the Industrial Palace and Machinery Hall. The Park in front of the Palace, with the basins and fountains, the alleys with large bloomiug trees, green carpets of English grass, etc., where a few months ago was nothing but a wilderness, looks like the work of magic; and if one considers all their gigantic creation, he must admit the possibility of the expenditure of twenty millions of florins, (as is said,) and this is the weak poiat, the point that might be a failure,—there will likely be a deficit.

But the Vienna people are not discouraged yet, they expect from the futnre what the month of May refused; the extravagant charges for board, lodging and so forth, are greatly reduced. After the rain comes sunshine, and there is no reason why the 10,000 Americans should not come after all, who have been advertised some days ago.

Notwithstanding the very unfavorable weather, the daily average of

Paying Visitors

In May, was, according to the *Neue Freie Presse*, 10,200, while at the same time, at the London Exposition of 1862, not more than 13,700 have been counted per day, in average. Bnt there are three millions aud a half of inhabitants in London, and less than one million in Vienna, so that, takiag also the difference of weather in consideration, Vienna is better off, in comparison, than London was, so far as the first month is concernod. But even if the month of May should be considered as prognosticating the futurc, the Vienna Exposition, in regard to visitors, would be equal with those of London and Paris; but there is good reason to expect a far better result.

Leaving the money business out of the question, the Expositiou of 1873,

As an International Affair,

The maia object of which is the stirring up of industrial emulation amongst all the nations of the world, by exhibiting the evidence of progress in all branches of industry and science, is the most brilliant success that could be expected. This is admitted by all who examine the matter from that point of view. On the first of June 28,704 persons visited the Exposition, although the rain poured down all day. The second of June was a olear lovely day, and iaduced 79,108 visitors to spend all the day in admiratiou and delight.

But the Exposition is uot yet complete. In the moet of the side-galleries the fixing-np goes on, more or less. The American department in the Industrial Palace is shnt up yet, but it has already a face, and will be opened in a ehort time; the American school-house, near the American department of the Indnstrial Palace, is almost ready. The American

Agricultural Hall

Does not show many interesting machines, which is much regretted by the German, Anstrian, and Hungarian farmers, who seem to give preference to Americaa machines. The Englisb are considered too heavy, and, in other respects, less practicsl. The English agricultural machines are coustructed in accordance with thoir local requirements, which are different in some respects from those on the Continent, but the Euglish manufacturers would not take any notice of it, till of late, when they observed, perhaps too late, that Germany and Austria commenced to turn out themselves seed-sowing and other machiues suitable for their horses, which are smaller and weaker than the Englisb. The Americsn mowing machines exhibitod here are praieed very much; they differ oonsiderably from the English. The former are light, elegant in shape, are made of the best material; the wood is hiokory and the cast-iron malleable. If anything is objectionable with thcm, it is that they may be even too light to do work for ten or fifteen years. Each machine has a comfortable seat for the driver, exactly in the right place, and mnch more appreciated here than the seats on the English machines of the same kind. The threshing machine is of the usual construction in the Unided States. Several American plows are exhibited, and amongst them a gang-plow, which creates a good deal of interest amongst people who nuderstand it. It is much regretted that no American hsy-making machinee have been exposed, especially those to rake, tnrn, and load the hay on the wagons. They are considered original and of great perfection, but there are yet many boxes yet untouched, containing perhaps some more of interesting machines.

In the Machinery Hatt

The work is progressing, but nothing is in motion yet—that is in the American department. Each land has its own power and a separate frame for the shafts and are entirely independent of each other. From the separate boiler honses the steam is conducted undergrouud to the engines, of which each country has its own motor, at the same time as an exhibited machine. The power is transmitted to the main shaft by belts. All the boxes for the main shafts are of Amerioan pattern, which allows a vertical and horizontal motion ia adjusting the shafts. From each main steam pipe, steam can be obtained for single maohines. Germany, Belgium, France and England have their shafts runaing every day, bnt only a small part of the maohinery is in motion as yet, it is, however, expected that in two weeks from now all will be in motion.

Japan

Is now open to all people. It is not only their gallery full of interesting objects, that attracts the visitors, but one is also able to see Japan. Behind the palace of the Viceroy of Egypt there are houses, gardens, streets, temples and bazars, and it gives a perfect picture of the Japanese life. The material which they use for building their houses, they shipped from Japan. It is the "Tschinocki" wood and "Singi" wood. It is a kind of cedar wood which spreads qnitc an agreeable odor when cut or planed. The Japanese are fond of flag-staffs and have several of them before the houses, the flags showing the flower "Aster" which is the signe of the reigning dynasty. This signe one meets everywhere in the Japanese quarters. Many Japanese plants have been shipped with the intention to increase the Japanese character of this small settlement, but the most of them spoiled before they arrived in Vienna; the bamboo however is sound. The housee on both sides of the street are two-stories high. The windows have no glass but are provided with fine wood oarving, through which the light is admitted; some have prepared paper. A small pond is at the end of the garden and a Japanese bridge of yellow wood leads over the pond to an artifiicial hill. The bridge is quite a nice work with elegant railings. On the top of the hill is a small temple, the "Mija." This temple is the model of one that was built not far from Kjotch, the old metropolis of Mi Kados in the land of Iche.

Arizona Mines.

A correspondent of the *Alta* writiug from Wallapai District, says: The wise policy of our great hero aud Indian fighter, General Crook, has already caused an influx of prospectors and capitalists iato the rich and uuexplored miaeral belts of this great Territory. If men of capital and brains could be induced to come here, they would realize more than the most sanguine of them could expect. Look, for instance, at the vast number of lodes in this district, being developed by the hardy and indnstrious miners, who, unaided by capital, have laid bare some of the rioh st rock ever lrought to sight; their dump piles will corroborate my statement.

All we ask is that some of the practical mining experts should summon up enough of courage to visit our district, aud especially some of our principal mines; for instance, the Lone Star, down 132 feet, noted for its rich silver-hearing quartz. They have about forty-five tons of rich specimens on the dnmp, any piece of which would be considered a beautiful cabinet specimen. The other day I had the pleasure of being introduced to the energetic Superintendent of the celebrated Ida Mine. This gentlman (Mr. John Lswson) has about sixty tons of ore on the dnmp, and by the glow of satisfactiou on his face, I am well assured that his reports of the richness of the ore are authentic. He has a large force at work, three shifts, and they are down 110 feet. The rock assays largely in gold, as well as in silver; and to show you the confidenee onr people have in this celebrated mine, I will merely state, as a fact, thst certificates in this mine are taken at three dollars per share in all transactions of business.

The Cupel and Tiger Mining Company are pushing things under the able management of Mr. Chas. Spencer, who is Superintendent. I have not been able to visit these valuable mines, but the reports are very favorable; the hoisting works, and a large force of mia ers are busy night and dsy.

The New Era is shipping six to eight hundred dollar rock to the mill at Mineral Park; and the Sixty-three mine is shipping rich ore to San Francisco.

Good reports are coming in from the new discovery, the Hope mine, but the Hibernia lode will do to swear by. Mr. Jas. Reid has a claim of fifteen hundred feet on this great dyke or lode of quartz, which is ten feet in width, and the croppiags assay $130 per ton. The croppings of the lead are easily found for 26 miles.

The San Diego Mines.

Our traveling correspondent writes us from Jnlian City, San Diego county, as follows:

The Golden Chariot is one of the principal mines in the county. The lowest grade of ore taken from where the ledge is 12 feet wide at a depth of 125 feet averages $50 per ton. The higher grade of ore where the ledge runs three feet wide and 125 feet deep, averages from $100 to $150 per ton. This mine is crushiug at present eight tons of ore per day, the cost of which does not exceed $4 per tou for milling. The last clean-np for two weeks ending the 8th inst. prodnced a gross yield of $10,000.

The mine has taken out rock, 100 tons of which yielded them the snug sum of $32,000; this we consider a very handsome clean np. The mine now runs a five-stamp mill, and will at an early day add five stamps more, increase the power of the engine, and provide greater facilities for the reduction of their ore. The mill now used by them was built upon qaite extensive plans, and will accomodate any improvements they may wish to add from time to time. The level in their mine is now run; they will commence stoping ia a few days, when they will take out some two or three hundred dollar rock. The Golden Chariot has shipped more gold to San Francisco mint from April 1st to Jnne 10th, on account of hsving their own mill than all the other mines combined that are located within the districts of Julian and Banner. This does not inolude the celebrated Stonewall. The present owners are James B. Lang, Joseph Coyne, and Duncan McLellan. The stamp mill is superintended by Chester Gunn. The mill is located 2½ miles from the mine. A good wagon road enables them to transport ore at $1.50 per ton—with water facilities and everything required—to their hand.

An extension of the Golden Chariot was recently discovered by Henry Youug and Harry Worth, nine miles southeast. The ore taken from this extension, which is only croppings, assays $20 to the ton, with a positive lead of 2,000 feet, making this a real "chip of the old block."

The Stonewall Mine.

The Stonewall is located at the foot of the Cnyamaca Peaks, seven and a half miles from Julian City. The ledge runs from five to twenty-six feet in width at a pitch of 70 degrees to the west. Hanging wall, slate; foot wall, granite. The walls average twelve feet apart. This entire space is good paying ore, except at times a small strata of what miners term "horse," which is a conglomerate of slate granite and quartz. Notwithstanding this, the Stonewall runs everything throngh their stamps and find it quite profitable, which confirms the previous statement of its being one of the most regular paying miaes within our State. Their shipments of bullion are about $10,000 per month at a cost to them of $2,000 per month.

Their facilities of machinery and convenience of wood, timber, lumber, etc., make the actual cost of working this mine a mere trifle, as no blasting has yet been done or is likely to be required. The shaft was sunk to a depth of 60 feet, and a level run 500 feet; at the north end of this level 100 feet has been stoped to the snrface, averaging 12 feet in width. At the soath end 36 feet has been stoped with the same average width. This shaft has been continued to a depth of 140 feet, and a level each way run 150 feet.

The width of the ledge continaes with rock a little harder and the gold a little coarser. Their mill is a new ten-stsmp mill, erected about six months ago. The building is 60 by 100, and is so sitnated that when the rock is dumped from the mine no handling is required from thence to the battery. Their engine is forty-horse power and a boiler capacity sufficient to run a twenty-stamp mill. The superinteadent, Mr. A. P. Frary states that $3-rock can be run at a profit. Upon examination of the lower level which is 140 feet in depth, with a level run 300 feet; some idea of the immensity of this mine may be had, especially when we remember that the rock intervening is all good paying ore; it being generally understood by experienced miners, that when a water level is reached a ledge of ore is likely to continue to an indifinite period. Their criterion is that as yon find it at water level so it likely continnes for 1,000 to 1,500 feet or more; and should the Stonewall prove its present prospects, the time will come when its present owners will look at no price. The present owners of this mine are A. P. Frary, F. E. Farley, and J. M. Farley. The Stonewall mine is not in dispute, their title to property being clear and valid.

The Owens Mine

Is located within the Julian District, one-half mile from Julian City. The ledge runs from one to six feet wide at a depth of 300 feet. This mine is now being sunk to a depth of 600 feet, and in the meanwhile will run levels and stope when it is found necessary. The rock average $75 per ton, at the depth of 275 feet; the rock now prospects on the lower level $75 per ton. A uew ledge hss been discovered which is likely to run into the original, which will make an immense ledge. Work on this mine is progressing day and night under the snperintendency of W. R. DeFrees—who takes charge from and after this date, June 12th, 1873. The present owners of this mine are W. R. DeFrees, A. DeFrees, T. S. Moore, James Kelly, H. J. Booth. Their mill is situated oae-half mile from the miue where an abundance of water can be had and wood obtained at a trifling expense.

This mine crushes 14 tons of ore per day through a 10-stamp mill, at a cost of $2.50 per ton. The machinery nsed, both at the mine and mill, are of the best make, and have all the late improvements, making their facilities equal, if not superior, to other mines in this district. Their hoisting machinery at the mine is very fine, with a wire rope of 600 ft., warranted to hoist 8,000 lbs.; also an improved engine, which can be worked and reversed as required. Twenty men are employed day and night at their mine and seven at their mill.

The Tom Scott and Eureka.

The ledge has been sunk to the depth of 100 feet. The ledge will average in width from two to four feet, and prospects—rock finer and gold coarser. There never has been taken from these mines one tub of ore which failed to show free gold. These mines have been self-supporting. The owners are C. W. Swain, W. W. Swain, O. L. Bashford, and W. H. Jnlian.

The California

Is one thousand feet due west of the "Owens" mine. The ledge averages 2 feet wide and 110 feet deep, hanging wall and foot wall slate; width of walls 8 feet. Work will be resumed July 1st, by D. H. Snyder and Ira Wentworth, its present owners. The rock taken from the mine will average $18—three hundred tons of which gave a yield of $5,400.

The Helvetia

Is located one mile from Julian City. The ledge runs an average width of three feet, with walls of about 6 feet; hanging and foot walls, both slate. The depth of ledge is 240 feet; tho rock will average from $28 to $30 per ton. Work upon this mine is continued day and night. An addition of owners in this mine will insure its "forward march," as machiaery for working the mine thoroughly will be placed in position before the 1st of August.

The Ready Relief

Is owaed by Baily Bros., and is located about 4 miles east of Julian, in Bauner District. The ledge runs from 2 to 6 feet. The depth of this ledge is from 100 to 150 feet. The rock which this mine mills will rnn from $75 to $100 per toa. They are running both mine and mill day and night by water power.

The Eagle Mine

Is located within 400 yards of Julian City. The ledge is from 2 to 2½ feet wide; wall slate, 125 feet deep, with one drift due west, connecting with maiu shaft by tunnel. The rock is of a rebellions nature. Its owners are, Robt. Leelie, D. Lipman and T. Bundy.

West Point Mines.

After the letter of our correspondent, "L. P. Mc," came to hand and was printed in our last issne, he sent ns some additional particulars from West Point, Calaveras County, as follows: There are at this present time, quite a number of gold mines being worked in this locality—this district has been very much neglected for some years in point of capital, and the mines have been chiefly worked by Mexicans down to the water level, and hard formation of the country rock. They have always found good pay at this distance, as they seldom send any ore to the custom mills that does not pay from 20 to 30 dollars per ton.

Among the prominent mines, is the Pancho, only a short distance from the Lone Star Mine. This mine is being worked by means of tunnels, of which there are five run in on the ledge, all in good ore. No machinery is required to work this mine to advantage. The qnartz shows free gold in paying quantities. Then comes the Josephine mine, on the same side, but facing the Middle Fork of the Moklumne River. This mine has also valuable property, and has been worked by shafts, and one or two small tunnels, paying good profits to its present owners. On the opposite side of the river, is the celebrated Woodhouse lead, now being worked with paying results.

Up the other way from West Point, on what is known as Skull Flat is the Zacatara, and the old Billy Williams mine which have tarned ont good results in their day.

"The Ohio Consolidated Mine,"

Is principally owned by San Francisco parties. This mine was incorporated March 13, 1872, with 25,000 shares, and like many other miaes badly managed nntil of late.

The Company fonnd it to their advantage to employ a thorough and practical Superintendent, Mr. S. D. Merchant, who has pnt the whole thing in good shape, and upon a paying basis. He now has the shaft down 150 ft., with drifts, and a large body of ore in sight. They are now crushing ore which promises good resnlts.

The election of trustees took plsce on Jnne 19, 1873, as follows: W. G. Wayman (President), Benj. Dore, G. W. Stuart, Jas. Fulton, W. J. Hamilton, W. Aag. Kaapp (Secretary), National Gold Bank and Trnst Compaay (Treasurer).

The following item iu relation to this mine I clip from a city paper: Letters from West Point state that the Snperintendeat aow has a mnch larger body of ore in sight than he had anticipated from former knowledge of the mine, and that the future outlook of the company is of the most flattering kind. The connection in the raise with the drain-tnnnel and the ventilation is now perfect. The raise shows an un-

broken lode from top to bottom. The probabilities are that there will be ore yet for 150 feet sonth. A cross-course was struck a few days ago, the first one yet known in the district; it adds greatly in value to the mine. The improvements at the mine consist of excellent hoisting works, with water power; a drain-tunnel, 330 feet in length; north drift over 30 feet; cross-drift 41 feet long; raise, 32 feet high; north stope, open some 60 feet, with about 50 tons of ore on the dump, which prospects and will assay from $50 to $60 por ton. The cross drift to the east veiu will be in by the 15th inst., when the main body of ore will he reached 80 feet below where it has been worked; it paid at that point above, by mill process, $77 per ton.

In additiou to the above, it is known that the company has not a dollar of indebtedness, and all this has been accomplished in the most economical manner. Only three assessments have been levied during the past fifteen months, and within thirty days the company will have the result of their first crushings.

Numbering or Classifying the Comstock Mines.

A thoughtful correspondent, (A. F. G., of Sacramento), referring to the advantage to ontsiders of having the various mines on the Comstock so numbered or lettered that the relative position of each on the great lode can thereby be easily determined by the casual observer, recommends that in our table of fluctuations we divide mines into their natnral divisions, viz: Sonth West Branch, South East Branch, (startiog from Silver City or Daney, running east to Seg. Belcher), and then Maln Comstock lead.

We have simply to say that without arranging them in alphabetical order, so far as our table is concerned, it would be impracticable for us to make the constant changes occurring in the figures with facility and correctness.

SCIENTIFIC PROGRESS.

Rotation of Liquids.

In a recent French *Journal of Science* is a paper by M. Desire Gernetz, on the rotation of liquids. M. Gernetz says: When a ray of light falls on an inclined plane which reflects it through a tnbe similsrly inclined at a certain angle (56° in atmospheric air), then, if the reflected ray lies in the same plane with the incideut ray, there is no loss of light; but if the two rays lie in different planes, the reflected one will be weaker, and even be hsrdly visible, if at right angles to the plane of the other; the light is then said to be polarized. Now, in passing through different substances, the angle of the two planes is called the power of rotation, because you would have to turn one of the planes round a certain number of degress, in order to obtain the beam of light in its natural state. This power of rotation was first observed in qnartz, by Arago, in 1811, and in various liquids, by Biot, in 1815.

When the plane of polarization devistes to the right, it is called dextrogyre; when to the left, *levogyre*. M. Gernetz'a experiments tend to determine the rotstory power of certain liqnids at different temperatures, by means of certain delicate arrangements, which it is not our province to describe; the liquids experimented npon being essence of turpentine, which is levogyre, the essences of sweet and bitter oranges, and a solution of camphor, which are all dextrogyre. 1. The results st which he arrives are these: The rotatory power of active liquids for the same ray right of light depends upon the temperatnre; 2. Wheu the temperature approaches boiling-point, the rotary power varies with some rapidity; 3. When the liquid is reduced to the state of vapor, the rotatory power does not change its direction; that is, it remains levogyre, if it was so before, and conversely; and 4. The lsw of dispersion of the plane of polarization of any ray of the solar epectrum is the same at all temperatnres.

Practical Use of the Carbonic Acid Resulting from Fermentation.—E. Pfeiffer has devised a plan for economizing the waste carbonic acid resulting from the fermentation of wort, the manufacture of vinegar from champagne vats, and the like. The fermenting vessels are covered, and, by means of exhausters, the air is drawn off and is fonnd to contain from twenty to twenty-five per cent. carbonic acid. This can serve for the manufacture of bicarbonates, and, if the gas were to be condensed, could be converted into a motive power, employed in the manufacture of soda water, or nsed for artificial refrigeration. At any rate, there wonld appear to be no reasonable excuse for wasting so mnch carbonic acid. If somebody would only devise a practicable plan by which the enormous amount of carbonio acid, produced by gas burners or axhaled from the lungs of large audiences in onr churches, theaters, aud public halls, could be drawn off, got ont of the way, and devoted to some purpose more useful than suffocating and poisoning multitudes of people, he would confer a great boon on mankind, and would be cordially welcome to any remnneration he could make out of it. In other words, why cannot somebody devise a system of ventilation that will be accepted at once as feasible, and thus put a stop to complaints on this subject?

Percolation of Gases.

Much has been accomplished by the researches of Graham and others, bnt still there is mnch more yet to be learned concerning the laws regulating the passage of gases through, both porous substances, and membranes, aud even through the dense medinm of iron.

Mr. Andsell, of the British Royal Miut, who hae been experimeuting npon the gases of mines, with a view to discover a satisfactory method of detecting explosivo compounds, has just observed a phenomenon which must be of interest to all physicists. He has discovered that some gases will travel with rapidity through biscuit-ware and not through india-rubber, and conversely that others will pass readily through india-rubber, but not through biscuit-ware. Mr. Andsell hae fouud that if a glass cylinder be intercepted at its middlo by a plato of biscuit-ware securely cemented in, and that then one end of the cylinder be covered with a thin sheet of india-rubber, and defusion allowed to proceed through the latter, the gas (especially coal gas) which has passed through the india-rubber, remains botween that snbstance and the biscuit-ware, exerting considerable force, although the other end of the cylinder be perfectly open to the atmosphere. The explauation of this phenomenon, Mr. Andsell believes, is to be sought in the existence of two forms of the same gas whicb possess entirely opposito pormeating powers.

M. Henri St. Clair, has also reported the following interesting experiment observed during his researches on the penetrability of iron by gases:

In a previous paper, this chemist had ehown that hydrogen contained iu an iron tnbe will ooze through its poree if heat bo applicd, a fact easily explained by the expsnsion of the metal consequent upon an increase of temperature. In the present case, M. Deville introdnced an iron tubo into a porcelain one, so as to form an empty cylindrical spsce between the two closed at both ends. He then filled both inner and outer spaces with nitrogen, and heated the apparatus, after which he caused hydrogen to pass into the annular space, taking care to measure the pressure, which soon became doubled in the iron tube. On analyzing the gas contained in the latter, he found it to consist of hydrogen and nitrogen, the former being in by far greater qnantity than the latter, besides a little oxide of carbon. This shows that the hydrogen had penetrated throught the tube.

Departure of Plants from their Original Types.—Few people have a clear idea of how widely some plants have departed from their original types. New races of plsnts come into existence which are so differeut from the plants from which they sprnng that, if found in a wild state, no botanist would hesitate a moment to place them in different genera. The cauliflower and cabbage, for instance, have all "progressed" from the same original, which is a coarse weed wild on the chalk hills along the seacoast of Europe, and so nnlike the cabbage and the cauliflower that no one would suspect it to be the parent of either of them. These facts have been seized npon by some evolutionists as favoring their theory. But, without regard here to our own opinion on the trnth of evolutionary views, as generally held, and with a sole view to truth as science presents it to us, we think these facts do not aid these views very much; for, different as these two kinds of plants are from the wild type, they themselves show no disposition to go any fnrther. The wild plant brought forth a cabbage and s canliflower, but the cabbage and csuliflower show no disposition to produce other distinct things, but rather, to bring forth closely after their own kind—simply continuing to improve by cnltivation, but always within their own specific sphere.

Saponification.—At a recent meeting of the Paris Academy of Sciences, M. Pelouze read a paper on the saponification of fatty substances by alkaline sulphurets. Tallow and oils contain fatty acids combined with glycerine, and the elimination of the latter constitutes saponification. If effected by certain metallic oxides —soda and potash, the compound thus obtained is called soap; and hence the substance known nnder that name consists of a fatty acid combined with potash of soda, and deprived of glycerine. Many years ago, M. Pelouze, after discovering that alkaline salts could produce soap without the intorvention of water, found that akaline sulphnrets possessed a similar property. Having taken np these experiments again, he prepared some crystals of mono-sulphuret of sodinm, and mixed them with their weight of tallow or oil. After a contact of several days, the fatty matter was found completely saponified. By boiling this soap in water, hydrosulphuric acid is evolved, and, if this operation be continued, the mono-sulphuret of sodium is reconstituted.

The painful effect of artificial light npon the eyes is attributed by recent investigators to the great proportion of non-luminous rays, or rays of mere caloric bearing no illumination, which it contains. In sunlight there are 50 per cent. of such rays, in gaslight nearly 90, in olectric 80, in kerosene light 94. A German chemist named Landsberg has discovered that by passing any kind of artificial light through a thin layer of alum or mica, these caloric rays are absorbed, while the illuminating power of the light rays is undiminished, and becomes exceedingly mild and pleasant to the eyes.

Scientific Prize-Award.—The Academy of Sciences, at Paris, have awarded their purse of $10,000 to Mr. Gramme, for his electro-magnetic machine, which is one of the simplest and most efficient that has yet been invented. The constrnction is so free from complications that the iostrument will work and give a continuous current for months together, and to those who know anything of the subject, these will appear as results of the highest importance. Ouo of the uses to which this machine may be immediately applied is the production of a light of intense brilliancy, which will be seen farther than any other electric light yet known. One of the French steamship companies ie about to use this light on their vessels as a precautiou against collisions or other casualties, and it is obvious it can be made of great general utility.

MECHANICAL PROGRESS.

A Valuable Invention—Enameled Brick.

We have alrsady made some allnsion to the recent invention by Mr. Clark of Connecticnt, of a process for preparing an enameled brick for building purposes. It seems that a large company has recently been organized in Philidelphia for the purpose of manufacture. The *American Manufacturer*, in speaking of this new article of mannfacture, says: The process of enameling or glazing pottery and procelain has long been known, and even bricks have been glazed by what is known as the salt process; but the glszing ie too perishable to be extensively nsed. There hss also been another difficulty in all previous processes of enameling. Litharge, or the protoxide of lead, has always been nsed; so essential has this been deemed that it is asserted that it is impossible to produce an enamel without its nse.

Mr, Clark has, howevor, snoceeded in finding a substitute for lead, and has thns svoided the cracking or "crazing" to which all enamels of which lithsrge is a component, is liable.

The minerals used for the ensmel are feldspar, flint, China clay, fluorspar, and the substitute for lead. These are melted together, and upon cooling are broken into bits looking like flints in size and fracture. These are then ground to a powder under French burrs, so exceedingly fine that it feels to the touch of the finger like the best quality of flour, and as a liquid it flows throngh a net containing 10,000 meshes to the square inch. This powder is placed in a snitable vessel and mixed with water until it assumes the consistency of the thin "skim" used by plssterers. It is naturally white, hut almost any color that can be produced in painting can be had by adding the nccessary material. When the enamel has been thus prepared, it is ready for application by simply dipping the face of the brick into it. The paste readily adheres, the spongy qnality of the bricks drawing it into the pores, and giving it a firm gsip as it hardens. The brick, as soon as dipped, and while the enamel is still in a eoft state, sre plsced in sqnsre boxes made of fire clsy, face side up, and conveyed to a heating kiln, where they are subjected to a heat ranging between fourteen hundred and seventeen hnndred degrees Fahrenheit, according to the quantity of the flint in the enamel. The heat fnses the preparation, and the brick being in an exactly upright position, the ensmel settles evenly on the face, and is ready to be removed and cooled for nse.

The advantages of this invention are numerons. The brick presents a most beautiful fsce, smooth, hard, polished, and, as shown by a series of the severest chemical and mechanicsl tests, almost indeetructible. Heat and cold are alike powerless to affect the enamel; a blow sufficient to drive a nail into wood produces not the slightest crack or flaw. Acids or other corrosive liquids do not attsck it.

The company have received an order from the Building Commitee of the Centennisl Commission at Philadelphia, for 200,000 of these bricks, which they intend using in the construction of some of their buildings.

A prominent railroad official designs using these bricks for lining the inside walls of some of the machine shops of the company, as a matter of economy in light—the shops being so dark as to require the almost constant use of gas in the winter months. The pure white enamel, for this pnrpose, would constitute an excellent reflector, and would render shops as light as a parlor painted in white.

It is invaluable in building bank vaults, foundations, or in any sitnation where absolute freedom from dampness is necessary. The great advantage is their cheapness. They can be delivered at sixty dollars per thousand, when the ordinary brick cost forty dollars. Philadelphia pressed brick are worth sixty dollars per thousand exclusive of the cost of delivery, and an ordinary three story front can be put up withthese elegantly colored bricks at about one hnndred dollars less than the cost of the Philidelphia brand. Tho enameled bricks are larger than the ordinary makes, which is also an item in their favor.

It is of course understood that it is not to the manufacture of brick alone that this enamel is adapted. There is no nse to which porcelain has been pnt that thia is not applicable. For enameling stove fronts, kettels, etc., it is unsnrpassed. We also imagine that in the chemical arts it mnst be invaluable. In acid manufacture where a substance free from the influence of corrosion is absolutely needed, this must be employed.

Progress in the Manufacture of Mirrors.

In the year 1782, the price in Europe of a mirror of ten sqnare feet, amonnted to 265 franes, 5.35 francs being equal to one gold dollar. In 1805, the price of a mirror of the same size was 225 francs, and two years sgo it only amounted to one-fifth of this sum, or 45 francs. But the differences in price are still greater for the large mirrors. From the year 1805 to the year 1865, the price of a mirror of forty square feet went down from 400 francs to 262 francs. In 1688, it wss not considered possible to cast a mirror containing eighteen sqnare feet; bnt five years later, Lucas, in Nehou, succeeded in casting plates containing thirty feet; and in 1834, Saint Gobin exhibited a plate of one hnndred square feet. In 1849, he produced one containing one hnudred and thirty feet; at the first London Exhibition, one of one hundred and forty-two; at tho first Paris Exhibition, one of one hnndred and eighty-three; and at the last International Exhibition, one of two hundred and twenty square feet. This last mirror is the largest ever oast with the contents of a single pot. In the year 1862, the Belgisn establishment of Sainte-Varin d'Oignies exhibited in London a plate of a size exceeding the last mentioned by twenty-six square feet, bnt, this mirror being cast with the contents of two pots, it showed marks which were produced by the line of contsct of the two streams.

Various Qualities of Iron.—It is a well known fact, that there is a great variety in quality snd character of pig, bloom and cast iron. When iron has passed into the form of steel, the ssme great differenciea exist in quality. The reason is eesily defined and understood by the iron worker. That iron is ever found pure, or made so by any ohsnge yet known, we do not believe. It is metal of various elements, and when a certain portion of each one predominates, the variation from the one not holding the same is at onoe noted.

The existence of an undne proportion of phosphoric acid, can be at once detected; for it imparts to the mass a great degree of brittleness aud shortness. The existence of carbon in small or large proportion gives to iron many changes; and it is remarkable how little of thia carbon is required to produce steel from iron.

It is curious to witness the changes produced by the variations of quality of carbon from one to six per cent. in the changes of thia metal from pig iron to other conditions. It ia wonderful to observe the entire difference in the quality of pig iron by careful anslysis. The varions proportions of silica, lime, alnmins, magnesia, manganese, sulphur, phosphorus, titantic acid, or other substances thongh principally or partially destroyed by the process of change, leaves their marked influence upon the metal ever after.—*Ex.*

Another Answer.—Mr. A. E. Holley gives a very sensible answer to the much discnssed question, "What is Steel," in the following lsnguage: "Steel is an alloy of iron that is cast while in a fluid state into a malleable ingot. Any radical nomenclature fonnded on chemical differences leads to endless mistako and confusion. If steel is defined as an alloy of iron contsining carbon enough to harden it when it is heated and plnnged into water, theu puddled iron, although laminated and heterogeneous in strncture, may not he steel, and the finest product of the crucible, although crystalline and homogeneous in structure, may not be steel. The fundsmental and essential difference between steel snd all other compounds of iron is a structural difference, and it is always eesily determined, while steel and wrought iron cannot always be distinguished by chemicsl anslysis. The same proportions of carbon, manganese, silicon and other elements msy exist in snd similarly effeot any malleable alloy of iron. Steel is, therefore, an alloy of iron which is cast into a malleable mass."

Raising Steam by Solar Heat.—Several inventors in different countries are attempting to ntilize the heat of the snn's rays, snd to construct a sun engine. Many people shake their head at this idea and ridicule the very idea of success. But they are certsinly unacqnainted with the stupendous force at disposal. To convert one pound of water from zero to steam requires 637 centigrade units of heat. The researches of men of science have proved that every square centimeter of the earth's surface receives not less than 231,675 centigrade nnits of the sun's heat annnally. Forty per cent. of this is absorbed by the surrounding atmosphere, and sixty per cent. reaches the earth. This gives seven centigrade units received per second on each centimeter, so that ninety-one squsre feet of the earth's surface would receive heat enough every second for the vaporization of one pound of water.

Device for Increasing the Flow of Wells. M. Donnet, a French engineer, has discovered a method of increasing the flow of wells, by closing the mouth as perfectly as possible, by means of a sheet-iron bell, through the top of which the tube passes which is attached to the pump. When the pump is worked, if more water is withdrawn from the well than naturally flows into it, the water-level is lowered, and a diminution of pressure is produced on the surface; this causes an increased supply of water to come in from the springs which feed the well, and the total dolivery of the well is permanently increased.

COMPARATIVE TABLE.

Showing Highest and Lowest Prices of Mining Stocks on the Board List of the S. F. Stock and Ex. Board, during the Last Twelve Months, and during Four Weeks, together with Number of Feet, Shares, Last Dividends and Assessments.

NAME OF COMPANY	FEET IN MINE.	SHARES IN MINE.	LAST DIVIDEND.	LAST ASSESS'T.	1873. WEEK ENDING June 11 High	June 11 Low	June 18 High	June 18 Low	June 25 High	June 25 Low	July 2 High	July 2 Low
WASHOE.												
Alamo Gold and Silver M. Co		6000		5, Mch. 1, '71	1 / 35	¾ / 27	75c / 31	75c / 27	75c / 32	75c / 29	75c / 31	75c / 28
Alpha Consolidated	3600											
Alta		30000		1, May 17, '73	5½	2¾	6½	3½	6¾	4¼	5½	4¾
American Flat	1900	18000		5, June 16, '73	7	4	4	2½	2¾	2¼	2¾	1⅞
Arizona & Utah	65	24000	27, July, '71		3	3	3¾	3	3	3		
Bacon Mill and Mining Co		54000		3, June 3, '73	9½	7½	11½	8½	12½	8¾	10	8¾
Baltimore Consolidated	1040	104000	16, June, '73		111	84	90½	86	97	88	103	92½
Belcher	274	22400		8, Feb. 7, '71	6¾	4	4¾	3¾	4¾	4¼	4¾	4¼
Best & Belcher	20	5000										
Bowers		16000		7, Jan. 21, '73	2	1½	1¾	1¼	1¾	1¼		
Buckeye	2500	25000		45, Aug. 6, '72								
Bullion	5000	20000		4, Feb. 5, '73	26	18	18¼	16½	19	16¾	17½	16½
Caledonia Silver Mining Co.	150	10800			6	6						
Central	100	20000			6	5½	6	5	6¾	5¾	6½	5¾
Central No. Two	2800	28000	39, Feb., '73	4, Feb. 13, '73	75	61	64½	51	59½	53	67	53
Chollar-Potosi	130	24950	6, May, '65	10, Mar. 18, '73	9	7	7⅞	7¼	7⅞	7	7	6¾
Confidence Silver Mining Co.	3½	20000			2¾	2	3	2½	2	2		
Cons. Gold Hill Quartz	1150	28000		15, June 11, '73	102	90	95	88	97	92	110	98
Consolidated Virginia	1600	24000		1, Sept. 4, '72								
Cook & Geyer	600	100000	31, June, '73	6, May 28, '73	135	116⅔	117½	97	116	107	108½	100
Crown Point Gold and S. M.	2000	24000	2, July, '63	6, May 28 '73	1½	1	1	¾	1	50c	1¼	1¼
Daney	1200	24000										
Dardanelles		25000			6¾	6	6½	5½	6	5½	6	6
Eclipse	75	50000	21, May, '61	13, June 10, '73	5⅞	6¼	5⅞	4¾	5¾	5¼	5	4⅝
Empire Mill and Mining Co.	400	8000		9, June 26, '72	13	10	10½	10	10⅝	9½	9	9
Exchequer	3000	12000										
Flowery					3	1¾	1½	1½	2¾	2½	2¾	2½
Franklin		20000		2, Jan. 7, '73	4	1	1½	1	1½	1⅛		
Gliche	1200	48000	36, Oct., '70	18, June 9, '73	17¼	12½	15	10½	12½	11	13	11½
Gould & Curry Silver Mining	400	16000	36, April, '71	30, July 1, '73	51½	42½	45	38	44½	40	45	40
Hale & Norcross	184	100000	30, June, '68	16, Apr. 8, '73	6⅝	5⅝	6¼	5⅝	6⅝	5⅝	6¼	5¾
Imperial					3¼	1¾	2	1½			2	2
Indus	2000	30000		1, May 5, '73								
Ineuranee	2040	30000		14, June 9, '73	3¾	1¾	2⅛	1⅜	1¾	1½	1⅞	1¼
Julia Gold and Silver M. Co.	3000	21000		6, June 24, '73	11¾	7½	7½	7	8½	8	10¾	7½
Justice	85	20000	32, Mch., '70	10, Apr. 25, '73	12½	9¾	12¼	9¼	11½	10¼	10½	9¾
Kentuck	1200	24000		5, Mch. 24, '73	4⅞	3	3¾	3⅜	4¾	3¾	4	3¾
Knickerbocker												
Lady Bryan												
McMeans	3000	36000										
Mint Gold and Silver Mining	1600	50000		1, May 6, '73	1½	1½	1¼	1	1¼	1	1	1
Nevada	3000	40000			2	1½						
New York Consolidated	3600	36000		4, May 31, '73	1½	1	1¼	¾	1½	1	1½	1
Occidental	800	10000	1, Mch., '69	1, Feb. 8, '73	4½	4	4	3¾	4	4	4	4
Ophir Silver Mining Co	1400	16800	22, Mch. '64	28, June 24, '73	47½	36	37	31½	34	29	34	30½
Overman Silver Mining Co	1200	12800		26, June 4, '73	55	32½	39½	34	46	36	38½	31½
Phil. Sheridan	1200	24000										
Pictou	2000	30000		3, June 19, '73	40c	25c	35c	25c	35c	20c	30c	30c
Rock Island		24000		1, June 20, '73	⅝	½					50c	37c
Savage	600	16000	52, June, '69	8, Apr. 5, '73	160	128	147	110	139	120	158	127
Segregated Belcher	160	6400		14, July 20, '71	51	40	53	47½	55½	48½	55	50
Segregated Caledonia		10000					1½	1½				
Senator Silver Mining Co		24000		8, June 24, '73	1	¾			1	1	75	50
Sierra Nevada		20000	11, Jan., '71	26, April 17, '73	14	12	12	11	11½	10½	10⅝	10
Silver Hill		54000		1, Dec. 24, '72	25	19	22	18	20	19	20	19½
South Overman		24000			1	1	1¼	40c	2	1¼		
Succor Mill and Mining Co	1600	22800	2, Oct., '71	5, Nov. 26, '72	2½	2½	2½	2⅛	2¼	1¾	2¼	2⅛
Sutro		24000										
Trench	20	5000							5	5	5	4½
Tyler	2200	33000			1	¾	1	¾	1¼	75c	1⅛	⅞
Union Consolidated	803	20000		3, June 13, '73					75c	50c		
Utah		20000		7, May 6, '73	2½	1¾	2½	2½			3	2½
Woodville Gold and S. M	1400	28000		11, Mch., '72	3¼	1¾	2½	2½	2⅝	3¼	3¼	2½
Yellow Jacket	1200	24000	25, Aug., '71	15, Jan. 4, '73	84	66	68	61	66	58	64	61
NEVADA.												
Adams Hill		50000		3, Dec. 23, '72	⅛	⅛						
Alpe Silver Mining Co	800	30000		4, May 6, '73	1½	¾	1¼	1	1½	1	2	1¾
Amador Tunnel and Mining				3, June 4, '73	2½	2						
American Flag Mill and M		30000		2, June 3, '73	7½	5	6	4	6	4¾	5	4⅜
Arkansas	300	30000		3, Jan. 18, '73								
Belmont					4¾	3¼	4	3½	5½	4	6½	5
Bowery		30000		3, May 6, '73	1	¾	1	70c	1¼	75c	3	1¼
Chapman Mill and Mining		30000		3, Mch. 4, '73	45c	30c	25c	20c	75c	30c	35c	25c
Charter Oak Silver Mining	1000	30000		1, Mch. 3, '73	½	¼					10c	10c
Chief of the Hill		20000		2, May 23, '73	¾	½	1½	1	2½	1¾	2¾	2¼
Chief East Extension		30000		1, Nov. 28, '73	20c	10c	10c	10c	15c	15c	40c	15c
Columbus Mill and Miuing	10000	50000		2, April 26, '73								
Condor		25000		1, Sept. 12, '72								
Eureka Consolidated		50000	5, June, '73		13½	10½	13½	12	14¾	12½	12½	10¾
Excelsior		30000		1, June 20, '72								
Harper Silver Mining Co		30000		1, Jan. 27, '73								
Hermes	1000	30000		4, May 10, '73	9	6	8	6	9½	8	12½	7½
Home Ticket												
Huhn & Hunt Silver Mining	3400	30000		6, May 12, '73	2	1¼	2⅞	2	4	3⅝	3¾	1¼
Hugoman Silver Mining Co	1000	30000		4, Mch. 1, '73	80c	50c	¾	⅝	75c	50c	87½c	62½c
Ivanhoe		30000		2, Dec. 12, '72								
Jackson		50000		6, June 25, '73	30c	25c	¼	¼	30c	25c	25c	5c
Juniata Consolidated	5000	50000		1, Jan. 17, '73	2¾	2¼	2½	2	3¼	3¼		
Kentuck Gold and Silver	1000	20000		6, June 2, '73	5½	3	3	2½	2½	2½	2½	1
Kneton	1000	30000		1, Aug. 26, '72								
Lehigh	1000	30000										
Lillian Hall	1000	15000		2, Jan. 23, '73								
Louise	2400	30000		3, Sept. 15, '72			25c	25c			62½c	30c
McMahon	1000	30000		1, June 19, '73								
Marion		30000		1, Dec. 9, '72								
Meadow Valley	24023	60000	16, June, '73	7, May 30, '70	23½	21	23½	21½	24¼	22½	23	20½
Mocking-Bird	1200	30000		1, Dec. 5, '72								
Monitor Belmont			2, Mch., '73		4	4						
Murphy	2000	60000										
Newark Silver Mining Co	800	32000		4, Apr, 10, '73	1¼	1	1¼	1	6	1¼	7	4⅝
Pacific Tunnel and Mining												
Page & Panaca Silver Mining	2400	40000		3, Feb. 3, '73	1⅜	1¼	1	1	1⅜	1¼	1⅜	1¼
Peavine	1000	30000		4, May 12, '73	25c	20c	20c	20c	40c	25c	50c	30c
Phœnix		50000		11, May 28, '73	50c	20c	40c	10c	35c	25c	50c	20c
Pioche Silver Mining Co	1000	20000	3, Aug., '72	3, Feb. 21, '73	10½	9	9¼	8	9½	8½	9¾	8½
Pioche West Extension		35000		4, May 16, '73	75c	50c	¾	½	1¼	1	1⅛	1
Pioche-Phœnix		40000		3, May 6, '73	3	1⅞	3¼	2½	4	3¼	4	3¼
Portland				1, May 6, '73								
Raymond & Ely	5000	30000	22, Feb., '73		62½	57½	61	56	65	61	66	60
Silver Peak		30000		2, April 3, '73	1½	1¼	1½	1	1¾	1¼	1⅝	1½
Silver West Consolidated				4, June 10, '73								
Standard Mill and Mining				1, May 10, '73			2	2	2	2	2	2
Star Consolidated	18000	50000		3, June 19, '73	1¼	¼						
Starlight	6900	25000										
Sterling		30000		1, July 15, '72								
Spring Mount		25000		2, Jan. 15, '73					1	75c	1⅛	⅞
Spring Mountain Tunnel		20000		6, June 20, '73								
Ward Beecher												
Washington and Creole	200	30000		8, April 25, '73	2¾	2	2⅞	2½	2¾	2⅜	2¾	2½
Yellowstone												
CALIFORNIA.												
Alpine	1200	12000		4, May 13, '73								
Bellevue	8000	20000		6, April 14, '73								
Calaveras Gold Mining Co	3200	20000		3, Feb. 12, '73								
Cederberg Gold Mining Co		24000	4, Feb., '73		4½	4½	4½	4½	4½	4½	4	4
Consolidated Amador			5, April, '73									
Cottonwood Creek		20000										
Dunderberg Mill and Mining												
El Dorado Ind. Quartz M.												
Eureka Gold Mining Co	1680	20000	9, July, '73		22	21	21	21			17½	15
Gillig		24000		1, July 20, '72								
Independent Gold Mining	1800	25000		3, Apr. 2, '73	2½	1	1	1			2	1
Keystone Quartz		10000	1, July, '72									
Mt. Jefferson	1500	25000		4, Dec. 18, '72							1	1
Oakville Quartz Mining Co												
Rye Patch					16½	8	11¾	7	8½	6	10	7½
St. Lawrence Mill and M. Co												
St. Patrick	1800	20000		1, Mch. 11, '73								
Tecumseh	3000	30000		6, Oct. 31, '72								
Yule Gravel	400	10000	9, April, '72	20, May 28, '73								
				3, June 4, '73								
IDAHO.												
Empire		25000		3, April 10, '73	½	½	½	½				
Golden Chariot	750	10000	9, Mch., '71	9, May 26, '73	10¾	7	15½	10	16	11	18	14
Ida Elmore	1300	10000	6, Feb., '70	9, Mch. 25, '73	5	4	5¾	¾	6	4½	8½	4½
Mahogany G. and S. Mining	720	10000	1, Aug., '72	9, June 11, '73	10	6	11½	9	10½	8½	8	8
Minnesota Gold and Silver	1070	20000		6, May 21, '73	9¼	6	11	8¾	10½	8½	11	10¼
Reckless					5	3	4¾	3¾	4	3½	4	3½
South Chariot	660	20000		6, May 23, '73	2½	⅜	3	2	3	2	2⅞	2¼
War Eagle	1000	10000		1, Nov. 4, '72								
WHITE PINE.												
General Lee	1000	20000		6, Jan. 9, '73	80c	50c	1	1				
Mammoth Silver Mining Co	1800	36800		12, Mch. 3, '73	50c	45c	45c	40c	50c	45c	45c	40c
Noonday	1000	20000		14, May 31, '73					30c	25c		
Original Hidden Treasure	800	21333	1, June, '70	8, Oct. 9, '72	8½	5	7½	6¾	7½	7	7	6
Silver Wave									40c	40c		
Ward Beecher		24000		1, Nov. 21, '72								
UTAH.												
Deseret Consolidated	2400	30000		1, Sept. 16, '72								
Wellington		50000		1, Nov. 12, '72								
OREGON.												
Virtue	2300	20000										

NAME OF COMPANY	1872. JULY. High	July. Low	AUG. High	Aug. Low	SEPT. High	Sept. Low	OCT. High	Oct. Low	NOV. High	Nov. Low	DEC. High	Dec. Low	1873 JAN. High	Jan. Low	FEB. High	Feb. Low	MAR. High	Mar. Low	APR. High	Apr. Low	MAY. High	May Low	JUNE. High	June Low
WASHOE.																								
Alamo Gold and Silver M. Co	60	27	66	35	47½	33	60	32½	58	44	50	37	3¾ / 48	⅜ / 33	4⅝ / 44	3½ / 38	5¼ / 40	5 / 20	3½ / 29½	1⅛ / 20	9 / 50	1 / 25	1 / 35	¾ / 27
Alpha Consolidated																								
Alta					1¾	1¾							⅞	⅞					1⅜	⅞	10½	1	¾	28¾
American Flat	2¾	80c	2	90c	1 90	75c	2¼	1¼	3½	1¾	2	1⅛	3	1¾	3½	1⅞	2¾	1½	4	1⅞	7⅞	3¾	7	2
Arizona & Utah	95	20	81	50	50	50	60	60	65	9			8	8	6	6					5	3	8¾	3
Bacon Mill and Mining Co							3¾	1⅞	3	1¾	1⅞	1½	2⅞	1⅞	2¼	1¾	1¾	¾	4½	¾	23½	3⅜	12¾	7½
Baltimore Consolidated	1100	108	132	100	114	85	16	75	119	93½	107	81½	96½	69½	90	76	86½	60	90	65	104	71	111	84
Belcher	8	7	7	6½	8¼	6⅝	6¾	6	8¼	6	6¼	5	5¾	5	5⅞	6¼	6¾	2¼	4	3	7	4	6¼	3¾
Best & Belcher	14	6	16	13½			15	14					2⅞	1¼	1⅞	1	2				8	5		
Bowers	4	3	3¾	1¾	2¾	2¾	3	2	2⅜	⅞	3	2⅜					3	¾	1½	⅜	3	1½	2	1⅜
Buckeye																	1½	¾	3	¾	3	1½		
Bullion	70	40	72	35½	48	28½	11½	19	36	25	29¾	20¼	29	20	29	24	29	12	20	12	25	17½		
Caledonia Silver Mining Co.	11	6	12	11	11	7½	10	8	9	4	7	4	6½	6	7	6½	23	12½	35½	20	35	17½	26	16½
Central																	6	4½	5	2½	6	4	6	6
Central No. Two	126	102	99	62	75½	61	72	50	77	60	77	44	60	46	50	43	1¾	1¾	2	1¾	2	1¾	2	1½
Chollar-Potosi	18	5½	13¾	7¼	11	7¼	15	9⅝	14	11¾	12¾	10	11	7¾	13½	9	48	34	56	39	81	48	75	51
Confidence Silver Miuing Co.	7¼	2½	8¾	5	5	6	6½	4½	6¼	6	5	6	11	7¾	10	8	11	6¾	10	8	11½	8	7	7
Cons. Gold Hill Quartz	45	21	¾	21	75	22½	75	49	86	43	66	42	55	40½	66	49	82	35	69	43	94	65½	110	88
Consolidated Virginia			1	80c	50c	50c					10c	10c	30c	30c					60c	40c	1½	⅞		
Cook & Geyer	172	142	146	108	143	102	128	75	131	102	110	87	95½	82	106	96	104	83	124½	89	145	116	135	97
Crown Point Gold and S. M.	2¾	1¾	2¾	1½	1¾	1	2	1	1½	⅞	75c	50c	⅞	¾	55c	45c	75c	40	50c	20c	3½	90c	1½	½
Daney																								
Dardanelles	14½	4	19½	10	13	10	12¾	9	11½	9¾	10	9	10½	7	10½	9	9½	7	9½	7	10	5½	6¾	5
Eclipse	19¼	9	17⅜	8	11½	5	10¾	6	10½	8⅞	9½	6¾	8½	5	8½	6¾	7½	3⅞	6¾	4	10½	5¾	5⅞	4⅝
Empire Mill and Mining Co.	27	8	23	14	18	13	20¾	12½	9	7	7	4	17½	10	15½	13	12	7	10¾	7	20	9½	13	9
Exchequer																					3	1		
Flowery					2	50c	1⅜	25c	2⅛	1⅜	1¾	75c	3¼	1⅝	2¾	1⅞	2¾	2	2¾	2	5	1¾	3	1½
Franklin																					5	2	4	
Gliche	220	166	181	125	266	165	200	133	250	103	210	153	180½	12	15¾	14¼	14¾	6¾	16½	12¾	20	12¾	17¾	10½
Gould & Curry Silver Mining	23	8¾	16½	9	12	7	8¾	5	9¾	7	5⅞	3	9	6¾	8¾	6	6	3	6	3	15	8½	12	7
Hale & Norcross	930	270	300	240	260	200	280	200	230	190	170	135	11	6¾	12	10	10¾	7¼	8¾	6	16	8½	12¾	9¼
Imperial	11	4¾	9½	6	7½	4	6	4	6¾	4½	5	6¾	5⅞	3¾	5	4	4	1⅝	4½	⅜	10	4	4¾	3
Indus																								
Ineuranee													2¼	2	2	2								
Julia Gold and Silver M. Co.													2	1¾	1½	1¼	2	1½	10c		2¾	1	1½	¾
Justice													2	1¾	1½	1	2¾	¾			5	2¾	4½	3¾
Kentuck													3	2½	3	2½	3¾	1⅝	2¾	⅜	15	8½	12	9
Knickerbocker													53	33	49	40	45	21	37½	15	47	30	47½	29
Lady Bryan													70	41	64	52	55	22½	36	17	66	32	55	32½
McMeans																					95	35c		
Mint Gold and Silver Mining																			1	⅓	1½	70c	40c	20c
Nevada																					3½	1½		
New York Consolidated													86½	50½	83	56½	76	35	97	35½	160	110		
Occidental													76½	50	72	68	60	27	42	26	60½	32	55½	40
Ophir Silver Mining Co																					4	2	1½	1½
Overman Silver Mining Co																					28	10	24	1
Phil. Sheridan													1	40c	40c	¾	1	1	1	1	18½	9	14	10
Pictou	120	82	16¾	11	18	13	18¾	14	17	14½	15¾	12¾	14½	9½	11½	9	12	8¾	11	8	32½	15	25	18
Rock Island		15½		6	9½	1	9¾	6½	9¾	1⅜	8⅜	7	8¼	5½	11½	5	10	6	15	8	60	30		
Savage	50	50c			2	1			1¾	55c	25c	25c	60c	60c	¾	40c	85c	85c			2¾	½	2	40c
Segregated Belcher	50	50c	2½	1¼	2	1½	3	1¼	1¾	1	75c	50c	3⅜	3	4½	3¼	3⅞	1½	3	2¼	5	2½	2¼	1⅜
Segregated Caledonia																								
Senator Silver Mining Co	18	8											10	10			2	2	9	5	12	5	5	4½
Sierra Nevada																					2¾	½	2¼	½
Silver Hill													1½	¾					½	½	2¾	½	1½	¾
South Overman																					2¾	½	2¼	½
Succor Mill and Mining Co													1	½							2½	¾	70c	½
Sutro																					2¾	½	2¼	1⅛
Trench																								
Tyler																								
Union Consolidated																								
Utah																								
Woodville Gold and S. M																								
Yellow Jacket	160	166	163	108	119	76	128	60	125	93	101	50	77½	50	95	55	86	51	80	56½	95	68	84	58
NEVADA.																								
Adams Hill	3½	2¾	31	¾	2¼	1¼	1¼	1¼	1¼	1	75c	50c	1	30c	½	35c					1¼	41c	⅛	⅛
Alpe Silver Mining Co	4½	2½	4⅝	4	5	4	6	4⅜	6½	3¾	5	3½	3⅝	2¾	3	1¾	2	45c	3	1¾	2½	1¼	1⅜	1
Amador Tunnel and Mining													6	2½	5	2	3	1¼	4½	2½	6½	2½	2½	2
American Flag Mill and M													10¼	6⅞	9	8	5	6⅞	5¼	13½	6	7½	4	
Arkansas													1	1	2¾	2		1						
Belmont													8¼	5¾	5	4¾	4½	3¼	4¾	3¾			4¾	3¾
Bowery	2½	2½	3	2¼	3½	1¼	2	1	2½	1¾	1½	8 c	1	½	1	½			25c	25c	3¼	1	3	¼
Chapman Mill and Mining	3	1	2½	1	2	1	1½	75c	2	1	1½	75c	⅞	65c	¾	30c	2½	50c	1	35c	15c	15c	35c	20c
Charter Oak Silver Mining	2¾	2	10	4⅞	13½	6¾	11¼	7	7⅞	5	5½	3⅜	4⅜	3	3½	2¼	25c	9c			30c	25c	25c	10c
Chief of the Hill	4⅞	4											2	1	2	1	4	2¼			4	2	2½	1
Chief East Extension													2½	1½	3	3					2½	1		
Columbus Mill and Miuing	6½	3½	3½	2⅜	2½	1½	1¾	50c	1⅞	⅞	1	50c	1	½	1	¾					2½	1		
Condor	29¾	22	23⅞	19	22½	18	23	17	23	17	19	11¾	15	9	13½	9	11¾	9	11½	9¾	25	10	14¾	10¼
Eureka Consolidated	60	13	18	10	14	10	14	13															

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive o hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Deling'nt.	Sale.	Secretary. Place of Business.
Amador Tunnel M. Co.	Ely District	1	1 00	June 4	July 10	July 30	L. Kaplan, Merchants' Ex.
Alpine G. M. & M. Co.	Amador, Cal.	4	$1 00	May 13	June 17	July 8	Joel F. Lightner. 438 California st
Alps M. Co.	Ely District.	4	50	May 6	June 11	July 6	C. F. Balcolm. 426 Montgomery st
American Flat M. Co.	Washoe.	1	50	May 17	June 20	July 9	G. W. R. King. 411 California st
American Flag M. & M. Co.	Ely Dist.	2	1 50	June 3	July 9	Aug. 4	Geo. R. Spinney. 320 California st
Arizona & Utah		5	1 00	June 16	July 21	Aug 12	Joseph Maguire. 419 California st
Baltimore Con. M. Co.	Washoe.	3	75	June 3	July 8	July 31	D. F. Baglay. 401 California st
Bellavoe M. Co.	Placer Co., Cal.	6	50	April 14	May 19	July 30	T. F. Oronise. 438 California st
Bowary Con. M. Co.	Ely District.	3	50	May 5	June 16	July 8	C. E. Elliott. 419 California st
Chief of the Hill M. Co.	Ely District.	2	50	May 23	July 1	July 21	C. S. Neal. 419 California st
Consolidated Virginia M Co.	Washoe.	15	3 00	June 11	July 16	Aug. 7	D. T. Bagley, 401 California st.
Chief East Extension M. Co.		1	20	May 28	July 2	July 30	R. Wegener, 414 California st
Daney G. & S. Co.		6	50	May 28	July 1	July 25	Geo. R. Spenney, 320 California st
Empire M. & M. Co.	Washoe.	13	1 00	June 10	July 14	Aug. 5	Geo. R. Spinney. 320 California st
Globe M. Co.	Nevada	3	25	July 2	Aug. 4	Aug. 25	Joseph Maguire. 419 California st
Gould & Curry S. M. Co.	Nevada.	18	1 00	June 9	July 14	Aug. 4	A. K Dunbrow, room 72, Merch'e. Ex
Goldan Chariot M. Co.	Idaho.	9	2 00	May 26	June 30	July 21	L. Kaplain. Merchants' Exchange
Hale & Norcross S. M. Co.	Washoe.		5 00	July 1	Aug 2	Aug 22	J. F. Lightner. 438 California st
Hahn & Hunt M. Co.	Ely District.	6	1 50	May 12	June 18	July 16	T. W. Colburn. Marchants' Exchge
Hayes & Delmont S. M. Co.	Robinson Dist.	2	25	May 16	June 19	July 15	Geo. R. Spinney. 320 California st
Hemes M. Co.	Ely District.	4	3 00	May 10	June 16	July 14	B. B. Minor. 411½ California st
Julia G. & S. M. Co.	Nevada.	14	50	June 9	July 12	July 31	A. Noel, Room 20, 419 California st.
Justica M. Co.	Nevada.	6	1 00	June 24	July 29	Aug 18	R. Wegener, 414 California st
Jackson M. Co.	Nevada.	6	10	June 25	July 29	Aug 18	H. C. Kibbe, 418 California st
Kentucky G. & S. M. Co.	Ely Dist.	6	1 50	June 2	July 5	July 26	J. P. Cavallier, 509 Montgomery st
Kentucky G. M. Co.	Cal.	4	20	June 23	July 24	Aug 8	Geo. Fletcher, Grass Valley
Mahogany G & S M. Co.	Idaho.		2 00	June 11	July 18	Aug 9	E. McFadden, Exprss Bldg
McMahon S. M. Co.	Nevada.	4	25	June 19	July 22	Aug. 19	Geo. R. Spinney. 320 California st
Mesopola M. Co.		6	1 00	May 21	June 27	July 21	Wm. Willis. 416 California st
New York Cons. M. Co.	Washoe.	4	50	May 31	July 2	July 31	H. C. Kibbe, 419 California st
Noonday M. Co.		14	25	May 21	June 27	July 21	J. Maguire. 419 California st
Ophir M. Co.	Washoe.	25	5 00	June 24	July 28	Aug 18	J. Marks, Merchant's Ex
Overman S. M. Co.	Washoe	26	4 00	June 4	July 8	July 28	W. W. Stetson, 414 California st.
Pearl M. Co.	Ely District.	4	25	May 12	June 11	July 12	C. F. Balcolm. 420 Montgomery st
Phenix S. M. Co	Nevada.	11	25	May 28	July 3	July 23	Joseph Maguire, 419 California st
Pictou M. Co.	Nevada.	3	25	June 19	July 21	Aug. 8	S. Phillips. 408 California st
Ploche Phanix M. Co.	Ely District.	3	1 00	May 6	June 19	July 11	C. E. Elliott. 419 California st
Plocha West Ex.	Ely District.	4	50	May 16	June 24	July 22	T. W. Colburn. 414 California st
Portland S. M. Co.	Ely District.	1	25	May 6	June 9	July 15	B. J. Gray. 438 California st
Rock Island G. M. Co.	Washoe.		50	June 20	July 23	Aug. 13	W. E. Dean. 419 California st
Senator S. M. Co.	American Flat.	8	50	June 24	July 28	Aug 18	Henry Boyle, Stevenson's Bldg
Silver West Con. M. Co.	Nevada.		75	June 10	July 17	Aug 12	F. R. Bunker, 36 Montgomery st.
South Christ M. Co.	Idaho.	6	50	May 23	June 30	July 21	J. L. King, 411 California st.
Spring Mountain Tunoel Co.	Nev.	6	20	June 20	July 29	Aug 18	J. M. Buffington, 37 N.M. Exchange
Standard M. & M. Co.	Ely District.	1	2 00	May 16	June 21	July 15	J. M. Lenzarden. 515 California st
Star Con. M. Co.		3	10	June 19	July 24	Aug. 18	Geo. R. Spinney. 320 California st
Tecumseh G. & S. M. Co.		29	25	May 28	July 1	July 19	T. J. Herrmann, 418 Kearny st.
Utah S. M. Co.	Washoe.	2	1 00	May 6	June 10	July 2	W. E. Dean. 418 California st
Union Cons. M. Co.	Washoe	3	25	June 13	July 17	Aug 7	J. M Buillington 438 California st.
Virginia Con. M. Co.	Inyo Co., Cal.		5	May 12	June 16	July 8	T. B. Wiegard. 318 California st
Yole Gravel M. Co.	Placer Co., Cal.	3	20	June 4	July 9	July 29	W. H. Watson, 302 Montgomery st

Other Companies (not on the Lists of the Boards.)

Atlantic & Pacific Con. M. Co.			6	June 20	July 24	Aug. 12	A. Noel. 419 California st
Aogela Quartz M. Co.		35	1 50	March 4	April 3	July 16	Geo. Congdon, 408 California st
Auburn G. M. Co.	Placer Co., Cal.	4	50	April 24	June 3	July 15	R. Wegener. 414 California st
Brown's Valley Cons. M. Co.		1	50	June 27	Aug 2	Aug 25	R. B. Noyes. 411½ California st
Buena Vista Vinlouitnral Society,	Cal.		5 00	June 12	July 15	Aug. 4	H. Selmer, 409 Battery st.
Bunker Hill M. Co.			10 00	June 5	July 7	July 28	C. H. Knox, 19 First st.
Caroline M. Co.	Ely District.	1	20	June 20	Aug 8	Sept 1	C. E. Elliot, 419 California st
Central Land Co.	Cal.		1 25	June 9	July 10	July 28	B. F. Haswell, 338 Montgomery st.
Cal Fruits Beet Sugar Co.	Cal.		10 00	May 26	June 30	July 22	Louis Franconi, 314 California st
Caderberg First N. Ext. G. & S. M. Co.	Cal.	3	20	May 27	June 28	July 18	J. N. Webster, 506 Montgomery st
Central Coal M. Co.	Cal.	20	20 00	June 10	July 16	Aug 5	W. Hillegiass, 457 8th st. Oakland.
Central Polynesia Land Co.	Navigatore Is		5 00	May 24	June 25	July 12	J. J. Meaburn, 319 California st.
Clear Lake Water Works.			5 00	May 24	June 25	July 12	S. I. C. Swezey, 3 Front st
Daisy Hill G. M. Co.	Grass Valley.	6	50	June 12	July 15	Aug. 2	H. Silveoler, Grass Valley.
Dotch Flat Blue Gravel M. Co.		2	50	May 13	June 14	July 14	W M Helman 401 California st
East Idaho M. Co.	Cal.	1	6	June 18	July 25	Aug 16	P. H. Peyton, Grass Valley
Eclipse & Lee G. M. Co.	Cal.	1	25	June 13	July 19	Aug. 11	A. Treadwell, 411½ California st
Emerald Hill M. Co.	Utah.		25	June 24	Aug 1	Aug 26	F. Madge, Merchants' Ex
Enterprise Gravel M. Co.	Gras Valley.	21	4 00	June 11	July 10	July 31	M. McDonough, Grass Valley.
Eureka M. & Smelting Co.	Eureka Nev.	1	20	June 4	July 9	Aug. 1	T. P. Beach, 217 Sansome st.
Eliza M. & M. Co.	Siskiyou Co., Cal.	2	1 00	May 1	June 9	July 30	T. F. Cronise. 438 California st
Equitable Tunnel & M. Co.		2	10	May 5	July 10	July 22	C. S. Hesly. Merchants' Ex
Frear Stone Co.	Cal.	8	2 00	May 27	June 30	July 21	R. Wegener, 414 California st
Grace M. Co.	Schell Creek.	1	10	June 20	July 26	Aug 20	W. H. Knight, 331 Mont. st
Grass Valley New M. Co.	Cal.	1	12	May 15	June 16	July 1	G. Fletcher, Grass Valley
Great Blue Gravel Range.	Cal.	3	10	June 12	July 14	Aug. 5	Wm. H. Watson, 302 Montgomery st.
Greenville M. Co.	Plumas Co., Cal.	4	1 00	June 11	July 16	Aug. 4	H. C. Kibbe, 419 California st.
Grand Duke Tunnel & M. Co.	Utah.	2	10	May 16	June 23	July 12	B. Kosminsky, 322 Sansome st.
Green Valley M. Co.	Placer Co., Cal.	2	10	May 16	June 21	July 8	A. D. Carpenter. 605 Clay st
Heckerdorn G. & S. M. Co.	Cal.		25	June 9	July 10	July 28	L. Terrace, 734 Montgomery st.
Hanson M. & M. Co.	Mariposa Co.	1	50	May 14	June 28	July 21	J W Tripp. 408 California st
Hermiguera Mining Co.	Lower Cal.	7	3 00	May 6	July 2	Aug. 18	J. H. Applegate. 729 Montgomery st
Klocald Flat M. Co.		3	2 00	May 6	June 9	July 2	R. H. Cornell. 217 Sansome st
Lady Eateo Tunoel & M. Co.	Utah.		5	June 11	July 17	Aug. 8	C. S. Hesly. Merchants' Ex
La Paz M. Co.	Ely District.		50	June 18	July 21	Aug. 15	W. W. Hopkins, 411½ California st
Lady Emma M. Co.	Cal.	3	30	June 25	July 26	Aug 18	A. D. Carpenter, 605 Clay st
Mendha S. M. Co.	Nevada.	1	1 00	June 9	July 15	Aug. 11	Geo. R. Spinney, 320 California st.
Manhattan Marble Co.	Cal.		1 00	June 23	July 24	Aug 11	D. M. Bokee, 319 Pine st
Mansfield G. M. Co.	El Dorado, Cal.		6	May 8	June 16	July 8	Wm Small. 231 Kearny st
Mazeppa S. M. Co.	Ely District	1	50	May 20	June 24	July 15	M. F. Gemc. 520 Sansome st
Newton Booth Con.	Ely District.		50	May 7	June 14	July 12	L. Franconi. 314 California st
Omega Table Mountain M. Co.	Cal.	2	5	June 4	July 5	July 28	David Wilder, Merchants' Ex.
Orient S. M. Co.	Nevada.	2	10	June 14	July 19	Aug. 9	Joseph Maguire, 419 California st
Phenix Tunnel & M. Co.	Utah.		10	July 2	Aug. 6	Aug. 15	C. S. Hesly. Merchants' Ex
Pioneer Cons. M. Co.	Nevada.	1	10	June 19	July 25	Aug 13	C. S. Neal, 418 California st
Potrero Land Investment Co	Cal.		70 00	June 11	July 14	Aug 4	B. B. Minor, 411½ California st.
Plymouth Rock M. Co.	Utah.	1	5	June 11	July 18	Aug 28	Jas. Mason, 422 California st.
Prospect M. Co.	Grass Valley.	4	4	June 6	July 7	July 21	J. Jackson, Grass Valley.
Regent Cons. M. Co.	Utah.		—	May 26	June 28	July 22	W. L. Ustick, 438 California st
Rising Star S. M. Co.	Idaho.	12	1 00	May 16	June 23	July 14	Wm. Willis, 419 California a
Ruby Hill Tunnel Co.	Nevada.		10	May 15	July 6	July 15	Sam'l Bell, Eureka, Nevada
Sanderson G. M. Co.	Cal.	5	16	June 20	July 19	Aug 4	Wm. Stuart, 113 Liedesdorff et
Schell Hill Quartz M. Co.	Cal.	19	10	June 7	July 10	July 28	W. E. Reed, Grass Valley.
Schell Creek M. Co.	Schell Creek.		10	April 10	June 27	July 21	C. C. Tripp. 525 Kearny st
Spring Mount M. Co.	Ely District.		50	May 14	June 21	July 18	C. C. Tripp, 526 Kearny st.
State of Maine M. & M. Co.	Cal.	3	5	May 23	July 2	July 21	L. Kaplen, Merchants' Ex.
Summit M. Co.	Amador Co., Cal.	3	25	May 3	June 3	July 16	Geo. Davidson. Merchants' Ex.
Stevens Pacific Smelting & M.		1	20	June 4	July 7	July 24	Henry Boyle, Stevenson's Bldg
Table Mountain Alpha M.	Cal.	1	25	Feb. 3	Mar. 10	July 1	J. M. Knight, 320 Montgomery st
Victoria and Imperial T. & M. Co.	Utah.		20	July 1	Aug 5	Aug 27	W. L. Ustick, 438 California st.
							W. H. Watson, 302 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Auburn G. M. Co.	Cal.	R. Wegener,	414 California st.	Annual	July 2
Beokwith M. Co.		W. H. Watson,	302 Montgomery st.	Annual	July 7
Belmont M. Co.	Nevada.	C. H. Boart,	Express Bld'g.	Annual	July 7
Best & Belcher M. Co.	Washoe.	Wm. Willis,	419 California st.	Anoual	July 14
California Pacific R. R. Co.	Cal.	E. H. Miller, Jr.		Annoal	Aug 11
Choller-Potoei M. Co.	Washoe.	W. E. Dean,	418 California st.	Annual	July 14
Central R. R. Co.	S. F.	N. D. Arnot, Jr.,	216 Taylor st.	Annual	July 9
Derdsnelles M. Co.		W. G. King,	411 California st.	Annual	July 19
Eastport Coos Bay Coal M. Co.	Oregon.	J. L. Pool,	Merchants' Ex.	Annual	July 15
Kentucky M. Co.	Ely Dist.	J. P. Cavallier,	509 California st	Adjonrned	July 7
Kinston M. Co.		L. Kaplan,	Merchants' Ex.	Adjourned	July 7
Mission Bay Bridge Co.	S. F.	J. L. Willatt,	New Mont & Market.	Annual	July 9
Newark S. M. Co.		D. T. Bagley,	401 California st.	Annual	July 7
Omnibus R. R. Co.	Cal	James O'Neil,	Howard, bet. 3d & 4th.	Annal	July 7
Overman M. Co.	Washoe.	W. W. Stetson.	414 California st	Annual	July 10
Pocahontas G. M. Co.		D. A. Jennings,	401 California st	Annoal	July 7
Rock Island,	Washoe.	W. E. Dean,	419 California st	Annual	July 7
Sntro Tunnel,	Washoe.	P. W. Ames,	321 California st	Special	July 9
"63" G. & S. M. Co.	Arizona.	J. Case,	306 Montgomery st	Annual	July 7
St. Lawrence M. & M. Co	Cal.	W. L. Kip, Jr.,	411½ California st.	Annoal	July 14
Savage M. Co.	Washoe.	E. B. Holmes,	Cor. Cal. & Sansome sts	Annual	July 17
Tecumseh G. S. & C. M. Co.		F. J. Berrmann,	Cor. Clay & Kearny	Annual	July 17
Trench Gold Hill M. Co.	Washoe.	Jos. Marks,	Merchants' Ex.	Annual	July 15
Union Cons. M. Co.	Washoe.	J. M. Buffington,	Merchant's Ex.	Annual	July 21
Utah S. M. Co.	Washoe.	W. E. Dean,	419 California st	Annual	July 8
Washington M. Co.		T. B. Wingard.	318 California st	Annual	July 30
Washington & Creole M. Co.	Ely Dist.	F. D. Cleary,	Merchants' Ex	Annual	July 10

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	June 13
Black Diamond Coal Co.	California.	P. J. Cornwall.	Cor. Harrison & Spear.	½ per cen	Mar. 10
Cedarberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Fasset.	220 Clay St	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	July 9
Eastport Coos Bay Coal.	Oregon.	J. L. Pool,	Merchants' Ex.	5 00	Apr. 1
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor,	419 California st,	1 00	June 25
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		A. M. Buffington.	Merchants' Ex.	1 00	Nov. 1
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Monlder	419 California St.	6 00	Feb. 10

Our Weekly Stock Review.

WEDNESDAY EVE, July 2, 1873.

The stock Market tbis week bas evinced very little activity, tbe coming holidays occupying the public mind to an extent to lessen the amount of business. The feature of the week was the rise in Savage. On Monday last it closed at $163, an advance of $30 over previous days' sales. Savage is one of the most fluctuating stocks on the list and bas lost and made fortunes for many an operator. Consolidated Virginia has also shown some activity tbis week but nothing like what occurred a few weeks since. The market generally for tbe week has been uninteresting.

The members of the San Francisco Stock and Exchange Board bave appointed a "Trust Fund Committee," to be elected annually, in whose hands $30,000 is to be placed, to be loaned to members on nsual securities at current rates. It is thought that tho money will double itself in two years and a half. From the fund created in tbis manner $10,000 is to be donated to the families of every member that dies. The experience of the Board hitherto bas been that they lose a member every eighteen months, consequently, in three years they will lose two members, involving two donations aggregating $20,000; but tbe fund in that time will earn $35,000. Tbus, if a member leaves a wife and cbild, or children, the $10,000 will go to the latter. If no children, to the wife; if unmarried he may designate tbe beneficiary. If be dies witbont family, and witbont naming a person to receive the donation, none will be made. If deatbs sbould occur involving payments to an amount greater than the increase of the trust fund then a pro rata assessment will be promptly levied to meet the deficit.

This is a very good move on the part of the brokers and besides being a convenience to them when alive, the Trust Fund will benefit their families in case of deatb. The wbole amount—$30,000—has already been taken up and the proceeds will go to the Life Insurance Fund. It is said that should this experiment prove successful tbe balance of tbe entire surplus—$70,000—belonging to the Board will be converted in tbe same way.

As we go to press one day earlier than usual this week, on account of the holiday on tbe 4th, our regular weekly letter from the Comstock mines, did not come to hand in time for insertion.

On Friday last, the market was a little stronger than on the previous day; tbe feature, was the advance of Consolidated Virginia, which closed $12 ahead.

On Saturday, the market was not very active and business was quiet. At the close, Choller was $2 bigher; Yellow Jacket, $3; Ophir, $3. Meadow Valley fell $1.50; Eureka Con., $1; Overman, $1; Savage, $3; Con. Virginia, $7. In other prices there was no material change.

Mondays' sales were ilgbt, and fractuations of little consequence.

On Tuesday, the market was pretty strong, prices showing an advance. At close, Savage in particular, made a characteristic advance—$30, selling at $163; Hale & Norcross, rose $3; Con. Virginia, $3; Gould & Curry, $1. The Eureka, Grass Valley mine, has declared a dividend of $1, amounting to $20,000.

Mining stocks were in fair demand to-day. The Board adjourned over until next Tuesday and the wbole list was called at the morning session to-day. There was a further advance of $13 in Savage, which is doubtless due to the pending election. Compared with the rates yesterday, Segregated Belcher advanced $3, Consolidated Virginia, Golden Chariot and Yellow Jacket each $2, Belcher, Eureka Consolidated, Gould & Curry, Justico, each $1. Crown Point and Raymond & Ely each declined $2, Rye Patcb $1.50, and Newark $1.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned:

California.

CALAVERAS COUNTY.

MOSQUITO DISTRICT.—Calaveras *Chronicle*, June 28: Tha main shaft in the Good Hope is now down 130 ft. Sinking now. Vein of good size; contains excellent ore.

Willett & Co. bongbt a portion of the Woodcock mine. Running tunnel on tbe vein. The Dolly Varden has pretty fair ore on dump. The vein averages over 5 ft. in thickness and presents better features than any other mine in the district. Shaft 100 ft. deep. San Bruno is driving tunnel.

WEST POINT DISTRICT.—The Pancbo will probably change hands in a short time. Developments on the Harris mine progress slowly. The ore yields considereble over expenses. Lone Star working 6 or 6 bands. The mine retes No. 1. Obio Consolidated hauling and crushing ore. Running levels and transverse drift to tap tbe vein. The mine promises to excasd the most favorebly expectations. S. Haskings is opening a bandsome vein near Skull Flat. The new saw mill of Wickham & Co. is completed. Lumber can now be had at very reasonable rates. Business brisk.

FRESNO COUNTY.

COPPER MINING.—Fresno *Expositor*, June 25: In the vicinity of Bnchanan Hollow, in this county, copper mining seems to be increasing in prosperity. Three mines are now in operetion near Green Mountain, from all of which excellent ores are being extracted. The names of the mines are the Green Mine, Green Mountain and Lone Tree. The last of these is being operated by J. M. Ault, Esq. We learn that he is taking ont a considerable quantity of ore, mnch of which assays 35 per cent. copper. The ores from the mine are being smelted at the furnace erected by Mr. Harry DeGroot, on Green Mountain, and the reguins shipped to San Francisco, where it sells for $525 per ton. The Green Mountain mine, worked by Harrey DeGroot, is yeilding splendid ore. A number of tons sbipped last month brought $100 per ton in San Francisco. The old Buchanan Copper Mine, which was started up about a year ago by James McMecham, Esq., is yielding more and better ore than ever before. It ranges from 16 to 35 per cent. Abont fifty tons of ore are shipped per month. Ten white men and fifteen Chinamen are now engaged abont the mine, but the working force is to be doubled, and then shipments of ore will be proportionately increased.

EL DORADO COUNTY.

OFFER FOR A PLACERVILLE MINE.—Mountain "Domocret," June 28: Edward Keegan, one of our pioneers, has a qnartz ledge in the heart of this city. He has stripped the croppings of one enormona ledge and tunneled on another near by. A few daya ago he was offered $10,000 cash down, by responsible San Francisco capitalists, for bis claim, bnt refused to take less than $17,000 for it.

NEVADA COUNTY.

Nevada *Transcript*, June 26: The Little York Gold Washing Company is the name adopted by the purchasers of the property of tha Little York Water and Gravel Mining Company. The new company is composed of English capitalists, and the property is a very excellent one. In addition to extensive gravel ranges, they bave first water right for two ditches from Bear river, and the second right on Steep Hollow, giving them first-rate water privileges. They are now running two sets of diggings by day, and supplying Dr. Alpin, wbo is running his claims night and day, and they have about 700 inches of water. We understand the prospects of the company are very encouraging.

RUSA LEDGE.—Grass Valley *Union*, July 29.—Kennedy & Co. have been working for some time on a ledge a short distance from the North Star mine. It was formerly known as the Russ Ledge, having been worked for a time, about the year 1859, by Colonel Russ, wbo left Grass Valley and finally located in the gold minea of Nova Scotia, where he died. Two satisfactory crushings bavo been made from tbe rock taken out. They are down on the ledge about 150 ft., and the rock is looking better as they sink apon it.

STRIKE.—It is rumored about the streets that a new and very rich strike in quartz bas been made in this district witbin a few days. The parties in interest are not yet ready to give public information, but they inform us that it is but a few minntes' work at any time to scratch out $10 or $16 worth of gold with the fingers.

THE ENTERPRISE MINE.—Nevada *Transcript*, June 28: The Enterprise Gravel mine is located in Buena Vista Slide, and the works are very complete. They have a 10-stamp battery, pumping, and hoisting-works, all in the most complete order. The incline is in three compartments, and is down 1400 feet. All the way above the bottom of tba incline they have gravel wbich prospects well, bnt they bavo not yet struck the main channel for which they are running. We underetand, however, that the Enterprise has paid expenses all along, and the yield will, no doubt, be largely increased when they reacb tbe main channel, which is known to run along under the ridge which they are washing.

PLUMAS COUNTY.

MINING NOTES.—Plumas "National," June 28: Metcalf and Haycock on Gopher Hill have nearly finished tbeir seasons' run of water. They have moved a large quantity of ground tbis season, and will be well remunerated for their toil. Morris Smith & Co., whose drifting claims are also on Gopher Hill, are doing well, and have been for some time. The Blackhawk Co. are cleaning up, and report says will make a good season's run. The Devil's Elbow Co. are working several men, with fair results. Low water is unfavorable, as it allows tailings to accnmulate. The Hungarian Co. are not piping at present, the Mill Creek water having been turned down the creek for the benefit of the farmers. The Superintendent, Mr. Goodwin, is working a few men, however, and as usual, taking ont lots of "kaleseek." Tha O'Neil Bros. have recently got some very favorable prospects in their drifting claims at Newtown. Judkins & Kingsbnry, of Newtown, have nearly completed their preparations, and will soon be taking out "pay grit." Bell still continues to get some fine prospects from his quartz claim near Elizabethtown. Leavitt is working a claim in Betsy Gulch, near Elizabethtown, and is making good wages. Heath & Co., of Argentine are still piping and the indications are tbat they will make a binge clean up. This claim we consider one of the best in the country. Dean & Steffe are doing a large amount of work at the montb of Squirrel Creek and have good prospects. Swan, Webster & Co., are also at work on Squirrel Creek, bnt we are not posted as to the results. The water bas been remarkably short, and nnmerous claims bave been idle. One or two good water seasons would develop a large number of claims, and make Plumas one of the formost mining counties in the State.

SAN DIEGO COUNTY.

Weekly *World*, June 21, says: About one week ago tbe Messrs. Young, Worth and Sheard struck an extension of the Golden Chariot, 6 miles south of that mine. The specimens from this ledge are of a very favorable character, and promises to equal the Golden Chariot in richness.

The developments of the Tom Scott are good, and promises to exceed anything before discovered, perhaps with the exception of the Golden Chartot. A joint shaft with the Eureka, which it adjoins, is being sunk and is already down 100 feet. As soon as water is struck they will put on an engine.

The Owen mine has let a contract to sink 25 ft, at $30 per ft., and the work is being pushed vigorously.

Good rock bas been struck in the Far West and the outlook is all that the owners could wish.

In the Victis mine three shafts are being worked daily and a great deal of rock is being taken out.

The San Nicolas mine, in the San Rafael District, cleaned up after a crnshing of 180 tons of rock, netting $1,200. Owing to the failure of water supply crushing has been suspended on this rock as also that of the Pueblo, Zapata and other mines.

TULOUMNE COUNTY.

T. M. BLUE GRAVEL CO.—*Independent*, June 23: Are turning out from 22 to 24 ounces of gold per day, and better prospects ahead.

A GOOD CLAIM.—On Thursday of last week Haynes & Co., wbo own a claim in Parsons' Ranch, Columbia, cleaned up after a 100 days' run, and obtained thirty-four pounds of gold—about $7,550.

GOLDEN GATE.—A few tons of rock from this lode was run through an arastra at Brown's Flat, recently, and under most discouraging circumstances, the machinery being out of order and mud water being used. The yield was over $10 per ton, even at that; 600 pounds of the same rock shipped below last week, and run through a mill, turned ont $28.11 to the ton, the average assay of pulp being $7.18. Sulpburets sent down at the same time, assayed $516.64 per ton. Mr. Long, the Superintendent, wishing to thouroughly test the vein, picked out parcels of the sulphurets—one in the slate, near the hanging wall, and one on foot wall, from neither of which anything was expected. The first, in the slato horse, where the lead is from 12 to 15 ft. in width, assayed $202.18 to the ton, and the highest assay lead was on the foot wall in the breast of the tunnel, which went $2,461.35 to the ton, and getting richer as the miners work in. The sbaft is now down to the tunnel, which is in on the veinsome 200 ft. below the surface. Tbe prospect ahead looks first-rate, better than ever.

PROSPECTORA.—Union *Democrat*, June 28: Quite a nnmber af persons during this month, have made trips into the mountains east of this place, for the purpose of finding silver-bearing leads. Large bodies of anow have prevented them from making anything like satisfactory explorations. The fact that silver-bearing ore was found last year in our county, makes many of the prospecting class uneasy, taxing their patience until such time as the snow will permit of a thorongh search. The parties that commenced opening a lead last fall, have made preparetions to resume work, with sanguine expectations that it will develop into a paying mine. A number of assaya made returned a bandsome per cent. of silver.

Nevada.

ELY DISTRICT.

AMERICAN FLAG.—Piocbe *Record*, June 22: The developments in this mine at a depth of 625 ft., still continue to improve in character. The vein metter at this point is the foll width of the shaft, the ore body being 2 ft, wide. The stopes are yielding the same amount of ore as heretofore. The mine is being prospected as rapidly as possible. Ore is being shipped daily to the Amador mill, which is doing good work.

PORTSMOUTH.—The Portsmouth mine is situated between the Alps and Montana, in a binge mass of croppings, the exact counterpart of those in wbich the main shafts of the Excelsior and La Paz mines are sunk. A perpendicnlar sbaft has been sunk to the depth of 72

(Continued on Page 12.)

California in the Ninth Census.

A correspondsnt of the *Bulletin* who has been extracting items of intersst to Californians from the ninth census, writes as follows concerning the mines: The censuses of 1850 and 1860 cannot be taksn as a guide in determining tbe increase of manufactures in California, as in other States, because mining was a chief elmsnt of the account then, and it, with quarrying and the fisheries, are left ont of the census in 1870, though given seperately in a form that the Commissioner of the Census himself pronounces utterly unreliable. The following table shows, inclnding the mining and fishery statistics in 1850 and 1860, and leaving them out in 1870, the manufactured products of the State of Californie.

1850 (including mining)	$12,862,552
1860 (including mining)	68,253,228
1870 (exclusive of mining)	66,594,552

In 1850 and 1860, the principal prodncts of California were from the mines. The wheelwright shops, where wagons were made and repaired, and the flour mills, were then prodncing something considerable for those days, hut nothing as compared to now. The vast other things that will be seen in a detailed table given below, have made Californie one of the great manufacturing States of the Union. Her mining industries, less by far now than in 1860, are stated (becanse no correct statement is obtained) leaving ont ths milled product, et a total of $8,281,623.

Cinnabar	$17,700
Gold, hydraulic mined	1,622,993
Gold, placer mined	2,646,174
Gold quartz	3,096,666
Gold and silver quartz	15,000
Silver quartz	83,100

Conflicting Estimates.

With regard to the prodnctions of gold and silver, however, the thousand difficulties surrounding the ascertainment of anything like a correct statement rsgarding it, make it almost impossible to obtain one under a system operated by the average censns enumerator. Professor R. W. Raymond, Commissioner of Mining Statistics, gives for thß year most nearly corrssponding to the census year, the gold and silver product of the United States, mined and milled, as follows:

California	$22,500,000
Nevada	14,000,000
Oregon and Washington	3,000,000
Idaho	7,000,000
Montana	9,000,000
Colorado and Wyoming	4,000,000
New Mexico	500,000
Arizona	1,000,000
All other sources	500,000
Total	$61,500,000

The csnsns for 1870, exclnding the valne added by milling, gives the gold and silver mining prodnct proper at $26,452,652 as follows.

Hydraulic	$2,508,531
Placer	7,266,613
Quartz	16,677,508

The Census Commissioner allows 45 per cent., as added by milling, and the result is that the two reports on gold and silver mining for the United States, including milling, stand:

Professor Raymond	$61,500,000
Census Commissioner	33,959,531

Commissioner Walker Defends His Statistics.

Commissioner Walker defends his statistics for 1870 ae against the seemingly great redncton as compared with the census of 1860, by showing that in the latter ceusus two-thirds or probably three-fourths of the amount of $24,163,170 then reported as the gross prodnct for gold mining, were based on estimates; that dnplicated production, resulting from the valne of the gold or silver qnartz being twice counted —once directly after being mined, and again after being milled, and even triplications of another class, that resulted from inclnding the assay and refining of gold and silver, all the valne thns reported having been included as bullion, and a portion of it having been twice reported; once as the valne of ore, and once again as bullion, and third as assayed or refined metal. In 1860, 5,000 of 7,042 gold mining establishments were not retnrued to tbe census office, but were estimated for. The census of 1870 does not in this respect contain any estimates. For that reason the amounts eeem surprisingly emall. Taking into cousideration the admissions made in both the eighth and ninth census reports, the belief is irresistible that so far as gold and silver mining are concerned in the census, both of 1860 and 1870, the statistics are so nnreliable tbat the results attained are not only provoking to contemplate, bnt are almost as bad as none at all. This fact should not, however, detract from tbe credibility of the entire census, becanse the statistics relating to population, mortality, manufactnres, etc., are, ae a rule, of inestimable valne, tbe best the United States ever had, and reflect great credit upon the Commissioner.

School Ship.—It is proposed to endeavor to secure the Flag Ship "California," recently condemned, and now lying in onr harbor, as a "school ship" for boys wbo would otherwise be candidates for the Indnstrial school. She is admirably adapted for the purpose and it is to be hoped that efforts of the gentlemen who have the matter in hand will be successlul. This is the manner in which old ships are disposed of in England and the results have been eatisfactory.

The mills on the Carson River are running to their full capacity, and there is plenty of water.

Mining Schools in Germany.

In all parts of Germany there are schools for the purpose of imparting the theoretical as well as practical knowledge necessary to become a skillful and efficient mine mansger. These are open to all classes, even the poorsst, and the terms of admission are snch that the latter can avail themselves readily of their advantagss.

Two of the most noted are at Saarbruck and Siegen. In ths first locality, ths mines are worked by the German Government, and the school is snpported by the State. The school at Siegen draws yearly abont $600 from the Government, and $1,750 per annum are subcribed by the colliery owners, and these sums, augmented by a bequest of $450 per annum, represent the income of the Institution. The scholars pay nothing, bnt, on the contrary, receive a trifle for lodging whilst attending the course. The teachsrs, five or six in number, receive $950 per annum among them; bnt they have other sonrces of income. Abont $950 is expended on the pupils. $200 for apparatus, and the whole expenditure reaches abont $2,500. The programme of the Royal school, at Saarbruck, sets forth that the objects are "to prepare young miners, who bad had sufficient practical training, for the offices of mining surveyors and managers, and accountants, through instructions in such branches of study as bear on the above occupations." The instruction in the preparatory schools is rather to revive in the minds of the pupils their primary training, and in the preparatory schools the instruction does not interfere with the yonths' labor. Ths only additional snbjects they stndy are the rudiments of geometry and the construction of machines. At Saarbruck, there are ssventy-five scholars; at Siegen, about fifty. Ths subjects of instruction are, for the lower classes, writing, drawing, aritbmetic—especially the arithmetic connected with mining (mathematics)—mschanics and mechanism, surveying, chemistry, and geology. Tbe snbjscts are the same for the npper classes, bnt, as might be expected, the scholars spent less time in writing and drawing, and more in studying mining and machinery. In regsrd to mathematics, a practical turn is given to the instruction, the lower class studying msnsnration, leveling, &c., and the upper class trigonometry applied to the measnring of angles (for ascertaining the heights of objects), the making of estimates, whilst the elements of algebra and the use of logarithms are tenght to the npper and lowsr classes. To illustrate the laws in geology, there are excellent meps and models, showing tbe position of the strata and the situation of the beds of ors. The greatest number of hours are given to surveying and drewing plans, ths study of the machinery, and the science of working mines.

What is called mining science inclnded instruction in the various gases found; bow they were found; how to get rid of them; and how to recover those affected by them; the best kind of ventilation; the different kinds of roads, shafts, pumping apparatus; and the best way of preventing accidents. Mere theoretical knowledge of these matters would be of little moment, but the etudents in these schools are all practical miners taken out of the pits. Before they could enter they must have worked two years in the pits, and the average was five years' service in the mines. To such as these, instrnction as to the causes and principles of everything they saw around them must, of course, be productive of good, and would enable them to be better guides and foremen to the other miners.

Is there not in this a hint to our people? As much as we may try to disguise the fact, "knowledge is power," and the workman who can do a thing, and tell why he did it, is the superior of the one who has only the practicel acqnaintance with the art. Onr workingmen realize this in practice, at least, and there are hnndreds and tbousands of the children of the most ignorant laborers who are to-day the superior of their parents in knowledge, simply becanse the good, sterling, common sense of the laborer tells him that in the long run bone and brawn alone will not conquer, but brain with these will. It is these that will bring bigher wages and a better culture, and do vastly more to improve the condition of the laborer than anything else possibly can.—*Am. Manufacturer.*

Quicksilver.—An Easterv paper remarks: "The Treasurer of the Qnicksilver Mining Company etates that an arangement has been made between it and the New Idrie Company to produce dnring the year ending April 1, 1874, only 34,000 flesks, the Quicksilver being restricted to 24,000, and the New Idria to 10,000 flasks. By the arrangement each company receives the market price of quicksilver instead of a price determined by contract as heretofore. Already the receipts of the Quicksilver Company have been about $1,000 per day larger than those under the last contract the company had. The Quicksilver Company have already paid off $440,000 of their first mortgage honds dne June 1, being all so far presented. Tbe entire amount maturing June 1, was $500,000." This limitation of prodnction is an old form, applicable years ago when the supply far exceeded the wants of the market, but is now, when the prodnction is, with difficulty, half that quentity, quite inapplicable. Tbe whole prodnction, much or little, is sold by the agent, Tbomas Bell, Esq.

Bad Speculations.

From time to time we notice the organization of companies, with large capital, at Pittsbnrg, St. Louis, Chicago and other places for the purpose of erecting reduction works of great capecity to treat ores from Utah, Idaho, Montana, Colorado and other mining regions. Already works are in operation in ssveral of the large cities, and there are reasons for believing that tbey are not financially a snccess.

We cannot understand why men having capital to invsst in reduction works should wish to invest their monsy in cities hundreds of miles away from ths mining regions, where the freight charges on crude ores are so enormously high. It seems to us the sheerest folly to expend hundreds of thousands of dollars in the erection of works at such points, when there is no reason why they may not bs erected in the vicinity of the mines, at least so far as Utah is concerned.

It is no difficnlt matter to foretell that in the early future the vicinity of Salt Lake will be the great center for reduction works of all kinds. The reasons for this are, that it will be the great railroad center of the interior conntry, thet fnel is both cheap and abundant, as also are fluxss, that labor is not higher than elsewhere and, moreover, ws are situsted right in tbe heart of the mineral country, with narrow gauge communication to all tbe principal mining camps. This being the case, Selt Lake City offers far supsrior advantages to any of the Easterv cities for the expenditure of capital for reduction works, and Eastern men would do well to reconsider many of their proposed plans and invest their money where it will yield the best interest. Looking at ths subject from our stsndpoint, we believe that, of all the works now ersected in the East for ths treatment of ores from the interior country, but one or two will remain engaged in tbe bnsiness at the expiration of two or three years. Gentlemen, come to Utah and examine the field, and you will all reach the same conclnsion.—*Salt Lake Tribune.*

The Coal Fields of China.—There has long been much talk of ths extensive coal fields within ths Chinese Empire, but nothing definite had been published concerning them. M. Louis Stranss, Consul for Belgium at one of ths Chinese ports, now furnishes the *Independence Belge* with the following figures as to the extent of the coal formetion in the northern provinces of the Empire:

	Sq. miles.
In Chiensi	9,000
In Chansi	28,000
In Tchyli	30,000
In Chin-King	20,000
	87,000

In addition to these there are the coal deposits of Formosa, an island off the Chinese coast, of 10,000 square miles, making the total coal area 97,000 eqnare miles. The United States is the only otber nation which has anything like the same extent of coal lands. The area in this country is estimated at 120,000 square miles. Tbe 12,000 sqnare miles of coal deposits in the United Kingdom of Great Britain and 18,000 in its coloniel dependencies, make an insignificent showing in comparison with the vast deposits of Chine. Yet with all this known mineral wealth, the Chinese, who have seen the value of coal in the United States and the Anstralian colonies, have hitherto shown no signs of working their mines at home. It has however recently been said, bnt it is only a rumor, that the Court at Pekin is favorably disposed towards the introdnction of the rail roads into the Empire. Perheps the Mongolian mind may yet awake from its long sleep of thousands of years, to realize the value of these deposits. It may find more profit in keeping its coolie labor at home, providing cheap coal for the accessible markets, than in seeking to take the place of Africa in snpplying slaves to the aristocratic nations.

Mines on Mexican Grants.—A correspondent who has heerd of the discovery of some metalliferous veins on the line of the railroad between Saucelito and San Rafael, inquires of the *Alta* how he can acquire a valid miner'e claim there. The answer is, that his best plan is to bny the Mexican grant, for all the land there is held nnder that title. Mexico in her grants reserved the title to all the precions metals, and miners could occupy any portion of a rancho necessary for mining operations, bnt the United States Snpreme Court has decided that a Federal patent conveys an absolute title to the land and all that may be found in it; and, therefore, takes the mines as well as the soil. Under this decision, the grant-owners like to carry the survey up into the barren mountains in places where gold abounds.

The Newspaper Press.—A collector of statistice informs ns that California ranks fonrth in the nnmber of her daily papers. New York heads the list with 96 dailies; Pennsylvania has 70; Illinois, 37; California, 31. Ohio has 27, and Massachusetts 25. There are 647 daily, 96 tri-weekly, 101 semi-weekly, and 9,175 weekly papers published in the States and Territories.

Wonderful Mine.—Here's an item for sanguine miners who find every thing wanted in one piece of ore (when they want to sell.) The *Hickory Press* says a wonderful mine has been discovered by Colonel J. W. McElrath in the South Mounteins, Virginia, whicb contains mica, silver and assafoedita with some indications of petroleum oil gas.

An Important Discovery.

The White Pins *News* says: It has long been our wish to speak of the discovery of stone coel at Pancake, bnt we have refrained from doing so, feering tbat a premature *expose* might injure the prospects of ths owners of the property. Now, however, that the fact of the existsnce of good coal in quenties has been dsmonstrated, as we are informed, beyond a doubt, it has bscome a matter of pnblic interest to all people. The mine where this valuable discovery was made is situated on the Pancake range of mountains, fiftsen miles from Hemilton, in the immediate vicinity of J. D. Sullivan's old station. Some four years ago ths latter gentleman, then living on his ranch at the place mentioned, thought he could trace indications of the existence of coal, and at once commenced sinking a shaft, which he finally abandoned, until Col. A. Lewis, an energetic mining gentlsman, well known in White Pine and vicinity, in company with Fred. Berrows, were attracted to the spot, and, becoming convinced of the presence of coal at that place, snterad into arrangements with Mr. Sullivan to commence work on the same. Col. Lewis at once proceeded East, and after considerable difficnlty snceeeded in interesting some parties there in his snterprise, and work has been prosecuted steadily since. To the gentlemen now engaged in the development of this valuable property is due great credit for their persistsnt efforts against much opposition from practical miners and theoretical scientists, who never acknowledge the presence of anything until some other parties make discoveries; then they know all ebont it and declare that the formation of the country proves unmistakably the sxistence of the article sought for. Science is well enongh, but had Col. Lewis and his compenions listsned to advice from its devotees, they would never have made the discovery of marketable coal in Pancake range. No doubt can possibly exist of the value and extent of the mine, as, we are informed, thet at a depth of 200 feet a vein of four feet eight inches has been exposed, which can be readily extracted. The locality wherein this discovery is made renders the valne of the property greater from its contiguity to the smelting furnaces of Eureka, and the valley through whicb ths line of railroad is proposed to be built. When all arrangements are complete, a large force of msn will be sst at work on this mine, and we csn confidently expect to see coal in use, both for domestic and smelting purposes. The owners of the mine are natnrally much elated at the prospect before them, and with much truth, believs that their possessions exceed by far the richsst silver mine in Eastsrn Nevada.

Slate and Coal Discovery.—It is rnmored that immense bodies of slate and coal have been recently discovered at the point of the mountain west of Salt Lake City. The ledge of slate is pronounced by those who say they have seen it to be of fine quality, and splits off in large and very tbin bodies even at the croppings.

Should the discovery turu out to be as reported, it will be one of the most valuable and useful ones yet mede.

Mexican Mines.—A correspondent writes from Mexico as follows: The mines are now worked with mucb vigor in every part of the country; the goveruor of Aguas Calientes, Chavez, formed a company to reopen the old mines of Alta Pamira and No Pensada, which had been abandoned more than twenty years. Tbe mints are also kept busy, and in April, that of Gnanajnato coined $350,000 in gold and silver; that of San Luis, $87,000, and others in proportion.—*Call.*

San Rafael Mines.—The San Diego *World* has the following regarding the San Rafael mines: The San Nicholas mine cleened up a few days ago, after a crushing of one hundred and eighty tons of rock, netting some twelve hundred dollars. This mine is owned by the Messrs. Mendelson, Leon, Merrible and others. The ten-stamp mill attacbed to the San Nicholas, with water would have been kept bnsy straight along crushing its own rock, and that of the Pueblo, Zapata, and other adjoining mines. Work is at present enspended on the Trindad mine.

Big Team.—The Enreka *Sentinel* of Jnne 17th says: "There were 80,113 pounds of bullion ehipped on Prichard's mammoth team of twenty-four mules and six wagons yesterday. The item should be copied in the Eesterv papers, and half of their readers would say the reporter lied; that there never were so many animals, wagons and bars of bnllion in one string.

Mineral Hill Mines.—A dispatch says: The mines in this district are looking much better than for the past few months. Several cleims are now being worked that have been lying idle for more than a year. In the adjoining district lately organized, known as Hardscrabble, the mines are steadily increasing in richness. Business has an npward tendency.

The mining tunnel to be run from Black Hawk to Middle Park, Colorado, will cnt through a spur of the Rocky Mountains and be 12 miles in length, when completed. It will probably also be nsed for railway purposes. The money is furnished by English capitalists.

Domestic Economy.

Cooking as a Science and an Art.

At the International Exhibition in London, Mr. Buckmaster lectures on cooking. He has abundanct and efficient assistance, and all the materials and accessories he needs for the complete illustration of his subjects. Having mounted his rostrum, where a variety of objects have been arranged to his hand for illustrative purposes, he is waited npon hy four dapper female cooks, appropriately attired, wh watch his eye and hand, and hang npon his lips, sniting their actions to his words. He vindicates his mission manfully as a teacher of practical cookery, and contends that there is greater dignity in a housewife, or a woman of any class, being ahle to cook economically a wholesome, palatable dinner, than in heing ahle to fashion and mimpulato flounces. His object, he stated, was not to show how to prepare costly, high-class dishes, but to point out defects in onr domestic cookery, and to suggest remedies.

Aided by his assistants he proceeds to prepare various dishes, which he subsequently passed around among the audience, who test their qnality. Meat is put on to steam and boil, vegetables are scraped and sliced, a few words being interspersed concerning their respective characters and qualities, and the manner in which they should be prepared and manipulated. At a late lectnre he prepered a French *pot au feu*, an excellent and economical dish. Some few pounds of meat and bones were placed in a stew pan and covered about two inches over the top with pure, soft water. An onion ie next peeled, and put down to roast. Another onion is peeled and garnished with a dozen oloves, stnck ronnd in center. The other vegetahles are then scraped and sliced. These consisted of two carrots, a parsnip, two tnrnips (these can scarcely he peeled too thickly, while potatoes cannot be peeled too thinly, as far as the mere cuticle goes), half a head of celery, a leek, and for a flavoring bouquet, a sprig of marjoram, another of thyme, a small hunch of parsley, two hay-leeves, and a clove of garlic. The sancepan, which has been simmering on the cooking-stove, is then carefnlly skimmed, and the carrots added ten minutes before the other vegetables, the other ingredients being a dessert-spoonful of salt, a teaspoonful each of whole pepper and of allspice; the whole is then put to simmer for three or four hours,but should not he allowed to boil. The time required for this dish, requires that it should be cooked at leisure after the lecture, and warmed up for the next day's audience.

In referring to the aims and objects of the school, Mr. Buckmaster quotes the proverh, "God sends meat," but another party "eends cooks." His numerous and respectable audience relish his sonp, beef, and omelettes, and his lecture, too highly to enspect for a moment that he or his assistants were in the service of the said other party; and althongh all present might be in accord in applying to them the adjective clever, not one, we feel assnred, dream of attaching the snhstantive.

Kitchen Furniture.

Never have dark furniture for a kitchen. It shows the dust much more than light, and requires donble the care. Never have extra shelves, mantels, etc., painted dark if you can help it. If it is your misfortune to have dark paint and furniture, wipe it once in a few days with a damp cloth, and have it varnished often.

Have your sink in a convenient place, but never under a window if yon can avoid it, as mnch work is cansed by greasy dishwater spatteiing npon the windows as it necessarily must. Back of your sink nail up a piece of varnished paper, and then you can with a wet cloth remove all spots that would soon spoil room paper. If yon are so fortunate as to have a sink room, have it papered and then varnished well all over, as fly tracks and every spot can be wiped off. The sink should he lined with zinc, nailed ouly around the edges, ss nails upon the bottom rust and wear through, allowing water to run under the sink, thereby causing the boards to rot.

Good zinc can be kept nice and hright by scouring once in a week or two with sand, and rubbing all over once or twice a day with soft soap, scalding and wiping dry.

At one side have a place to put your water pail on, which always dsy and night keep covered; an uncovered water pail is a slack thing. Nailed npon the back side of the sink, have a little box perforated throngh the bottom, to keep hard soap in, and if yon have no better place, castile soap and a piece of pumice stone to remove stains from your hands. Your soft soap keep under the sink, which I take for granted is boarded np, with a door where yon pnt your pote and kettles, board to sconr knives upon, sand, etc., etc., and which place should be kept as neat as your sitting room. Just over the sink have a narrow shelf with holes throngh, to set your common tumblers npon when washed and rinsed, that they may drain and dry, thus saving the time and labor of wiping them with a dry cloth.

At the other end of the sink, have a narrow strip nailed np to set your kettle cricket on; of these you should have two, one to set your kettles on when washing and cleaning them, and which should be kept under the sink, in some odd nook—the other should be smaller, and only be nsed to set the tea kettle, etc., upon when filling, and therefore must be kept handy and clean, so if you should be sick with a headache, pain in your side, or any little trifling thing, and shonld ask yonr kind husband to fill the tea kettle, he would take the cricket down to set it on, instead of setting it in the sink—thus causing you more labor than it saves which he would be sure to do were the cricket nnder the sink, or so black and nasty, he could not touch it without soiling his hands.

And last but not least, have a light rack made of strips of wood an inch wide, an eighth of an inch thiek and a foot long, nailed over one another, making a rack a foot square, with both sides alike, to put in your sink to turn dishes upon while washing, thus keeping them from tonching the sink, which is liable to he greasy and dirty, and draining them so they will wipe easily.

Yon may think, fair reader, that it takes considerable to furnish a sink to suit my taste; hut every one of these things are around my sink, and not one would I dispense with, neither will you, after having seen how convenient they are.—*Ohio Farmer.*

Useful Information.

The Eye of an Eagle.

The eyes of all hirds have a peculiarity of structure which enables them to eee near or distant objects equally well, and this wonderful power is carried to the greatest perfection in the hird of prey. When we recollect that an eagle will ascend more than a mile in perpendicular hight, and from that enormons elevation will perceive its nnsnspecting prey, and pounce on it with unerring certainty; and when we see the same birds scrutinizing, with almost microscopic nicety, an object close at hand, we shall at once perceive that he possesses a power of accommodating his sight to distances in a manner to which our eye is unfitted, and of which it is totally incapable. If we take a printed page, we shall find that there is some particular distance, probahly ten inches, at which we can read the words and see each letler with perfect distinctness; but if we move this page to a distance of forty inches, or hring it within a distsnce of five inches, we shall find it impossihle to read it all; a scientific man would therefore, call ten inches the focus or focal distance of onr eyes. We cannot alter this focus except by the aid of spectacles.

But an eagle has the power of altering the focus of his eye just as he pleases; he has ouly to look at an object at the distance of two feet, or two miles, in order to see it with perfect distinctness. Of course, the eagle knows nothing of the wonderful contrivance which God has snpplied for his accommodation; he employs it instinctively and because he cannot help it. The hall of his eye is surrounded hy fifteen little plates, called sclerotic bones; they form a complete ring, and their edges slightly overlap each other. When he looks at a distant object, this little circle of bones expands, and the ball of the eye heing relieved from the pressure hecomes flatter; and when he looks at a very near object, the little bones press together, and the hall of the eye is thus sqneezed into a rounder or more convex form; the effect is very familiar to everybody; a person with very round eyes is near-sighted, and ouly sees clearly an object that is close to him; and a person with flat eyes, as in old age, can see nothing clearly except at a distance; the eagle, hy the mere will, can make his eyes round or flat, and see with equal clearness at any distance.

Interesting and Useful Facts.—A bell rung under water returns a tone as distinct as if rung in the air.

Stop one ear with the finger and press the other to the end of a long stick, and if a watch he held at the other end of the wood, ticking will he heard, be the wood a stick ever so long.

Tie a poker in the middle of a strip of flannel two or three feet long, and press your thumbs or fingers into your ears, while you swing your poker against an iron fender, and you will hear a sound like that of a heavy chnrch bell.

These experiments prove that water, wood and flaunels are good conductors of sound, for the sound of the bell, the watch and the fender passes throngh the water and along the deal and flannel to the ear, and excite in ns the sense of sound. Sonnd of all kinds, it is ascertained, travels at the rate of fifteen miles in a minute. The softest whisper travels as fast as the most tremendons thunder. The knowledge of this fact has been applied to the measurement of distance.

Snppose a ship in distress fires a gun, the light of which is seen on shore, or by another vessel, twenty seconds hefore a report is heard, it ie known to be a distance of 20 times 1,143 feet, or a little more than four and a half miles.

Phosphorus.—Red amorphons phosphorus, under the influence of solar heat, as does charcoal, has the property of ahsorhing many substances without acting chemically npon them, as rosaniline, iodine, sulphur. Pulverized phosphorus agitated in a solution of iodine in bisnlphate of carhon or rosaniline in alcohol, absorbs the iodine or the rosaniline, leaving the solntion colorless. These facts are pnblished as the result of the labors of M. Testini.

Good Health.

Premonitions of Consumption.

Somebody asks if it is possihle to tell thet a person is predisposed to consumption; if it is true that one shows hy an outward appearance whether he will, nnder bad hygiene, be more likely than his neighbor to get the disorder. Most certainly it is, to a great degree.

A child who has a thin, delicate, light skin, light hair, light, prominent and speaking eyes, who grows rapidly and is plnmp and fat, who ie precocions and over smart, is the one who it may be suspected is consumptive. That child who, in his or her mental and moral nature promises most, as its parents view it, is most likely to have consumption; the brain elements which have to do with good morals, good feelings and mental acumen, are those which in consumptive children are most apt to be overgrown.

Very early such children usually manifest a dislike for fatty foods; this symptom is very general, occurring through life in more than half the persons who have the disease, and being observed in nearly all in whom the disease is either incipient or confirmed. An habitnal disrelish for fat by a young person is sufficient to arouse a suspicion of tuherculons tendency. The dislike for this particular article of diet is occasioned hy an inability to digest it, not from any so-called freak of taste; rather the taste is determined by the powers of the system.

The inability to digest fat is a kind of dyspepsia, and somo form of dyspepsia exists in nearly all cases of consnmption. Usually, there is with this failure of digestion an annoying eructation of acid from the stomach, that has with eome given it the name of acid dyspepsia. In not more than ten per cent. of cases does tuherculosis occur without heing preceded hy some sort of indigestion, albeit ouly comparatively a few cases of dyspepsia occur in consnmptives.—*Maine Farmer.*

Women's Legs.—Here is eomething from the *Book of Beauty* that is strictly local here or anywhere else. Women should read it:

"A handsome leg is a rarity, we had almost said an impossihility, among American women. The reason of this is the place where they wear their garters. No French woman, no English woman of cultivation, now-a-days wears her garters helow the knees. It is ruinons to the shape of the calf. More than this, it has serious consequences of another kind. The principal vein of the leg, *vena saphrenabrevis*, runs just heneath the skin until it nearly reaches the knee, when it sinks hetween the muscles. Now, if this is constricted at its largest point hy a tight garter, the blood is checked in its return to the heart, the feet are easily chilled, and more liahle to disease; the other veins of the leg are swollen into hard blue knots, become varicose, as it is called, and often hreak, forming ohstinate ulcers. This is a picture which a physician sees nearly every day. With the garter fastened above the knee all this pain and deformity is avoided, bnt it is still better to wear no garter at all, and to suspend the stocking by tapes around the waist. In this case, however, a well-fitting stocking is needed."

Ammonia in Whooping Cough.—A writer in the British *Medical Journal*, states that in cases of whooping cough in the last stage—that is, after the third week—he has had one ounce of the strongest liquid ammonia put into a gallon of hoiling water in an open pan, and the steam kept np by means of half a hrick made red-hot throughout, and put into the boiling water containing the ammonia, the pan heing placed in the middle of a room into which the patients were brought as the ammoniated steam was passing off. This method, he says, was nsed in the evening, just hefore bed-time; and it proved so efficacious in abating the spasmodic attack, and after three or four days terminating the malady, as to establish, beyond any donht, the great value of this mode of inhaling ammonia as a therapeutic agent in tranqnilizing the nervous system in the whooping cough.

Wearing Flannel.—The majority of people are not aware of the heneficial effects of wearing flannel next to the hody, hoth in cold and warm weather. Flannel ie certainly not so uncomfortahle in warm weather as prejudiced people believe. Frequent colds and constant hacking coughs have left me since adopting flannel garments. There is no need of great hulk abont the waist, which condemns the wearer of flannels with those who prefer waspwaists, always fastening at the hack. There are scarcely any of the had effects of sudden changes of weather felt by those who wear flannel garments, and all mothers especially should endeavor to secure such for their little people, in preference to all those showy outside trimmings which fashion commends.

Nature of the Pain from Burns.—It is the common opinion that persons severely burned suffer the like pain with those who are slightly injnred hy fire; bnt such is not the case. Instead of experiencing a hurning sensation, they suffer from a feeling of coldness; the hlood heing driven from the surface of the body to the heart, lungs, etc.; and persons that die from injury by fire, suffer in somewhat the same manner with those that are frozen to death.

Eating When Exhausted.

When the strength or nerve power is already worn out, or nsed np, the digestion of food only makes a fresh demand npon it, and if it be nnahle to meet the demand, the food is only a burden upon it, producing mischief. Onr bodies have been compared to steam engines, the food being the fnel and the steam produced the nerve power. The analogy holds good to a certain extent. If, when the eteam is low, hecanse the fire is low, you pile in too fast a quantity of coal, you pnt out your fire, and if you have depended upon steam power to fan your fires, that is also extinguished. Beyond this the comparison fails. You may clean ont your furnaces and begin again, hut in the body the consequences of this overloadingare dangerous and sometimee fatal. No cause of cholers is more common than eating freely when exhausted. The rule should be to rest for a time, and take some simple refreshment, a cup, or part of a cnp, of tea, a little broth, or even a piece of bread—anything simple and in small amount, just to stimulate the stomach slightly, and begin to restore its power. After rest, a moderate quantity will be refreshing. Never eat a full meal when you are exhausted. Take first a small quantity of anything simple which may be handy, and rest. Then, after a time, proper food will be a blessing, not a hurden. The fires will burn, the steam will be up, and yon can go on your way safely. It is not amiss, in this connection, to say that children would avoid many a feverish night and many an attack of disease, if mothers would follow this rule.—*Ex.*

A Healthy City.

It appears from the following table, compiled from the Censns returns of 1870, that with the exception of Valparaiso, San Francisco is the healthiest city on the continent. The figures show the number of deaths in each 1,000 inhabitants for the year:

Valparaiso (Chili)	16	Boston	30
San Francisco	17	New Orleans	30
St. Louis	20	Newark	31
Cincinnati	20	Halifax	31
Baltimore	25	New York	32
Philadelphia	26	Savannah	36
Chicago	27	Montreal	37
Brooklyn	28	Memphis	46

There is no donbt that the summer winds, that cause so mnch discomfort and annoyance, and provoke so many animadversions by residents of San Francisco, perform a very important mission in bearing away the malarious elements, which would otherwise poison the air and propagate disease in this city. The above showing is most gratifying to Californians.

Cooling off Suddenly when Heated sends many of our farmers' yonth to an early tomh. It is often a matter of surprise that so many farmers' boys and girls die of consumption. It is thought that ahundant exercise in the open air is directly opposed to that disease. So it is; hut judgment and knowledge of the laws of health are esential to the preservation of health under any circumstances. When overheated, cool off slowly—never in a strong draught of air. Gentle fanning, especially if the face is wet with cold water, will soon produce a delightful coolness, which leaves no disagreeable results.

Common Sense.

There is a chilly, disagreeable article, called common sense, which is, of all thinga most repulsive and antipathetical to all petted creatures whose life has consisted in flattery. It is the kind of talk which sisters are very apt to hear from brothers, snd daughters from fathers and mothers, when fathers and mothers do their dnty by them! which sets the world before them as it is, and not as it is painted by flatterers. Those women who prefer the society of gentlemen, and who have the faculty of bewitching their senses, never are in the way of hearing from this cold matter-of-fact region; for them it really does not exist. Every phrase that meets their ear is polished and eoftened, gnarded and delicately turned, till there is not a particle of homely truth left in it. They pass their time in a world of illnsions; they demand these illnsions of all who approach them, as the condition of peace and favor. All persons, as a sort of inetinct, recognize the woman who livee by flattery, and give her the portion of meat to which she is entitled in dne season; and thns some poor women are hopelessly buried, as suicides nsed to be in Scotland, under a mountain of rubbieh, to which each passer-by adds one stone. It is only by some extraordinary power of circnmstances that a man can be fonnd to invade the sovereignty of a pretty woman with any disagreeable tidings, or as Jnnine says, "to instruct the throne in the langnage of truth."—*Mrs. H. B. Stowe.*

If thine enemy wrong thee, bny each of his children a drnm.

MINING AND SCIENTIFIC PRESS

W. B. EWER.....SENIOR EDITOR

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San Francisco:
Saturday Morning, July 5, 1873.

Legal Tender Rates.—S. F., Thurs., July 3.—Buying 86⅜; selling 87.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Arctic Travel and Adventure, Page 1. California Gravel Mines; Our Natal Day; The Hamilton Fire, 8. Accidents in Mines; Concentration of Ores; The Virginia Calamity, 9.

ILLUSTRATIONS.—The Whaling Fleet in the Ice, Page 1. Wren's Ore Concentrator, 9.

CORRESPONDENCE.—The Vienna Exposition, 2. Arizona Mines; The San Diego Mines; West Point Mines; Numbering or Classifying the Comstock Mines, 2.

SCIENTIFIC PROGRESS.—Rotation of Liquids; Practical Use of the Carbonic Acid Resulting from Fermentation; Percolation of Gases; Departure of Plants from their Original Types; Saponification; Scientific Prize-Award, 3.

MECHANICAL PROGRESS.—A Valuable Invention—Enameled Brick; Progress in the Manufacture of Mirrors; Various Qualities of Iron; Another Answer; Raising Steam by Solar Heat; Device for Increasing the Flow of Wells, 3.

MINING SUMMARY from various counties in California, Oregon and Utah, 5-12.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 4.

DOMESTIC ECONOMY.—Cooking as a Science and an Art; Kitchen Furniture, 7.

USEFUL INFORMATION.—The Eye of an Eagle; Interesting and Useful Facts; Phosphorus, 7.

GOOD HEALTH.—Premonitions of Consumption; Women's Legs; Ammonia in Whooping Cough; Wearing Flannel; Nature of the Pain from Burns; Eating When Exhausted; A Healthy City; Cooling off Suddenly when Heated; Common Sense, 7.

MISCELLANEOUS.—California in the Ninth Census; Schpoi Ship; Mining Schools in Germany; Quicksilver; Bad Speculations; The Coal Fields of China; Mines on Mexican Grants; The Newspaper Press; Wonderful Mine; An Important Discovery; Slate and Coal Discovery; Mexican Mines; San Rafael Mines; Big Team; Mineral Hill Mines, 6. Common Sense, 7. Consumption of Sugar; Farmers' Anti-Monopoly Movement; Hoisting Machinery in Salt Lake; Gold Diggings; The Wheat Crop; Working Low Grade Ores; Assyrian Research; Madder; Something about the Carson River; The Garibaldi Ledge; A New Chlorinizing and Desulphurizing Furnace; A Cheap Paint, 10.

NEW BANKING ESTABLISHMENT.—A new bank commenced business in this city this week called the Anglo-California Bank, (limited,) successors to I. Seligman & Co. The San Francisco office is at 412 California street, and the London office at No. 3 Angel Court. The authorized capital stock of the institution is $6,000,000, of which $3,000,000 has been subscribed and $1,500,000 paid in; the remainder is subject to call. The Directors in London are Hon. Hugh McCulloch, Wm. F. Scholfield, Reuben D. Saseoon, Isaac Seligman and Julius Lington. The San Francico managers are Richard G. Sneath and Ignatz Steinhart. Mr. Seligman is well known as a succeesful banker and Mr. Sueath ae a snccessful businese man alive to the leading interests of San Francieco. The bank is prepared to open accounts, receive deposits, make collectious, to buy and sell exchange and issue lettere of credit available throughout the world, and to loan money on proper security. The stock of this bank being held by leading bankers and capitalists of Europe and America, the hauk will have facilities in the registration abroad of State, municipal and other securities upon favorable terms.

COAL IN SAN FRANCISCO.—It is said that the company formed in London to purchase the Newport Coal mine at Coos Bay, will pnt on a line of steam colliere between the Bay and San Francisco. It is believed that thie coal can be offered by the cargo in San Francisco for seven or eight dollars a ton. During the past winter it sold from $14 to $15, retail.

LOW GRADE ORES.—The Georgetown *Miner* states that work re-commenced on the Mendota lode (Sherman Mountain) some time ago, and it is now turning out some fine looking lead ore, which, owing to the markets now existing in Denver and Golden for low grades, can be moved with profit.

California Gravel Mines.

We Californians boast, and justly too, of the vast resources of our State; we write, talk and sing of its wonderful products, both agricultural and mineral; we predict its magnificent future in the coming years, and yet few of us really know what its resources are, or what its prospective value is. We are all acquainted with the fact that five or six hundred thousand people are annually adding millions of dollars to the wealth of the world, but few realize what might be done if ample capital and intelligent enterprise were applied to improve and develop its hidden wealth.

Any one who will take the trouble to spend a few months in exploring some of the mining counties of the State, will find that one of the most important brauches of our industry has been very much neglected; we allude to gravel mining. A friend of ours, who has recently made an extended tour through the mining counties of the State, furnishes us with some interesting statements, concerning the localities in which gravel mining is being prosecuted to the greatest extent. Although there is more being done in this line than is generally known, yet there is a vast region of country stretching in an almost continnous line from the lower end of Mariposa to the upper end of Trinity county and many miles in width, covered with auriferous gravel that only awaits the application of capital and intelligent direction to astonish the world with its production of gold dust, to say nothing of the nnmerous gold quartz, copper, coal, etc., which abouud throughout this mineral belt.

There seems more activity in gravel mining in some of the

Middle Mining Counties,

Such as El Dorado, Placer, Nevada, Yuba, Sierra, Butte and Plumas, than those south and north. In Mariposa, Tuolumne, Calavarus and Amador, but little hydraulic miuing is being done. A few mines are being worked by the drifting process along the line of Table Mountain in the three last named counties. In those north of Plumas even lesa gravel mining is carried on, and yet there is no doubt of the existence of vast gravel beds in all of the counties named, both north and south. One reason for the slow progress made in deep gravel mining is the want of sufficient means by the mine owners to open their claims and to obtain the requisite water supply. On the

Declins of the Shallow Washings

The mining region was left in a state somewhat of chaos, as to the laws and regulations governing deep gravel mining. The laws were framed by Districts, and were peculiar to each, so as to accommodate ravine, bar or flat. These lawe granted but a small lot of ground to each man, which now is found too small for extended operations; and in order to obtain sufficient ground to justify the necessary outlay for opening bed rock tunnels, or cuts, for outlets, purchasing and laying down pipes, and constructing ditches for the supply of water, the owners are compelled either to consolidate their claims and work in common, or some one of their number more enterprising than the rest, or being possessed with more means, purchases the interests of his neighbors, thus securing a fine property to himself. But after becoming possessed of this large body of ground, though it might be ever so rich in gold duet, has an elephant on his hande. He has secured but one of the four essentials requieite for a highly remunerative mine—plenty of gold gravel. But water in greater quantity muet be had, with greater pressure, and still his property must remain worthlese to him without an outlet to drain the mine, and carry off the debrie and save the gold.

The Way Capital is Obtained.

What then is he to do? either to allow this valuable mine to remain idle or to obtain the means necessary to place it in working condition. To do this in San Francisco meane the eacrifice of a large portion of his property, or a rninoue rate of intereet to start with; and in the end the lose of his entire estate by the "freeze-out" principle, so prevalent here; he ie naturally frigbtened from seeking relief from thia quarter, and turns elsewhere. He is told there is an abundance of cheap money seeking investment, on the other side of the Atlantic. A party presente himself, representing so he says, men in Europe of unlimited means, who are desirous of investing in California mines. Thie individual pereuades the mine owner to give him a bond of his property for a year or so. Thie speculator or adventurer places it in the hands of a London promoter; it is hawked about for months, perhape; aud if it should finally succeed in finding a resting place, when it reachee the British public who eubscribe for the stock, it is watered to such a degree that it cannot possibly pay the promised dividends. The honest mine owner is willing, we will say, to take $50,000 for his property, and it would pay handeome returne on a reasonable advance above this eum, to cover commiesions for incorporating and raising the required capital to place it in working condition; but it will not pay on $500,000, at which it is capitalized. The result is, the owner of the mine is ruined, for he holde worthless shares. The subscriber is hugely disgusted, for he finds too late that he has been swindled, and can never agaiu be induced to invest in anything, however honest or legitimate, in the "blarsted" country. Somebody has made money on the other side, but our country and our people have to bear the stigma of cheats and swindlers when in truth they are innocent, for the fraud was perpetrated by London sharpers. All these things

Contribute to Retard Development

Of not only our gravel mines but other enterprises in thie country, and will continue to do so as loug as this state of things prevails. Is there no remedy? are those hidden millions of treasure to remain nncovered forever? We venture to say there is no region of the same extent on the globe that offers a better field for the investment of capital than the one here referred to; and yet it has been permitted, with a few isolated exceptions, to lie almost untouched. Gravel mining can be made just as certain of results, just as safe and just as legitimate as farming, merchandising or auy other branch of business, and far more profitable, for by the improvements recently introduced in this class of mining, thousands of tons of gravel can be removed with a single nozzle in 24 hours directed by one man. With

The Appliances now in Use

Hydraulic mining is by far the least expensive ever before used. With plenty of water properly applied gravel will pay largely, even when it contains but a few cents per cubic yard.

The Power of ths Pips

May be illustrated in many instances. At St. Louis, Sierra county, for example, Mr. W. R. Morgan, who ownes a valuable gravel property there, was recently running 3,000 inches of water through two 8-inch nozzles under a great pressure, and the effect on the high bank of gravel was truly wonderful. This tremendous force not only disintegrated the mass on which it was operating, but carried it off over the riffle blocks, etc., through the tail boxes depositing the gold dust in its course, and thus the work of a thoussnd men is performed by half a dozen assisted by this powerful and efficient agent, water. Mr. Morgan is thus enabled to clean up from $100,000 to $150,000 per annum at a very small expense, aud from ground, too, which would not pay anything under the old treatment.

Thousands of Claims of this Character

Are lying idle to-day, which could be utilized with an outlay of a few thousand dollars. Some very valuable mines are being worked in the locality of Gibsonville on the

Drifting Principle.

This is resorted to when the gold iu the gravel is concentrated in a strata on or near the bedrock, and is covered hy a mass of poor gravel, and will not pay for removal, even with the pipe, or, as in many cases, capped with volcanic ash or lava too hard to be removed by water. Mines of this class must necessarily possess rich deposits to ensure remunerative returns, for the work of mining and delivery to the dumps must be performed hy hand. The North America and Pilot, near Gibsonville, are of this class; and the former, owned by an English company, is said to be paying well. The Pilot joins the North America on the same lead, and is also payiug largely. The Caledonia, at St. Louis, is another mine of this class, which has paid handsomely for years. But, as a general thing, these driftiug-mines are not so numerous or productive as the hydraulic mines.

Water is the Great Want

Of the gravel region. Without it the miner can do nothiug. He may possess large and rich deposite of gold-gravel, but if he cannot get the water on it with sufficient preseure hie claim is valueless, and he must wait for eomething to turn up to give him the neceseary means to render it productive. That time must soon come, for the attention of capitalists, both of the Eastern States and Europe, ie being turned in this direction. Why cannot men of capital here see it in this light, take hold honeetly with the mine-owner, make fortunes for themselves, aud thereby

Develop the Resources of ths Country.

How much better would it be for all concerned if the millions of dollars now kept in a feverish state of excitement on the stock exchange could be applied in thie way. Soon we ehould see a different etate of things; inetead of the rise and fall of stocks depending wholly on "Rings" and "Corners," false reporte, etc., sharee would sell and be pnrchased on their merits, therehy producing a healthy state of finances as well as morals, the country developed, taxation lessened, and a new impetus given to immigration. We notice in certain localitiee symptoms of progress in this direction,

A Large Canal

Is now being constructed by local capital, to supply the wants of the extensiva mining localitiee of Iowa and Wisconsin Hills, Michigan Bluff, Forest Hill, etc., in Placer county. A project is in contemplation of a similar kind for the country arouud Placerville, El Dorado county. The Eureka Canal Company, whose ditches now supply a very rich and extensive section aloug its course from the head of Webber Creek, westward to Shingle Springe, embracing the well known mining Districts of Diamond Springs, Mud Springs, New Town, etc., all in El Dorado county, we are told are in negotiation with English capitalists for extensive improvements on their water system.

Our object in writing this ie to call the attention of our own people to the importance of this subject that they may be beforehand with outsiders on this important home question.

Our Natal Day.

Before this nnmber of the PRESS will have reached the homes of a majority of its patrons, that ever memorable day, the 4th of July, will have come again, and again passed away; but not to be forgotten, for so long as the American Continent shall stand up ont of the sea as solid land, so long will the day be remembered and celebrated by the people of the United States, as the birthday of freedom.

And it is becoming in ns as the descendants of noble and patriotic sires, in whose veins coursed the warm blood of a pure and holy heroism, that we should, as the inheritors of their great legacy, hold in remembrance and perpetuity, the sacred trust committed to us, by keeping alive in the hearts of our people, the causes and the conflict that resulted in the establishment of freedom's empire on American soil.

It is our only, truly national holiday, and as we have but one, every true lover of his country should in some way contribute, by devoting the day and his efforts to the keeping alive of that spirit of patriotism that can alone preserve our institutions, the honor and glory of our people among the nations.

If, then, it is the spirit of patriotism that we would kindle and nourish in the minds of our youth and keep the same alive as a perpetual fire, how can we do it better, than to let what there is of "old '76" spirit remaining amongst us, with all there is of "Young America," join in the grand, annual celebration so spiritedly predicted by the elder Adams; that the day would be celebrated by our children and our childrens' children, with processions and marchiugs and dinners and speeches and orations, the roar of cannon and the blaze of fireworks, bonfires and illuminations to the latest generations.

Now we drop right down from our "spread eagle" height to say, that to enable all, connected in any way with tha PRESS, including proprietors, editors, compositors and printers, to join in the celebration of the 4th, we issue the PRESS a day earlier than usual; so that if there should seem to be anything lacking in the present number, let it be charged to the account of "Independence day."

Disastrous Fire at Hamilton.

The mining towns of this coast are usually constructed in such a manner and with snch perishable materials, that when a fire is once started, it commits fearful ravages in a short time. A year seldom passes but that wa are called upon to chronicle the almost total destruction of mining towns or camps of more or less note. This time it is Hamilton, Nevada, at what is well kuown as White Pine. Tha loss in this instance amounts to about $600,000—a very disastrous one to so small a place. It is stated that the White Pine Water Company were culpably negligent in the performance of their contract with the city, as it was an hour after the fire started before any water could be procured, the engine honse itself being burned down. Water companies, howerever, whioh have a monopoly of the supply of any city or town, do about as they please in turning water off and on, so the complaint ie not an exceptional one. A case of the same kind occurred a few weeks since in San José, in thie State, and we were gratified to see that one of the partiee burned out, immediately sued the water company for not furnishing the water, and the case is now pending. Similar complaints hava been made against the water company now supplying the city of Oakland. For some reason the supply is turned off periodically, and at such timee when fires occur disastrone results are sure to follow. If people pay for water and pay taxes, it should be furnished at all times when in the power of the company.

There is said to be conaiderable suffering among the poor familiee turned out of their homes hy the Hamilton fire, hut the people are helping one another as much as poseible. A diepatch from Hamilton statee that there is no doubt that the fire was the work of an incendiary. Below is a list of lossee as far as known at present:

P. A. Wagner.....	$45,000	F. W. Cole.....	$ 2,500
(No insurance.)		Marshall Atwood....	5,000
Perry's Saloon.....	9,000	Wm. Hendrie.....	2,000
H. Light.....	5,000	Woodruff & Ennor...	30,000
Smith Bros.....	5,000	Jack Wadish.....	1,500
Chas. Friedman	1,500	City of Hamilton....	20,000
P. Rowell.....	1,500	A. Haas.....	15,000
Fred. Vettulan.....	800	Marco Medin.....	28,000
A. Jackson.....	32,000	Wm. Plumhof.....	2,500
A. Man & Co.....	45,000	G. Hudson.....	2,000
(Insured $12,000.)		H. Crowell.....	8,000
L. C. Scott.....	3,000	M. Cohn & Bro.....	3,000
Wm. Davidson.....	4,000	F. Pramenko.....	9,000
J. R. Withington....	3,000	J. Cohn & Bro.....	33,000
R. Hyman.....	2,000	(Insured $18,000.)	
F. W. Clute.....	30,000	Dennis Dailey.....	2,500
W. H. Naylor.....	3,500	Ada Mordaunt.....	7,500
Louis Scadow.....	2,500		

Other loeses, not apportioned, will probably bring the total np to nearly six hnndred thousand dollars.

Accidents in Mines.

Scarcely a week passes bot what we are called upon to record nnmerons accidents resnlting in loss of life or injury, incurred in pursning mining operations. Many of these are the resnlt of accidents whlch conld scarcely have been foreseen, bnt by far the greater majority are caused from carelessness or bad management. Miners are, from tha very nature of tbeir occnpation, more exposed to danger of life and limb, than perhaps any other class of people, sailors not excepted. Prematnre explosions, defectivo blasts, breakage of machinery, caves, fire, etc., combine to make their lives dangerons. Moreover when men get nsed to handling powder, to running up and down shafts in cages or tubs seversl times a day, working in dangerons gronnd, etc., they natnrally become careless and negligent to a greator or less degree, and the fact that they havo done these things so often without accident, begeta a confidence that there is no danger in them. Occasionally, when a man is hurt or killed, the others abont the mine will be unnsually careful and attentive for a wbile, until the impression wears off, when the old state of things is again in order. Of conrse, if men will not take ordinary precantions to preserve thoir lives, others have to legislate for them, jost as our law makers pass wise laws to protect "poor Jack" from those rapscions land sharks—sailor "boarding masters." The only tronble with such laws as these is, that they seldom have the effect required; for if a sailor wants to throw his money away he is honnd to do it, the laws notwithstanding; and if a miner ohoses to risk his precions neck from day to day in dangerons ground or on defective hoisting gear, or with bad powder, he will probably do so. Bnt by "going after" the proprietors, a partial solution to the problem may be hsd. Still, some one mnst complain of defective arrangements, a thing tbat miners seldom do unless for a grudge. Aa long as they work in the mine where snch things exist they take them as they come, without mnch comment.

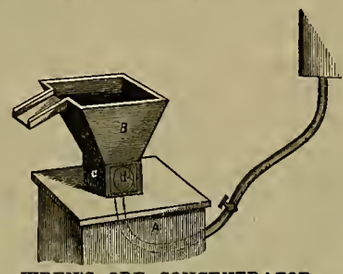
There are laws now in existence, which, to a certain extent, provide for the protection of miners as regards ontlet from a mine in case of fire and in other particnlars. They are, however, a dead letter in most cases, for we have yet to hear of one where infraction of the rules has been pnnished. In a good many mines on this coast, rickety old hoisting gear is used for hoisting men, which is dangerons in the extreme; bnt the owners argue that if anything breaks, it will be with a heavy load of ore, not men. We are glad to say however, that good, secure machinery is the rule on this coast and bad mschinery the exception. In speaking of the pnnishment of mine owners for keeping damaged or insnfficient gear, etc., an illnstration of the method they are dealt with nnder the new English Mining Law comes to ns in one of our late foreign exchanges.

A boy was killed by falling down a shaft in a colliery. At the inqnest it was shown that the machinery was of the most antiqnated description. A gin was erected at tbe top of the shaft, to which was attached a couple of ropes, and cars; as the one descended the other ascended, communication being made to tbe man on the dnmp, to set the machinery in motion, when reqnired. The man was frequently absent, and a neighboring qnarryman discharged his fnnctions, while at other times they were done by passers-by. One day the boy gave the signal to come up, which was answered by some one nnknown, and he hitched himself in tbe chains and ascended. The weight of the descending car proved too heavy a balance, he went np with a surge, and on coming in contact with the gin, was precipitated down the shaft and killed. The jury retnrned a verdict of manslaugbter against the proprietor. This is an exceptional case, hut one warranted to impress mine owners with a healthy regard for tbe lives of their employés. The English mining laws recently passed are mnch more stringent, with regard to these particulars, than are ours. One provision creates a system for securing the competency of managers; another lays down certain general rules for the prevention of accidents; a third provides that an amount of ventilation shall be prodnced in every mine, sufficient to dilnte the noxions gases; a fourth establishes a board of inspectors, to see that the various provisions are carried ont. It is also provided that the mines shall be inspected at least once in 24 hours, and a regular report made.

The Concentration of Ores.

On this coast where low-grade ores are abnndant, and where metallurgical establishments are few and far between, onr low-grade mines are worked bnt little. Only mines that carry ore of a high grade are worked, with bnt few exceptions. Experience has proven, however, in older mining countries, that mines with large quantities of low-grade ore pay better in the long run thau those with "bunches" of rich ore. Those mines in Enropo wbich pay the largest dividends, derive thoir profit from tho masses of their low-grade ore. Tbese facts are well known and fully recognized by every one who has had any experience on the snbject. It is necessary, therefore, in view of these facts and the high price of freight on teams and railroads on the Pacific Coast, tbat before these masses of low-grade ore can be shipped, tbey must be concentrated at the mine where tbey are produced. Thonsands of mines now lying idle conld be worked to profit if an effioient concentrator was nsed to free the ore of the lighter gangue, which is so mnch nseless and more than nseless dead weight in shipping. Some of the Colorado mines were of no value nntil this system was adopted, and it will no donbt be more generally introduced here when better nnderstood.

Low-grade ores which are now left on the dumps of many mines as nseless, and are only hoisted to get ont of the way, could be made a source of wealth to the owners if properly concentrated. Ore that is concentrated will bring donble its nsnal valne, in conseqnence of the increase of percentage of the metals, and the earthy matter having been got rid of the smelter can afford to pay higber prices still, since it reqnires comparatively no fluxes. Onr friend Mr. Henry Sewell, of Salt Lake, has recently written a letter to the *Tribune* wherein he takes the ground that it is cheaper for the miners there to concentrate their ores and sell



WREN'S ORE CONCENTRATOR.

them to smelters than to smelt them themselves. In support of his position he says:

In most conntries where extensive mining has hronght ahont competition among smelters of ores, the owners of mines have fonnd it more advantageous to sell their ore than attempt to smelt it themselves, becanse they cannot compete with the former. The canse of this is evident—the smelters work on a large scale, and his onrrent expenses are subdivided among his many furnaces, and conseqnently he can work at much less cost than the miner; besides this the smelter collects ores for his furnaces from many districts, and by so doing provides himself with ores that flux each other, whilst the miner as a general rule is forced to purchase fluxes, as he can rarely connt npon any other ores than those supplied by his own mine. The miner almost always is compelled to place his furnace contiguona to his mine, whereas the smelter locates his furnaces at some central point where he can connt upon quantity ss well as qnality.

This is the true source of competition between the miner and the smelter, and it is therefore manifest that ere long the miners of Utab will abandon the idea of smelting their own ores.

We have not the space to go into details of this subject as we wonld like to, but are assured that there is little doubt, hut that in the near futnre thousands of tons of now worthless ore will be concentrated into one-half or one-qnarter their bulk, hy some cheap process, and then be made marketable and profitable. Water is the best agent for accomplishing this object, the manner of application is the only question to he solved. A move in this direction has been made by Thomas Wren, of Hamilton, Nevada, who has recently patented a concentrator of unique design, and which thongh simple in construction seems efficient and reliable. A cut showing the method employed is herewith shown.

The concentrator is designed to concentrate snlphurets as well as ores. A closed tank, *A*, of any desired form, is constructed, having a hopper, *B*, snpported above it by a short box, *C*, the lower end of wbich communicates with the tank, at or near the centre of its top. A small pane of glass, *b*, is secured in two opposite sides of the box, c, so as to serve as windows throngh which the operation can be examined from tho ontside for the pnrpose of regulating the flow of water. A water tank is placed at a snfficient height above the tank to give the reqnired bydrostatic presnre. A pipe leads from the water tank to tbe tank, *A*, and a cock serves to regulate the flow of water through the pipe.

The powers of concentration are simply as follows: the cork is opened so as to allow the water from the npper tank to flow through it and fill tbe tank *A*, the box, *C*, and tbe hopper, *B*, and flow off tbrough the spont or sluice shown at one side of the hopper. The pulverized ore or pnlp is tben emptied into the hopper, when the eartby and light particles will be carried away through the spout, while the heavier particles snch as solphurets, heavy particles of ore, metals, etc., will sink to the bottom of the tank, from which they can be removed when desired. By examining the state of the operation through tbe windows, the exact amonnt of pressnre required to properly accomplish the separation of the gangue or tailings from the heavier particles, can readily be arrived at, and the proper pressure regnlated by means of the cock. By this means the light and worthless portions of the pnlp can be separated from the valuable parts, with bnt little tronble, and by a *continuous operation*; of conrse an apparatns of this kind could be run for little expense, as only one man wonld be required to take care of it. The force of water can be regnlated for different classes of ore, and can be adjusted to a nicety by examining the process throngh the little panes of glass provided for tbe purpose.

As the mining of ores and their reduction forms one of the most important branches of indostry to the Pacific States and Territories, and as the majority of ores in every country are low grade, concentration mnst be resorted to here by some method or other, in order to make it profitable to work and ship them. Until some cheap and covenient method is applied, thonsands of tons of profitable ores must be idle, and retain their wealth.

The Virginia Calamity.

A fearful calamity occurred at Virginia, Nevada, on the night of the 30th nlt., by whicb many lives were lost and mnch valuable property was destroyed. A fire which ensued completed tbe work of destruction. The following bnildings were shattered and partily thrown to the ground: Bank of California, and bnildings to the rear of it, Kennedy and Mallon's grocery store, Donglass' building, nsed in the upper apartment as a lodging house, Daley's saloon, and Armory Hall. The cause of the accident was donbtless nitro-glycerine. General Van Bokkelen, who was killed, was local agent of several powder companies, and is said to have had in the building six csns of nitro-glycerine, a quantity of Giant Powder, Hercnles Powdor and also some common powder. The nitro-glycerine isthougbt to have exploded first and the concnssion exploded the Giant Powder. We have no definite statements as yet in relation to the matter, but there is little donbt bnt that it was the nitro-glycerine that caused the explosion. We shall probably be ahle to give fnrther particulars with regard to its origin in our next issne.

The result would, doubtless, have been mnch more disastrons had the explosion occnrred in the day time instead of at night, as the locality was in the center [of the business portion of the city. It seems strange that a lot of explosive materials of the kind mentioned, should be kept stowed in a lodging house in a popnlous town like Virginia. The losses by tbe fire and explosion are put at abont $225,000. The killed, as far as known, were Major General J. L. Van Bokkelen, J. P. Smith, William Davis, B. Mandel, Mrs. Ed. Dean and ber little daughter, William Low, Charles Knox, Mrs. Emily O'Connor and John Devine. The wounded were numerous, among them are William Spear, Daniel Ingalls, H. Hildebrand, George Hill and Mrs. L. A. Taylor. A nnmber of firemen were slightly injured by falls, falling timbers, parial asphyxiation, etc.

Mr. Chas. H. Knox was connected with the Golden State Iron Works of this city. He leaves a wife, son and three brothers, and botb parents living. He was much respected.

Mr. Knox conversed in a very calm manner for some time after the flames had taken hold of his lower limbs, and were consnming him hy inches. He was caught among the fallen walls and timbers and after heseeching his friends to cut him out, and finding it was impossible for them to do so, he said: "Never mind hoys, save the others; Billy Lowe is dead and Charley is gone also!" and died without a murmur.

We notice, with pleasure, that the money donated for the celebration of the 4th of July, in both Virginia City and Hamilton, has been set aside for the benefit of snfferers in the disasters at the respective towns.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

From Official Reports for the Mining and Scientific Press, DEWEY & CO., Publishers and U. S. and Foreign Patent Agents]

By Spacial Dispatch, Dated Waahington, D. C., July 1st, 1873.

For Week Ending June 17th, 1873.*

Steam Plow.—Peter J. McDonald, S. F., Cal.

Harrow.—Parmenas N. Woodworth, Stony Point, Cal.

Brake Reaction-Movement.—Horace B. Martin, S. F., Cal.

Coal Screen and Chote.—Martin R. Roberts, S. F., Cal.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventers transacted with greater security and in much less time than by any other agency.

Bottle and Can Clamp.—Mr. James N. Carter, of Virgina City, Nevada, has invented a simple, cheap and convenient clamping device, for securing cans, bottles and other containing vessels upon a platform, counter or shelf so that they cannot be shaken down or removed without unlocking or releasing the clamp. The device is chiefly intended for securing milk cans to the bottom or floor of milk wagons, thus obviating the necessity of converting the wagon bed into a series of compartments as nsually practiced. In this country of earthquakes, the device will be excellent for preventing glassware and bottles from being shaken down and broken when the "shake" comes. Mr. Carter, has secured protection for his invention through the Scientific Press Patent Agency.

The New Idria Case.—Here is the latest action in the case of the New Idria Quicksilver Co., as telegraphed to the city dailies: About two years ago the Secretary of the Interior denied the application of the New Idria Quicksilver Mining Company for a patent for mining land in California, which is also claimed by McGarrahan. The New Idria claimants snbseqnently filed an application for a rehearing, and no action being taken on it they recently reqnested the Secretary of the Interior to refer tbe whole matter to the Attorney-General for final adjudication. This request was refused by Secretary Delano, whereupon the New Idria claimants appealed to President Grant to order such reference. The President declined to interfere, and the company's application for a rehearing and their amended petition for a patent are still pending before the Secretary of the Interior.

New Dam.—The Nevada *Transcript* learns that the South Yuba Canal Compsny contemplate the early construction of a dam at the lower end of Fordyce, near the site of Meadow Lake. The construction of this dam will give an abundant supply of water, greatly enhance the value of the property, and he of great benefit to all mining claims in the territory supplied by the canals and ditches of the South Yuba Company.

Nickel.—Everybody wants to find nickel, for a mine of it would be immensely valuable. Several of the interior papers speak of the probability of finding it in their vicinity. News now comes from British Columbia to the effect that a rich deposit of this mineral has been discovered near Cowichan. If this is so it will not he long before the discoverer finds a purchaser for his mine or his ore.

Eureka Mine.—A dispatch from Washington states that E. C. Ingersoll has made an argument before Solicitor Smith, Acting Secretary of the Interior, in behalf of the Eureka Mining Company, of California, relative to the time within which adverse claims must be filed, claiming that the first day of publication should be counted as one of the sixty days mentioned in the statute.

More Coal has been found in Contra Costa county, at Pine Cañon, San Miguel Ranch, near Davisville. The vein a few feet from the surface is about 10 inches wide. Several coal mines have also been found in Santa Cruz county, at Loami Prieta Mountain, near the headwaters of Corallitas creek. The coal is said to be of good quality.

The Owyhee *Avalanche* thinks the bullion shipments from that region this month will reach $100,000.

Daniel Wellington, of Virginia City, Nevada, is requested to communicate immediately with this office.

Consumption of Sugar.

During ths past year 83,000,000 pounds of sugar was imported to the Pacific coast. Of this 65,500,000 pounds was oonsumed. Thsre was only 1,500,000 pounds of heet sngar manfactured in the State, hy ths factories of Sacramento and Alvarado, so thers is still room for eighty-six such factoriss, giving employmsnt to 8,600 operatives for sevsn months of ths year—from August until March—not to speak of ths Chinsse, nnmbering ons hundred, on the Alvarado Company's farm, whsre they ars employed in weeding, hoeing, stc. These Chiness ars the only hands at present employed on the Alvarado farm, and are kspt to cultivate ths young heets.

The Future Prospects of Beet Culture.

Although various opinions ars sntsrtained as to whsthsr or not the growth of hsets is hsneficial to the soil, ths prevailing idea is that it is attendsd with good resnlts. Many of the farmers in the nsighhorhood of the mill who raised heets for two consecutive years and sowed whsat on the third, found the crops hettsr than usual. The hosing necessary to the growth of hests effectnally clears the ground of the lnxnriant wseds so detrimental to yonng grain. Every farmsr is aware of the fact that the soil rsquires a change in the kind of produce it raisee. Snccessive crope of one particnlar variety only impoverish the soil.

Should the manufactnre of heet-sugar hecome exteneive, the demand for heets will probahly influence farmere (as in the case of those ln Alvarado) to resort to their culture as a change of crop. The venture of the Alvarado Company has proved eminently successfnl, and the farmers of the locality have discovered that it ie poseihle to raise a very fair crop of heets when wheat from excessive moietnre or drought has entirely failed. The prospects of heet culture in this State are exceedingly promising, and with the decline of cane-eugar manufacture in the arid fields of the Sonthern States, it is not improhable that it will ultimately he the eource of snpply of a large portion of the sugar consumed in the United Statee.—*Bulletin.*

Farmers' Anti-Monopoly Movement.

An Illinois paper, commenting upon the election of Craig, the farmers' candidate for Jndge of the Snpreme Court, saye that that election is only an incident in the movement. It is not the end aimed at, nor the heginning of the end. It serves only to draw the dividing linee distinguishing those who are heartily in sympathy with the anti-monopoly movement, from those who tremhlingly gave it a quasi endorsement, not dariug to take a positive stand on either side. The farmere have no idea of stopping their action with thie election; indeed, no one thought of thie election when they hegan operations; hut they will go on until thsy elect a Legislature, Governor, membere of Congrees, and a President, if need he, if their objects are not attained otherwise. They are fully aware that it wonld he convenient, in a great movement of this kind, to have "friende at court;" to have men in public positione who are in aympathy with them, and will render them assistance iu organizing and keeping together. Hence they will endeavor to see that the various county offices, to he filled next fall, are eupplied with men who have already proved to he with them in sentiment and sympathy.

Hoisting Machinery in Salt Lake. — The *Alta* correspondent at Salt Lake says: It is the liveliest camp he has struck yet. Everywhere he meete strangers from the East and not a few notahle epecnlatore from the Bay, hargaining for mines. The great want is mills and furnaces. Mr. Howland, late of the Miners' Foundry, has aasociated with Eaetern capitalists, to pnt np a custom mill of 20 etampe at Palace Park, 28 miles from Salt Lake. It is well understood that San Francisco is the safeet place to get reliahle milling worke. The contract has heen awarded to Messrs. Bordwell & Malter, constrncting engineers. It is to he in all respects a first-class eilver mill.

Gold Diggings are heing worked hy Russians and Norwegians in Lapland, hut strange to say, no "Old California minere" have as yet passed their opinions on the diggins, there heing no Americans there. The ubiquity of "old 49ere" is eo proverhial that it is strange none of them have visited Lapland yet.

The shaft in the Gwin mine, Calaveras County, is now down 700 feet, the contract for sinking 100 feet helow the 600 feet level having heen finished. The last hundred feet finished is spoken of as a masterpiece of workmanehip. The mine is yielding well.

Michigan Capitalists have invested over $600,000 in Utah mines and will shortly erect five smelting furnaces on a 40-acre tract near Salt Lake City.

The Wheat Crop.

A special Washington dispatch to the Chicago *Tribune*, under dats of Jnne 13th says: Accounts are now in from snongh of the wheat-growing States to show that the crop of thie year will, in all prohahility, he less than half what it was last year. In Wsstsrn New York, and in fact along the lake region of the conntry, the winter wheat is, as might have heen expected from the unusual severity of the past season, atmost a total failnre. Other crops havs also hesn sevsrely injured hy ths late spring. The long-continued wst weather prevails in Iowa, and ths crops are suffering greatly.

There is evsry reason to helieve that, with the sxception of ths fruit crops, all others will be very short, ths dsficiency heing especially heavy in cereals. In fact, 1873 will probahly hs the worst year ws have had since ths beginning of the war. Ths wheat crop is alrsady heing harvested in the Southern States, and as far north as the Shsnandoah Valley. In soms cassa it has been vsry fair, hut hy the time the great hslt of the Central States is reached it is hslieved that ths falling off of the crop will he such as will astonish ths conntry, and affect the financial situation.

Scarcity of Water is felt at the mills on the Seven-mile and other cañons near Virginia City, and surplns ore is accumnlating. On the completion of the water works now heing constructed hy the Virginia and Gold Hill Water Co., this want will uot he felt.

Late experiments render it prohahle that the cost of manufactnring magneeium, so much in nse for photographic and illuminating purpoees, will ehortly he reduced to such a degree that it can prohahly he sold for three or fonr dollars per pound.

Estimated Yield.—A number of gentlemen connected with the mining interests, estimate that the daily ore supply of the mines ahont Salt Lake City, will he after July 1st, 700 tons, of which Little Cottonwood will yield 200 tons.

Copper Reduction works are to he erected at Golden, Colorado, hy a company, who were induced to do so by the existence of copper ores in Jefferson County in quantities sufficiently large to pay for working.

Over 65,000 hars of Cerro Gordo hullion paseed over the Los Angelee and Wilmington railroad last year, and the Los Angeles *Star* eays there will he a material raise in the figure thie ensuing year.

Pumping ann Hoisting machinery hae heen hought for the Santa Rosa Coal mine, Sonoma county. The mine is eaid to he producing an excellent quality of coal.

A Bar has heen fonnd in a cañon near San Rafael, Lower California, which ie rich in placer gold. No work can he done on it until the rainy season sets in.

Work has heen commenced on a new ledge, recently discovered ahout 8 miles helow Burnside, San Bernardino county. The ledge ie 4 feet wide and shows free gold.

The coal area of China is eetimated at 97,000 sqnare miles, and the area of coal lands in the United States ia said to he 120,000 square miles.

Coal of good qnality hae heen diecoverod at Pancake ahout 15 milee from Hamilton, White Pine, Nevada. It is important to the emelters at Eureka.

An Extension of the Golden Chariot, the crack mine of San Diego conuty, has heen etruck, the croppings of which are large and rich.

The Idaho mine in Nevada county last week cleaned up $26,000 from six days' work, with 35 stamps.

The Bullion ahipment from Eureka, Nev., on the 19th, was 50,000 pounds—two and a half car loads.

The Gold Hill tailings mill has completed ite first run and clean-up, $596, in four days' run.

The Salt Lake Stock Board which was to have heen opened in June, hae not ae yet heen heard from.

The furnaces ahout Eureka, Nevada, use 8,400 hushels of coal per day.

The New Quartz mill on the Vulture mine, Oregon, is doing well.

Working Low Grade Ores.

This question, says ths Salt Lake *Tribune*, is ons of vital interest as touching the fnture wslfare of the Territory, and demands all ths attention which can he hestowed upon it hy those interested in the dsvelopment of our mineral rssources. It is thsrefore necessary ths ingenuity of man he exercised in searching out some economical plan hy which the great hulk can he utilized. The expsriencs of msn well versed in mining matters is that nine-tenths of ths ores in Utah are not of more than the average value of $40 per ton.

In our opinion, the first step to hs taken towards hringing ahout the desideratum in question is to separate ths gangue from the purs ore, and thereby secure the greatest value in the smallest compass; and the second step is to discover some dsscription of furnacs which shall bs simple in constrnction, efficient in its opsration, insxpensive to huild, and that will smelt the concsntrated ore at a heat that will not incur a loss hy volatilization.

The present msthods of smelting low grade ores, espscially those that are very rehsllious require so much hsat and consequsnt large consumption of fuel, causing thershy so much loss in hoth lead and silver, through oxidation and volatilization, that no profits can he realized, but, on the contrary, losses are sustainsd.

Experiments in separation and concentration wsre made in the month of March of the prssent year on oree from the De Soto mine, Humholdt county, Nevada. The ore contained from three to five per cent. of hase metal, principally antimony, also eome lead and zinc; the silver moetly occurred as a hlack sulphuret. The assay value in silver was ahout $54 to the ton.

The following resnlts of the treatment of the ore by three different methods are of interest to the mining and scientific world:

First. By amalgamation (stamp-mill) process, the loss was to suoh an extent ae not to allow any margin at all for the expense of working.

Second. By the most approved method of wet concentration eeventy-five per cent. of the silver was lost and the twenty-five per cent. saved for final treatment wae not eufficient to pay expenses.

Third. By Krom's dry crushing and dry concentrating process over ninety five per cent. of silver was eaved, and the result produced was over $1,000 in eilver to the ton of concentrated ore from the original, which contained in hulk only $54 of silver to the ton.

The expense of the Krom syetem is said to he less than any other mode in nse.

So much for the first step in onr theory. We next come to the question of improved frnaces.

There are two new processee which are iuvitiug puhlic atteotiou.

One is the "Stevens Oxy-hydrogen Furnace," the inventor of which claims that at a very trifling expense in fuel a very intense heat can he ohtained. Any description of fnel may he usod, petroleum, coal tar, coal or wood hnrn eqnally well. A large furnace on this plan hae heen erected at Eureka, Nevada, and the owner of it claime that he can smelt ore at $15 per ton, a redoction of ahout fifty per cent. on former ratee. Another of less size has also heen hnilt at Sandy Station of the U. S. Railroad, hut neither of them yet have demonetrated that what is claimed for them can he performed.

Another process is that of emelting in vacuum. By this plan it is argued that volatilization and oxydation are avoided. A very great eaving in fuel is effected, and much hetter resulte can he ohtained hy the process than hy a hlast or draft of air.

We have taken great pains to inquire into the merits of the varions improvements now heing introdnced, and shall throngh onr columns continue to inform our readers of what is paesing in the development of plans that have for their end the hringing ahont of that important desideratum the utilization of onr low grade ores.

Assyrian Research.—The following telegram has heen received hy the proprietors of the *Daily Telegraph*, from Mr. George Smith: I am excavating the site of the King's Library, at Nineveh, which I fonnd without much difficulty. Many freeh objects of high importance have rewarded my eearch. Since my last meseage, I have come npon numerous valnahle inscriptione and fragments of all claeses, including very curions syllaharies and hilingual records. Among them ie a remarkahle tahle of the penalties for neglect or infraction of the laws. But my most fortunate discovery is that of a hroken tahlet, containing the very portion of the text which was missing from the Deluge tahlet. Immense maeses of earth and debris overlie whatever remains to he brought to light in this part of the great monnd. Much time and large sums of money would he required to lay it open. I therefore wait instructione from you and the Musenm, as the eeaeon is closing.

Madder.—The *Alta* says, John L. Beard, Esq., haegrowing on his farm at Centerville, across the hay, ahout one acre of *madder*, the root of which is nsed for dyeing purposes. The seed wae brought hy Mr. Beard from Holland to he need as an experiment, which so far appears moet succesaful. We are informed that no other attempt has heen made to cultivate the plant in this State.

Something about the Carson River.—From Mr. S. E. Jones of Empire we gathsr the materials for the following facts and figures: The amount of wood now coming out of the ditch, going over the dam and coming down the rivsr may bs put down in round nnmhers at say 65,000 cords Of this amount, 15,000 cords go over ths dam and down to Dayton; the halance remaining in Empire. This fifty thousand cords are ownsd by various parties, Messrs. Smith & Jones heing the largest ownsrs. This drive is hronght down under contract hy Messrs Bryant & Flanders, and is coming on prosperously. Hitherto ten hours has heen a day's work hy the men employed in taking the wood out of the ditch ; hut from this on until the wood is all on the hank sixteen honrs will he a days's work—that is, from 4 in the morning till 8 in the eveuing. It is hardly correct, though, to call this a day's work, for it conveys a wrong impression; ws should say, mors propsrly, that ths sbifts will he off and on during the hours indicated. The water is falling very rapidly under the influence of this wram weather—falling more than an inch a day. This, it is thought, will soon reduce the power and hullion producing capacity of ths larger Carson river mills—the Mexican, Brunswick and Eureka, thongh it prohahly won't maks much differenes with the smaller ones. Present appearances indicate that ths river will he lower this year than for some seasons past. The wood drivers will he lucky if they gst ths ir contracts completed without any serious mishaps.—*Carson Appeal.*

The "Garibaldi" Leuge.—A corresponden writes us ae follows concerning thie mine: It ie situated near Rohinson's Ferry, Calaveras county, California, ie turning out a large quantity of high grade ore. It ie worked throngh a tnnnel, 152 feet long, cutting two hodiee of ore aggregatiug 13 feet in width, parted hy a eix inch clay seam, the head wall having a gonge of twelve inches, eoft and wet. Average ore from the eaet vein pulps over thirty dollare per ton, free gold. From appearances there ie eufficient ore ahove the line of the tunnel to rnn a forty-stamp mill five yeare. Water power is abundant and cheap, the Stanislaus river croesing the vein at each end of the claim. Messrs. Rogers and Lewie, who are opening the mine, have 160 acree of timher land and a heautiful mill site adjoining their property. The knowing ones in that vicinity are highly pleased with the quantity and grade of ore in eight.

A New Chlorinizing and Desulphurizing Furnace.—A new chlorinizing and desulphurizing fnrnace has recently heen invented hy one Thomas McGlew, of Austin, Nevada, which promiees to eclipee the Stetefeldt and all other fnrnaces for the roasting of oree. The Virginia *Chronicle* speake of it as follows: The entire cost of putting one in running order will not exceed $2,000. It can he run twenty-four honrs hy three men, one on each shift of eight hours each. The heat can he regnlated to suit all kinde of ores, and this ie the only kind of furuace in which the heat can he increaeed or diminished ae reqnired. The coet of roasting orcs hy this furnace will not exceed $4 per ton, and it ie guaranteed to chlorinize all ore as high as 95 per cent. of the assay value. Should the furnace he adopted here, a saving of millions of dollars will ho made annually, as now only from 60 to 65 per cent is saved.

A Cheap Paint.—The *American Agriculturist* of a recent date, says:—Ahout seven yeare ago, a Mr. Wheeler, of thie place, hnilt a hridge for the town, which he painted with the following composition:—Water lime (hydraulic lime) mixed with skimmed milk to the consistance of common paint. It was pnt on with a short handled whitewash hrush; eight or ten quarts were applied. It can he shaded hy addition of varione coloring mattere to suit the taste or fancy. The hridge was painted eeven years ago. I pass it almost weekly, and I snpposed it was covered with lead paint till told to the contrary. This paint ie adapted to coarse, rongh out-door work, and out-buildings which are covered with unplained hoarde. There are a numher of harns in this vioinity painted with thie mixtnre; they have a rather neat appearance in contrast with those not painted. The cost ie hut little; the lime can he procured for $6 to $9 per harrel. Those who have nsed it, epeak well of it. Any one can put it ou with a whitewash hrush.

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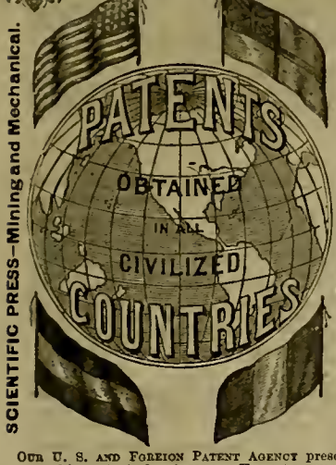

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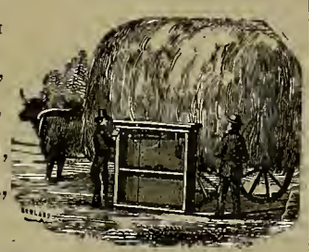

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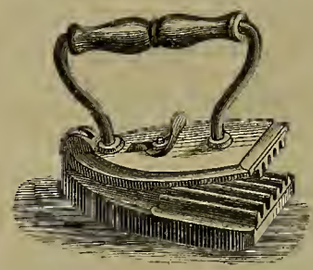

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16v20-3m JOHN F. LOHSE, Secretary.

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Directory.

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H. C. BENNETT,

STATISTICIAN.

Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

RICHARD H. STRETCH, Civil Engineer,

City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

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San Francisco Office—At Messrs. Tranor & Knox, 513 California street.

Residence—308 Tenth street, Oakland, Cal. jn21-8m

(Continued from Page 5.)

ft. on the ledge with good indications—showing ore in bunches. Work is being steadily prosecnted.

RAYMOND EXTENSION.—This mine is situated nesr the Portsmouth; incline down 40 ft.; showing some ore. Working one shift.

ANDES.—In the same locality as the Raymond Extension and Portsmouth; incline down 65 ft. and showing a well-defined ledge with bunches of ore. Driving ahesd all the time.

ALPS.—The drift from the main shsft is now in 235 ft. without cutting the ledge. From the 154-ft. level rich ore is being constantly extracted. The vein at this point is 2 ft. wide, a portion of which, however, is not considered rich enough to mill at present.

MAZEPPA.—The hoisting works are nearly completed, and if nothing takes place to prevent it, another whistle will be sdded to our noisy stesm choir on Monday next. The works are first-class in every respect. Sinking on the msin shaft will be resnmed a s fast as the hoisting-works are ready.

RAYMOND AND ELY.—The usual amonnt of ore is being extrscted and shipped with the same uniformly good returns in the shspe of bullion.

PARIAN.—The incline on the ledge is down 100 ft., with a drift from the bottom of 30 ft., showing good mineral all the wsy. Work, which hss been suspended on this mine for some time, will soon be renewed.

PEAVINE.—Siill shipping ore from this mine. The usual number of men employed and character of oras unchsnged. We have seen some extrsordinarily rich ore from this mine lately.

HAVANA.—Incline shaft 200 ft. deep. Ledge in the bottom between 8 and 9 ft. wide, 2 ft. of which is extremely rich, the balance being low grade ore of good milling quality. The rich streak is steadily increasing in size as depth is attained. Five or six tons of high grade ore on the dump, and fifteen to twenty tons low grade. Still sinking.

NORTH STAR.—This new and promising mine is now down 15 ft. in the shaft. The vein holds its width and richness.

WASHINGTON AND CREOLE.—Shipped last week $6,300 —next week will ship between $6,000 and $7,000—shipments will herafter he msde weekly. They are now taking out sbout 10 tons a day—an average assay from which shows $160 to the ton. Another winze is being sunk, from which drifts are being run sast and west, the ledge averaging 2 ft. in width from top to bottom. In stoping up from the drift to the ledge, the average width in the drift stope is sbout 3 ft. This stope is 70 ft. long—running east and west from the main drift. Prospecting for new developments is going on as heretofore. The ontlook of this mine wss never better than at present. The June shipment will will be at lesst $30,000.

CHIEF OF THE HILL.—Have raised from the 160-ft. level—Wright's shaft—60 ft., and intend to drift therefrom to counect with the Chief of the Hill Esst. Before msking the counection, they expect, from previous indcstions, to strike a large body of ore.

SILVER PEAK.—The ore struck in the vein in the stopes is wider and richer than before. In one of the ore bressts this streak is 3 ft. wide—good milling ore, better than the last sent to the mill.

WASHOE.

BELCHER.—Dsily yield 500 tons, about 155 of which comes from the 1,300 or lowest level, through the Yellow Jacket shaft. The msin south drift at this level is in 280 ft. from the Crown Point line, with the fsce still in fine ore. The cross-cut east from the sill floor, 100 ft. from the Crown Point line, and the cross-cnt east from the fourth floor above, 70 ft. from the Cown Point line, are both in over 100 ft. from the esst side of the ore stopes, snd still show spots of ore. This level thus far shows better than either of the levels above, all of which, however, are looking and holding out finely. At the 1,200-ft. level the cross-cut east shows 39 ft. of fine ora, which hids fair to open out into a large body. The msin incline is now down below the 1,300-ft-level. A station is being opened for that level, and the incline will be continned downward as soon ss the station is opened and the drift north fairly started.

SAVAOE.—The south winze from the 1600 to to 1700-ft. levels msde the connection last Wednesday, giving a much-needed circulation of pure sir, cooling off the 1700-ft. level, and sffording an opportunity of crosscnting the ledge and developing the real vslue of that level. The north drift on the 1500-ft. level, having made connection with the Gould & Curry, slso gives a fine chance to prospect the large body of virgin ground thes lies between the 1500 snd 1600-ft. levels in that part of the mine.

SENATOR.—12 ft. have been added to the depth of the shaft this week, making it now 366 ft. deep. Some water is coming in at the north side of the shaft. It is of a milky color and quite wsrm. There is not enough of it, however, to give any trouble. The east side of the shaft shows the most quartz coming in. It is of fine quality. An assessment of 50 cents s share, amounting to $12,000, wss levied last Tuesday.

CROWN POINT.—Owing to the bad luck with the machinery, the ore production for the lsst week or two has not been up to the average, and what wss taken out csme from the 1000 and 1200-ft. levels, where the ore is of lower grade than at the 1300-ft. level. This difficulty is now obviated, the machinery being all right once mora and in good running condition. The cross-cnt esst of the 1300-ft. level, after passing through a rich streak of ore 14 ft. wide, 66 ft. from the drift, has gone some 23 ft. beyond, in porphyry and quartz, thst gives low assays. The cross-cnt east, at the lower or 1400-ft. level is in 65 ft., with the fsce still in solid white quartz, giving low sssays.

DAYTON.— The rock in the fsce of the main west tunnel, st the 225-ft. level, is much softer than at onr lsst report, and admits of much better speed in the progress of the work. The same heavy snd extensive qnartz ledge which was opened snd developed st the upper level of this miue in 1864-5, is found to extend to the lower level now being worked. It is much more concentrated, however, and contains mora good ore. It is over 100 ft. in width. The Dayton is one of the most valuable mines along the grest main lode.

CONSOLIDATED VIRGINIA.—Sinking the shaft is making steady progress, the rock in the bottom working well. It is now down 1,066 ft. Bnt little headway has been made in the main north drift on the 1,157-ft. level from the Gonld & Curry shaft during the week, owing to the striking of a hesvy flow of wster in the face of the drift of so hot a temperature as to mske it almost impossible for the men to prosecute the work.

LOWER COMSTOCK.—Gold Hill *News*, June 28: Work is actively resumed to develope the valusble claim of the Oo. situated on the lower portion of the branch of the great lode lesding down Gold Csnon. The clsim lies on the west side of the canon, within the limits of Silver City, and opposite the t wn. It is finely secured by United States patent, and various tunnels, run into it in times past from the ravine, have prstty well defined the position and value of the main ore vein, which is from 70 to 100 ft. wide. The quartz is of a fine character, and gives good assays. The old prospecting shaft of the Co. is 125 ft. in depth, and cut into quartz very much resembling the rich Ophir of years ago. There is every evidence to induce the belief that a rich, extensive and valuable mine will be developed when adequate depth is attained. With this view the Co. commenced last Saturday the sinking of a large working-shaft of three compartments, which, it is calculated, will cut the ledge at the depth of 500 ft. The first level will be opened at 400 ft. for a drift west of the ledge. Pay ore should, and probably will be found at that depth. The shaft is already 30 ft. deep, and the contract for the first 100 ft. is let to R. A. Yonng, of Silver Oity.

CROWN POINT EXTENSION.—This mine, adjoining the Crown Point and Belcher to the southward on the branch of the great lode leading down Gold Oanon, is now sbont to be practically opened and developed. The title is finally secnred by U. S. patent, and all things in that line being completed, the Co., on Mondsy last commenced sinking a large working shaft of three compartments. Mr. B. A. Yonng, of Silver Oity, has the contract for sinking the first 100 ft. It is slready down sbout 20 ft., making very good progress. Steam for hoisting works will be erected, with the intention of sinking to the depth of at least 1,000 ft., at which point it is expected to intersect the ledge. The new prospecting shaft of the Front Lode Mining Company being sunk a few hundred yards further down the canon, on the ssme lead, is 50 ft. deep, and already shows very favorable looking vein matter.

AMERICAN FLAT.—Sinking the incline is making good progress, with the bottom in quartz and porphyry. The ton having contracted with the Baltimore Consolidated for the privilege of running a drift from the main west tunnel on the 450-ft. level of thst mine, so as to cut the ledge and prospect their mine at a much less expense and are making good progress with the same.

FRANKLIN.—The clearing out and repairing of the main drift is still being vigorously driven ahead. Two shifts of men are employed, and they progress at the rate of two sets of timbers in three days. New ground and the ledge itself will be reached in the course of a week or ten days. Detached pieces of loose ore are frequently met with in the progress of the work, which give good assays. One piece last Wednesday assayed $124 26 to the ton, 25 par cent. of which wss gold.

IMPERIAL.—There is no particular change to note in the appearance or prcspects of the mine. Work goes on ss usual, snd evcrything operates well.

GOULD & CURRY.—The new pumps were all completed in good running order, and started np at six o'clock last evening. The msin northeast prospecting drift on the 1,500-ft. level is still driven ahead, the face in qusrtz and porphyry. The counection of the south drift on the 1,600-ft. level with the Savage gives the ssme ventilstion, and affords the opportunity to cross-cut and develop that portion of the mine.

WOODVILLE.—This mine continnes to yield well, keeping the mill stesdily running. The snit bronght against the Woodville by the Justice Co. is drawing toward a close. It is not a suit for title, as many have snpposed, bnt merely for trespass, the Justice alleging that the Woodvllle Co. have been gouging in upon them and taking ora from the Justice ground.

HALE AND NORCROSS.—Daily yield 50 tons of ore. Sinking the north winze, from the 1700-ft. level downward, is making good progress. The engine used on the 1500-ft. level to do the hoisting in the winze from the 1700 to the 1500-ft. levels, will be used to do the hoisting from this new winze.

SIERRA NEVADA.—Daily yield, 60 tons of ore. The ore breasts in the upper and middle portions of the mine are being gradually extended back further into the mountain, and continue to show an improvement in both the qusntity and quality of the ore extrscted. The mill is kept stesdily running on ora from the mine.

ARIZO A AND UTAH.—Sinking the winze in the main east drift on the 260-ft. level is making excellent progress, the face from the tunnel level downward continuing in good ores. Sinking the shaft has again been resumed, the rock in the bottom working well, and no water to interfere with the progress of the work.

OPHIR.—Prospecting at the lower levels still vigorously going on, hut no favora ble indications of large ore bodies are met with just at present. A great deal of work has been and still is doing in this mine, and to the depth of 1,500 ft. An assessment of $5 per share, amounting to $48,000 was levied last Mondsy.

MINT.—The main drift of the upper working is still being sctively driven ahesd, msking good progress, following the wsll of the ledge. A crosscut will be made into it shortly, when good results are anticipsted. Work at the lower level will be resnmed as soon as practicable.

OCCIDENTAL.—The ore-body in the main north tunnel is developing finely, being now from 16 to 18 ft. in width, and of excellent qnality. This mill will be started up on ore from the mine in a few days, when some good returns may be looked for.

JULIA.—The south drift from the msin west tunnel, on the 1,000-ft. level is making fair progress, the face sho wing some good ore. Work has again been resumed in the main east drift on the 800-ft. level. This drift is now in a distance of 550 ft.

JUSTICE.—The old south mine continues to yield about 20 tons per day. Drifting south st the 800-ft. level going on as usual, with favorable indications. An assessment of $1 per sbsre, smounting to $21,000 was levied last Tuesday.

CALEDONIA.—The 400-ft. level still continnes to yield 50 to 60 tons of good miling ore per day, keeping the Ssphire mill stesdily running. The main west drift at the 500-foot level is making good progress.

UTAH.—Draining the water from the shsft is ms king excellent progress, it being reduced to within 20 feet of the bottom. As soon ss the water is drsined, sinking the msin shaft will be resumed.

OVERMAN.—West drifts still going shesd, with no material change to report.

YELLOW JACKET.—Drifting north and sonth at both the 1,500 and 1,400-ft. levels. Only this and nothing more. No new developmenta.

Utah.

Salt Lake *Journal*, June 19: News from the new mining camp in the vicinity of Terrsce is more flattering than ever. A fourth part of one of the prospects was sold for $4,000 cash. The district can be trsced for over 6 miles, and a party of prospectors, who have just returned from s place 7 miles further on, have brought in ore of very high grade. A number of gentlemen of this city, who have visited the place, have "gone wild" ovar the prospect. Parties are now fitting out a stage line to counect the camp with the railroad. The indications for s flourishing, new district are good. High-grsde, frae milling ore, found within 10 miles of a railroad, in apparently inexhsnsible quantities, cannot but excite the sttention of miners.

Salt Lake *Tribune*, Jue 21: The principal mines now being worked in the district are the Del Monte, Silver World, Crown Point, Irvin, Terrace, Queen of the West, Silver Shield, May Flower, Forest Queen, Homestead, Midsummer, Silver Mountain, Central Pacific, Argants, and the Nellie Grant. The general character of the ore is represented to be high-grsde galena, with copper, selected samples averaging $300 in silver, 50 per cent. in lead, 10 per cent. in copper, and $27 in gold to the ton. All the sbove-named mines are mora or less developed. But the Mayflower snd Del Monte are prominent in that respect. The former hss a shaft down 50 feet, which is intended to tap the ledge st an incline of 100 ft. The Del Monte has an incline down 60 feet, and ore is being taken out all the wsy down. A ssmple of ore from the bottom of this incline assayed about $800 silver to the ton.

ROSEBUD MINES.—Salt Lake *Journal*, Jnne 23: A private letter received to-day by Messrs. A. S. Gould & Son, dated Rosebud, June 22, contains the following:

We have just got a prospect about five miles from here that will prove the best yet. An Indian came into camp with some rock and offered to show us the ledge for two horses; as we had no horses to give him, we gave him thirty dollars and a pair of blankets. He took us to the ledge five miles from hera, it is ahout twelve feet wide, and looks first rate. We had one assay from the surface, it went $165.40 per ton. I was up there yesterday, and organized a new district, called Shoshone district.

THE WINDSOR MINES.—This splendid group in Little Cottonwood, consisting of the Hiawatha, Montezuma, Last Chance and Savage, is looking magnificently. Steady work has been going on in them during the winter, and large bodies of ore have been developed. The dump is well filled, and with the facilities now enjoyed by the completion of the tunnel no doubt the mines will be placed upon a dividend paying basis within 30 days after the roads will permit the shipment of ore.

New Incorporations

The following companies have filed certificatees of incorporation in the County Clerk's office, S. F.

BLACK MOUNTAIN COAL M. Co.—June 27. Location, State of California. Capital stock, $1,00C,000. Trustees —Isham Case, William Strader, C. B. Burroughs, M. Bankhesd and George H. Smith.

CLIFTON COAL M. Co. was also incorporated, having the same amount of capital stock, objects and trustees.

AMADOR CANAL AND MINING Co —June 30. Object—To construct and maintain cansls and ditches in Amador, Calaveras and other counties, for flosting wood and lumbar snd to supply wster for mining and agricnltural purposes. Capital stock, $500,000. Directors—Abner Doble, Frsnk M. Brown, Joseph S. Emery, R. Thompson and G. M. Condle.

ROCKY POINT G. M. Co.—June 30. Locstion: Sierra county. Capital stock, $4,000,000. Directors—F. Jacob Wissing, J. B. White, Geo. Loomis, Wm. Pickett and Joseph Atwell.

WM. SHAKESPEARE G. M. Co.—July 1. Location: Farlestown Mining Dist., Butte Co. Capital, $1,500,000. Trustees—R. A. Hawkins, J. S. Allen and Wm. M. Rider.

PIONEER FLUMING Co.—July 1. Location: Shirt-Tail Canon, Plscer Co., Cal. Capital, $2,400,000. Trustees—J. M. Taylor, Maurice Dore, I. J. Corrigan, Arthur K. Hawkins and T. B. Kent.

THE BENJAMIN G. & S. M. Co. has filed a certificate of the increase of its capital stock to $3,000,000 from $2,000,000.

CONTINENTAL LIFE INSURANCE Co., No. 302 Montgomery street, corner of Pine.

JESSE A. PIERCE is not our agent at present.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Angels Quartz Mining Company---Principal

plsce of business, 408 California street, San Francisco. Location of works: Angels Mining District, Calaveras County, California.

NOTICE.—There sre delinqnent upon the following described stock, on acconnt of assessment (No. 35), levied March 4th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

T D Mathewson	3	300	$460 00
T D Msthewson	4	314	471 00
T D Mathewson	5	500	750 00
T D Mathewson	17	26	39 00
T D Mathewson (not issued)		326 6-7	488 67
J H Fish	(not issued)	342 6-7	574 29
J H Fish, Trustee	20	50	75 00
J H Fish, Trustee	21	50	75 00
J H Fish, Trustee	22	60	75 00
J H Fisb, Trustee	23	50	76 00
Mrs E B Fish	9	1000	1500 00
R M Anthony	18	100	150 00
R M Anthony	(not issned)	45 6-7	68 57
R M Anthony	19	60	90 00
E H Sawyer	11	800	1200 00
E H Sawyer	(not issued)	228 4-7	342 86
Geo. Osgood	12	400	500 00
Geo. Osgood	(not issued)	114 2-7	171 43

And in accordance with law and an order msde by the Board of Directors, on the 4th day of Msrch, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of Maurice Dore & Co., 327 Montgomery street, San Francisco, Csl., on Monday, April 21st, 1873, st 2 o'clock P. M., of such day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. GEORGE CONGDON, Secretsry.

Office, Room No. 1, 408 California Street, San Frsncisco, California (up stairs). a5-3t

POSTPONEMENT.—Angels Qnartz Mining Company The above sale is hereby postponed for thirty dsys, at the same hour and plsce.

ap19 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The sbove sale is hereby postponed until Wednesday. June 18, 1873, st the same hour and place.

m17 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The ahove salc is hereby postponed until Wednesday, July 15, 1873, at the same hour and place.

jl4 GEORGE CONGDON, Secretsry.

Alpine Gold Mill and Mining Company—

Location of principal plsce of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of May, 1873, the several amounts set opposite the names of the respective shsreholders, as follows:

Names.	No. Certificste.	No. Shares.	Amount.
Felton, C N	25	100	$100 00
Ives, G J	30	50	60 00
Luther, T M	26	100	100 00
Richardson, E A, Trustee	1	500	600 00
Richardson, E A, Trustee	2	600	600 00
Richardson, E A, Trustee	3	600	600 00
Richardson, E A Trustee	4	600	600 00
Richardson, E A, Trustee	5	500	500 00
Richardson, E A, Trustee	8	600	600 00
Richardson, E A, Trustee	7	500	500 00
Richardson, E A, Trustee	9	500	500 00
Richsrdson, E A, Trustee	10	500	500 00
Richardson, E A, Trustee	12	500	500 00
Richardson, E A, Trustee	13	600	600 00
Richardson, E A, Trustee	14	600	500 00
Richardson, E A, Trustee	15	600	600 00
Richardson, E A, Trustee	16	500	500 00
Richardson, E A, Trustee	17	600	600 00
Richardson, E A, Trustee	20	500	500 00
Richardson, E A, Trustee	34	50	50 00
Richardson, E A, Trustee	38	100	100 00
Richardson, E A, Trustee	39	100	100 00
Richardson, E A, Trnstee	45	250	260 00
Richardson, E A, Trustee	46	250	255 00
Richardson, E A, Trustee	47	200	200 00

And in accordance with law, and an order of the Board of Directors, made on the 13th day of May, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 438 California street, San Francisco, California, on the 9th day of July, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, Cal.

Globe Mining Company — Location of

works, Gold Hill, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 3d day of July, 1873, an assessment (No. 2) of seventy-five cents per share was levied npon the capital stock of the Corporstion, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 25 Hayward's Building, No. 419 California street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 4th day of August, 1873, to pay the delinquent asse-sment, together with costs of advertising and expenses of sale. By order of the Directors.

JOSEPH MAGUIRE, Secretary.

Office, Room 25, Hayward's Building, No. 419 California strset, San Francisco, Cal. jy5

Bunker Hill Quartz Mining Company—Lo-

cstion of works, Amador, Amador County, California. Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 5th day of June, 1873, an assessment (No. 10) of Ten Dollars per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at his office, No. 19 First street, San Fran isco, California. Any stock upon which this assessment shall remain unpaid on Monday, the 7th day of July, 1873, will be delinquent and advertised for sale at public suction, and nnless payment is made before, will be sold on Monday, the 28th day of July, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

jl4 CHARLS H. KNOX, Secretsry pro tem.

SPECIAL NOTICE.—At a meeting of the Board of Directors of the Bunker Hill Quartz Mining Company, held this day, the assessment (No. 9) levied December 3d, 1872, for Ten Dollars per share, was rescinded. Any stock upon which said assessment has been paid will be credited with the amonnt paid, upon Assessment No. 10.

CHARLES H. KNOX, Secretary.

San Francisco, June 5, 1873.

Central Land Company—Office and Prin-

cipal place of business, 338 Montgomery street, Room 5, San Francisco, California.

Notice is hereby given, that at a meeting of the Directors, held on the ninth day of June, 1873, an assessment of one dollar and twenty-five cents per share was levied npon the capital stock of the Corporation, payable immediately, to the Secretary, at the office of the Company, 338 Montgomery street, Room 5, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 10th day of July, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 28th day of July, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. F. B. HASWELL, Secretary.

Office, 338 Montgomery street, Room 5, San Francisco. June 10th, 1873 jl3-d&s

The California Beet Sugar Co.—Locs-

tion of principal place of business, San Francisco, California. Location of Works: Alvarsdo, Alameda County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Name.	No. Certificate.	No. Shares.	Amount.
W. T. Garratt	2	126	$12 50
W. T. Garratt	40	63	5 30
Ephraim Dyer	8	63	6 30
Ephraim Dyer	39	52	6 20
H. G. Rollins	9	63	6 30
H. G. Rollins	35	25	2 50
H. G. Rollins	36	12	1 20
Wm. B. Carr	23	250	25 00
Wm. B. Carr	62	38	3 80
E. H. Dyer	27	5	60
E. H. Dyer	71	246	24 50
Austin D. Moore	60	50	6 00
T. G. Phelps	68	53	5 30

And in accordance with lsw and an order of the Bosrd of Directors msde on the 26th day of Msy, 1873, so many shares of each pareel of said stock as may be necessary will be sold at pnblic auction at the office of the company, No. 314 California street, San Francisco, California, on Tuesday the 22d day of July, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of ssle.

LOUIS FRANOONI, Secretary.

Office, No. 314 California street, San Francisco, Cal.

Equitable Tunnel and Mining Company,

Location of works, Little Cottonwood District, Utah Territory.

Notice is herehy given, that at a meeling of the Bosrd of Directors, held on the fifth day of May, 1873, an assessment (No. 2) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 35 New Merchants' Exchange. Any stock upon which this assessment shall remain unpaid on the tenth day of June, 1873, will be delinquent, and advertised for sale at public auction, and nuless payment is made before, will be sold on the thirtieth day of Jnne, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

CHARLES S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco Cal

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed nntil Wednesday, July 2d, 1873, and the sale thereof until Tuesday, the 22d day of July, 1873. By order of the Board of Directors. CHAS. S. HEALY, Secretary.

Dutch Flat Blue Gravel Mining Company.

Place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 13th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Booth, L A	13	2000	$1000
Booth, L A	14	1000	500
Booth, L A	16	1000	500
Cope, G W, Trustee	67	100	50
Cope, G W, Trustee	68	100	50
Cope, G W, Trustee	69	100	50
Cope, G W, Trustee	70	100	50
Dorsey, E B	37	500	250
Dorsey, E B	42	200	100
Dorsey, E B	43	100	50
Dorsey, E B	44	100	50
Dorsey, E B	46	100	50
Dorsey, E B	46	100	60
Dorsey, E B	47	100	50
Fry, J D	17	500	250
Forbes, Alex, Trustee	62	2000	1000
Gashwiler, J W	36	800	400
Heydenfeldt, S	15	2000	1000
Haggin, J B	5	1000	500
Haggin, J B	6	1000	500
Roberts, G D	18	500	250
Roberts, G D	20	1000	500
Roberts, G D	21	1000	500
Roberts, G D	22	1000	500
Roberts, G D	25	1000	500
Roberts, G D	28	1000	500
Roberts, G D	27	1000	500
Roberts, G D	28	1000	500
Roberts, G D	29	1000	600
Raymond, W H	3	1000	500
Raymond, W H	4	1000	500
Richardson, E A, Trustee	32	1000	600
Richardson, E A, Trustee	33	1000	500
Richardson, E A, Trustee	34	1000	500
Richardson, E A, Trustee	36	1000	500
Richardson, E A, Trustee	49	500	250
Richardson, E A, Trustee	50	200	100
Richardson, E A, Trustee	51	100	50
Richardson, E A, Trustee	54	1000	500
Richardson, E A, Trustee	68	1000	500
Richardson, E A, Trustee	56	1000	500
Taylor, H W	60	180	90
Taylor, H W	81	20	10
Taylor, H W	64	500	250
Whitcomb, C A	63	100	50

And in accordance with law and an order of the Board of Trustees, made on the 13th day of May, 1873, so many shares of each parcel of said stock as may be necessary will be sold at the office of the company, room 11, 401 California street, San Francisco, Cal., on Monday, the 14th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. W. M. HELMAN, Secretary.

Office—Room 11, No. 401 California street, San Francisco, Cal. jn28

Frear Stone Company of California—

—Principal place of business and location of works, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 27th day of May, 1873, an assessment (No. 6) of Two Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 414 California street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 20th day of June, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 21st day of July, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office, 4 4 California street, San Francisco, Cal. m29

Great Blue Gravel Range---Location of

Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 12th day of June, 1873, an assessment (No. 3) of ten (10) cents per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States, to the Secretary at his office, Room 5 and 6, No. 302 Montgomery street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on Monday, the 14th day of July, 1873, shall be deemed delinquent, and will be advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the 5th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. H. WATSON, Secretary.

Office, Room 5 and 6, No. 302 Montgomery street, San Francisco, Cal. jl4-d&s

Hasloe Mill and Mining Company—Prin-

cipal place of business, No. 408 California street, San Francisco. Location of works: Mariposa County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 14th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
G B Dieferrari	3	10	$ 5 00
Wm D Higgins	74	50	25 00
T Y Julian	71	10	5 00
Wm H F Minnie	25	50	25 00
Margaret Ragsdale	44	50	27 50
Margaret Ragsdale	45	half	
C Irving Smith	52	10	5 00
C Irving Smith	53	10	5 00
C H Roberts	57	25	12 50
C H Roberts	58	25	12 50
G W Woods	47	20	10 00
W H Thomas	10	10	5 00
W H Thomas	24	15	7 50

And in accordance with law, and an order of the Board of Directors, made on the 14th day of May, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the company, No. 408 California street, San Francisco, California, on Monday, the 21st day of July, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

J. W. TRIPP, Secretary.

Office—408 California street, up stairs, San Francisco California. jy-5

Heckerdorn Gold and Silver Mining Com-

pany.—Principal place of business, San Francisco, California. Location of works, Blue Mountain District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 9th day of June, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at his office, No. 734 Montgomery st, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the tenth day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday the 28th day of July, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

LOUIS TERME, Secretary.

Office 734 Montgomery street, room No. 5. Office hours, from 10 to 12 A M, and from 1 to 3 P M. jl1-4wd&s

Lady Esten Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of June, 1873, an assessment (No. 3) of five cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary; No. 35 New Merchants' Exchange, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 17th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 6th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, 35 New Merchants' Exchange, California street, San Francisco, California. jl4

Mansfield Gold Mining Company---Lo-

cation of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 8th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Austin, H	Bal due on assmnt		$12 25
Bruce, D	Bal due on assmnt		19 00
Chester, H	Bal due on assmnt		10 00
Dennis, John	Not issued	700	87 50
Fryer, Geo. H	Bal due on assmnt		7 50
Gilbert, C A	Not issued	2100	105 00
Holman, G C	Not issued	625	26 25
Ham, C H	69	1000	50 50
Ham, C H	70	1000	50 00
Ham, C H	71	1000	50 00
Ham, C H	74	250	12 50
Ham, C H	75	250	12 50
Ham, C H	76	250	12 50
Ham, C H	77	250	12 50
Ham, C H	78	122	6 10
Ham, C H	268	100	5 00
Ham, C H	269	100	5 00
Ham, C H	270	100	5 00
Ham, C H	271	100	5 00
Ham, C H	272	100	5 00
Ham, C H	273	100	5 00
Ham, C H	274	100	5 00
Ham, C H	275	100	5 00
Ham, C H	276	100	5 00
Ham, C H	277	100	5 00
Murphy, Richard	Not issued	1623	81 15
Petereon, Andrew	168	100	5 00
Petereon, Andrew	168	100	5 00
Steere, J B	228	100	5 00
Steere, J B	229	50	2 50
Street, C C	232	25	1 25
Street, C C	233	25	1 25
Street, C C	234	26	1 25
Street, C C	235	25	1 25
Werthsimer, R	221	100	5 00
Woods, A	Bal of asmnt		12 50

And in accordance with law, and an order of the Board of Directors, made on the 8th day of May 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, Room 14, No. 331 Kearny street, San Francisco, California, on the 8th day of July, 1873, at the hour of one (1) o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office, Room 14, No. 331 Kearny street, San Francisco California. jn21

Manhattan Marble Company of Califor-

nia—Principal place of business, San Francisco. Location of works, Oakland, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 23d day of June, 1873, an assessment of one dollar per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francisco.

Any stock upon which this assessment shall remain unpaid on the 24th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 11th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office, 319 Pine St., S. F., Cal.

Newton Booth Consolidated Mining Com-

pany.—Location of principal place of business, San Francisco, California. Location of works, Ely Mining District, Lincoln county, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the seventh day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T Campbell, Trustee	14	100	$50 00
T Campbell, Trustee	15	100	50 00
T Campbell, Trustee	16	100	50 00
T Campbell, Trustee	17	100	50 00
T Campbell, Trustee	18	100	50 00
T Campbell, Trustee	19	100	50 00
T Campbell, Trustee	20	100	50 00
T Campbell, Trustee	21	100	50 00
T Campbell, Trustee	22	100	50 00
T Campbell, Trustee	23	100	50 00
T Campbell, Trustee	24	100	50 00
T Campbell, Trustee	25	100	50 00
T Campbell, Trustee	26	100	50 00
T Campbell, Trustee	34	100	50 00
T Campbell, Trustee	35	100	50 00
T Campbell, Trustee	37	100	50 00
T Campbell, Trustee	38	100	50 00
T Campbell, Trustee	39	100	50 00
T Campbell, Trustee	40	100	50 00
J T Babcox	41	50	25 00
J T Babcox	42	25	12 50
J T Babcox	43	25	12 50
T Campbell	45	50	25 00
T Campbell	46	50	25 00
T Campbell	47	50	25 00
T Campbell	48	50	25 00
T Campbell	49	50	25 00
T Campbell	50	50	25 00
T Campbell	51	50	25 00
T Campbell	52	50	25 00
T Campbell	53	50	25 00
T Campbell	57	25	12 50
T Campbell	58	25	12 50
T Campbell	59	50	25 00
T Campbell	60	100	50 00
T Campbell	61	100	50 00
T Campbell	62	100	50 00
T Campbell	63	100	50 00
T Campbell	64	100	50 00
T Campbell	65	100	50 00
T Campbell	66	100	50 00
T Campbell	67	100	50 00
T Campbell	68	100	50 00
T Campbell	69	100	50 00
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T Campbell	72	100	50 00
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T Campbell	81	50	25 00
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T Campbell	96	50	25 00
T Campbell	96	50	25 00
T Campbell	97	50	25 00
T Campbell	98	50	25 00
T Campbell	99	100	50 00
T Campbell	100	100	50 00
T Campbell	101	100	50 00
T Campbell	102	100	50 00
T Campbell	103	100	50 00
T Campbell	104	100	50 00
T Campbell	105	100	50 00
T Campbell	106	100	50 00
T Campbell	107	100	50 00
T Campbell	108	100	50 00
J G Cullen	113	44	22 00
C H Lagrange	114	434	217 00
C T Hutchinson	116	434	217 00
N Hamilton	117	217	108 50
A H Rutherford	119	650	325 00
C T Hutchinson, Trustee	121	500	250 00
C T Hutchinson, Trustee	122	500	250 00
C T Hutchinson, Trustee	123	50	25 00
J T Babcox	124	50	25 00
James L DuBois	125	100	50 00
Mrs T W Scott	126	100	50 00
R Frank Clarke	127	50	25 00
S J Raymond	128	25	12 50
T W Scott	129	50	25 00
S F Elliott	131	100	50 00
W P Voss	132	50	25 00
T Campbell	132	60	30 00
M Winants	135	100	50 00
T Campbell, Trustee	137	100	50 00
A H Miller	138	600	300 00
T Campbell, Trustee	139	200	100 00
C C Miller	140	109	54 50
Rob't F Scott, Trustee	141	1500	750 00
T Campbell	142	144	72 00
C I Hutchinson	144	500	250 00
James W Wright	145	100	50 00
James W Wright	140	100	50 00
James W Wright	147	100	50 00
James W Wright	148	100	50 00
James W Wright	149	100	50 00
James W Wright	150	100	50 00
James W Wright	151	100	50 00
James W Wright	152	100	50 00
James W Wright	153	100	50 00
James W Wright	154	100	50 00
James W Wright	155	100	50 00
James W Wright	156	100	50 00
James W Wright	157	100	50 00
James W Wright	158	100	50 00
James W Wright	159	100	50 00
T Campbell	160	135	67 50
T Campbell	161	210	105 00
W H Henderson	184	1000	500 00
B Herringhl	166	100	50 00
B Herringhl	167	100	50 00
B Herringhl	168	100	50 00
B Herringhl, Trustee	169	350	175 00
B F Sherwood & Co., Trustees	170	500	250 00
B F Sherwood & Co., Trustees	171	500	250 00
B F Sherwood & Co., Trustees	172	500	250 00
B F Sherwood & Co., Trustees	173	500	250 00
B F Sherwood & Co , Trustees	174	100	50 00
B F Sherwood & Co., Trustees	175	100	50 00
B F Sherwood & Co., Trustees	178	100	50 00
B F Sherwood & Co., Trustees	177	100	50 00
B F Sherwood & Co., Trustees	178	200	100 00
B F Sherwood & Co., Trustees	179	100	50 00
B F Sherwood & Co., Trustees	180	100	50 00
B F Sherwood & Co., Trustees	181	78	39 00
James W Wright	182	383	191 50
R F Scott, Trustee	183	234	167 00
R F Scott, Trustee	184	100	50 00
R F Scott, Trustee	185	100	50 00
T Campbell, Trustee	186	50	25 00
T Campbell, Trustee	187	50	25 00
T Campbell, Trustee	188	50	25 00
T Campbell, Trustee	189	50	25 00
B F Sides	190	100	50 00
B F Sides	191	100	50 00
B F Sides	192	100	50 00
B F Sides	193	100	50 00
B F Sides	194	100	50 00
W H Henderson	195	100	50 00
W H Henderson	196	100	50 00
W H Henderson	197	100	50 00
W H Henderson	198	100	50 00
W H Henderson	199	100	50 00
B F Sides	200	831	415 50
W H Henderson	201	1287	643 50
T Campbell	203	192	00 00
G Smith, Trustee	204	100	50 00
Myron Angel	205	100	50 00
W E Lamb	207	50	25 00
B F Sides	209	5618	2,800 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of May, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 314 California street, San Francisco, California, on the 12th day of July, 1873, at the hour of 1 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. LOUIS FRANCONI, Secretary.

Office, No. 314 California street, San Francisco, California. jun14

Omega Table Mountain Mining Company.

Location of works, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 4th day of June, 1873, an assessment (No. 2) of Five Cents per scare was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at No. 28 Merchants' Exchange, San Francisco, California. Any stock upon which this assessmant shall remain unpaid on the 5th day of July, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 28th day of July, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

DAVID WILDER, Secretary.

Office, No. 28 Merchants' Exchange, California street, San Francisco, California. j6-4w

Orient Silver Mining Company-- Location

of principal place of business, San Francisco, California. Location of works, Ely Mining District, Lincoln County, Nevada.

Notice is hereby given, that at a meeting of the Directors, held on the 14th day of June, 1873, an assessment (No. 2) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 25, Hayward's Building, No. 419 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 19th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 11th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

JOSEPH MAGUIRE, Secretary.

Office, Room No. 25, Hayward's Building, No. 419 California street, San Francisco, California. jl5

Regent Consolidated Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Little Cottonwood District, Salt Lake County, Utah Territory.

NOTICE.—There are delinquent upon the following described Stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, James M	46	10	$1 00
Allen, James M	48	10	1 00
Allen, James M	50	10	1 00
Allen, James M	51	10	1 00
Allen, James M	53	10	1 00
Alisn, James M	54	10	1 00
Allen, James M	55	25	2 50
Allen, James M	56	25	2 50
Allen, James M	57	25	2 50
Allsn, James M	58	25	2 50
Allen, James M	59	50	5 00
Allen, James M	60	50	5 00
Allen, James M	61	50	5 00
Allen, James M	62	50	5 00
Allen, James M	65	50	5 00
Allen, James M	57	50	5 00
Allen, James M	68	50	5 00
Allen, James M	69	1000	100 00
Allen, James M	73	50	5 00
Allen, James M	74	50	5 00
Allen, James M	75	100	10 00
Allen, James M	77	50	5 00
Allen, James M	170	250	25 00
Allen, James M	172	250	25 00
Allen, James M	182	250	25 00
Allen, James M	183	250	25 00
Allen, James M	185	250	25 00
Allen, James M	187	250	25 00
Allen, James M	190	250	25 00
Allen, James M	212	10	1 00
Allen, James M	213	10	1 00
Allen, James M	214	10	1 00
Allen, James M	215	10	1 00
Allen, James M	217	10	1 00
Allen, James M	219	10	1 00
Allen, James M	220	10	1 00
Allen, James M	222	100	10 00
Allen, James M	223	100	10 00
Allen, James M	224	100	10 00
Allen, James M	225	100	10 00
Allen, James M	226	100	10 00
Allen, James M	227	100	10 00
Allen, James M	229	100	10 00
Allen, James M	230	100	10 00
Allen, James M	235	20	2 00
Allen, James M	236	20	2 00
Allen, James M	237	20	2 00
Allen, James M	238	20	2 00
Allen, James M	239	20	2 00
Allen, James M	240	20	2 00
Allen, James M	241	20	2 00
Allen, James M	242	20	2 00
Allen, James M	243	20	2 00
Allen, James M	244	20	2 00
Allen, James M	245	20	2 00
Allen, James M	246	20	2 00
Allen, James M	247	20	2 00
Allen, James M	248	20	2 00
Allen, James M	250	20	2 00
Allen, James M	251	20	2 00
Allen, James M	252	50	5 00
Allen, James M	253	50	5 00
Allen, James M	254	50	5 00
Allen, James M	255	50	5 00
Allen, James M	256	50	5 00
Allen, James M	257	50	5 00
Allen, James M	258	50	5 00
Allen, James M	259	50	5 00
Allen, James M	260	50	5 00
Allen, James M	261	50	5 00
Allen, James M	262	50	5 00
Bessie, M D	264	50	5 00
Chase, Dudley	322	250	25 00
Fortune, H W	327	150	15 00
Gates, Mrs L	265	50	5 00
Gates, George	266	25	2 50
Gates, George	267	25	2 50
Gates, George	268	25	2 50
Gates, George	269	25	2 50
Gates, George	270	25	2 50
Gates, George	271	25	2 50
Hinckley, George E	154	50	5 00
Hinckley, George E	155	50	5 00
Hinckley, George E	156	50	5 00
Hinckley, George E	157	50	5 00
Hinckley, George E	165	50	5 00
Hinckley, George E	167	50	5 00
Hinckley, George E	321	100	10 00
Hinckley, George E	323	50	5 00
Hinckley, George E	324	50	5 00
Hinckley, George E	325	50	5 00
Higgins, W W	162	50	5 00
Higgins, W W	272	25	2 50
Higgins, W W	273	25	2 50
Higgins, W W	274	25	2 50
Higgins, W W	275	25	2 50
Higgins, W W	276	50	5 00
Higgins, W W	277	50	5 00
Higgins, W W	278	50	5 00
Higgins, W W	270	50	5 00
Higgins, W W	282	50	5 00
Higgins, W W	283	50	5 00
High, W H	326	100	10 00
Shannon, Luke	307	50	5 00
Shannon, Mrs C A	308	40	4 00
Thompson, R M	306	10	1 00
Verdon, T J, Trustee	127	50	5 00
Verdon, T J, Trustee	128	50	5 00
Verdon, T J, Trustee	129	50	5 00
Verdon, T J, Trustee	130	50	5 00
Wallace, J A, Trustee	310	50	5 00
Wallace, J A, Trustee	311	100	10 00
Wallace, J A, Trustee	314	100	10 00
Wallace, J A, Trustee	316	100	10 00
Wallace, J A, Trustee	319	50	5 00
Wallace, J A, Trustee	320	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 25th day of May, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, Cal., on Tuesday, the 22d day of July, 1873, at the hour of 12 o'clock, M., of said day, to pay delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. L. USTICK, Secretary.

Office, 438 California street, San Francisco, California. jy5

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 6th day of August, 1873, will be delinquent, and advertised for sale at public anotion, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&s

Stanislaus Water Company of California—

Principal place of business, 526 Kearny street, San Francisco. Location of works, near La Grange, Stanislaus County.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment (No. 2) of two cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, 526 Kearny st. Any stock upon which this assessment shall remain unpaid on the 10th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 26th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CLINTON C. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal. jy 5

State of Maine Mill and Mining Company

—Principal places of business, San Francisco, California. Location of works: Amador County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 3) levied on the 23d day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Jas M Allen, Trustee	77	200	$ 10 00
Jas M Allen, Trustee	78	100	5 00
Jas M Allen, Trustee	79	100	5 00
J M Buffington	20	1000	50 00
J M Buffington	6	600	30 00
J M Buffington	85	55	3 30
J M Buffington, Trustee	84	260	13 00
Platt Burr, Trustee	41	1000	50 00
Platt Burr, Trustee	49	20	1 00
Platt Burr, Trustee	50	20	1 00
Platt Burr, Trustee	51	20	1 00
Platt Burr, Trustee	53	50	2 50
Platt Burr, Trustee	57	50	2 50
Chas Borthwick	72	50	2 50
H B Congdon	35	20	1 00
H B Congdon, Trustee	36	100	5 00
H B Congdon	37	100	5 00
H B Congdon, Trustee	38	100	5 00
H B Congdon, Trustee	39	100	5 00
H B Congdon, Trustee	40	500	25 00
H B Congdon, Trustee	73	50	2 50
H B Congdon, Trustee	74	50	2 50
H B Congdon, Trustee	75	50	2 50
C P Dudley	75	500	25 00
John Fay	2	1000	50 00
John Fay	14	3000	150 00
Wm Faulkner	22	500	25 00
Mrs M G Faulkner	10	100	5 00
Mrs M G Faulkner	11	100	5 00
V H Higgins	4	1000	50 00
Jas L King	83	400	20 00
S L Marks	22	240	12 00
S L Marks	21	500	25 00
A C Morse, Trustee	42	500	25 00
A C Morse, Trustee	43	500	25 00
A C Morse, Trustee	44	100	5 00
A C Morse, Trustee	45	100	5 00
A C Morse, Trustee	46	100	5 00
A C Morse, Trustee	48	100	5 00
Mrs. F. E. Morse	80	100	5 00
H. H. Beach	3	1000	50 00
H. H. Beach	18	1000	50 00
Mrs. Ella Beach	23	400	20 00
Chas. B. Tilley	1	1634	81 70
W. J. Tilley	61	1000	50 00
L. N. Tower	28	100	5 00
J. H. Whitman	5	1000	50 00
J. H. Whitman	15	2600	130 00

And in accordance with law, and an order of the Board of Directors, made on the 23d day of May, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, 305 Montgomery street, San Francisco, California, on the 21st day of July, 1873, at the hour of 12 o'clock M., of said day, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale. H. B. CONGDON, Sec.

Office, 308 Montgomery street, San Francisco, Cal.

(For Other Mining Advt's See 16th Page.)

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all othar classes of work generally done at first-olass establishments, manufacturad by us at the lowest pricas, and of the best quality.

☞ Particular attantion paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

ayes' Improved Steam Pump, Brodie's Improved Crasher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, sheve Howstraet, San Frsncisco. 3-qy

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THE RISDON

Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moors, Wm. Norris, C. J. Brenham, Wm. H. Taylor, Jamas D. Walker, C. E. McLane, Lloyd Tevis.

WM. H. TAYLOR.....President
JOSEPH MOORE.. Vice-Prasidant snd Superintendent
LEWIS R. MEAD.....Sscretary
24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar'e Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC

Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of avery description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

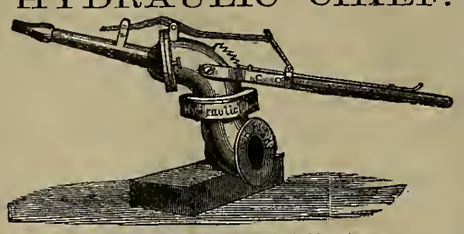
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.

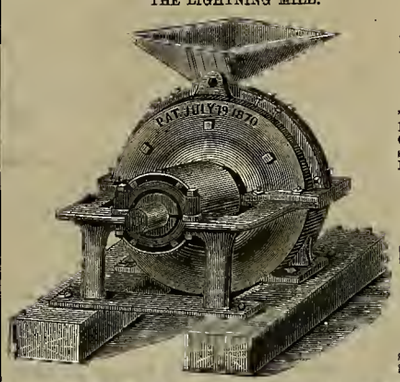


MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.
9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

THE LIGHTNING MILL.



THE

LIGHTNING MILL

For Pulverizing Quartz,

"Charleston Rock," and all Nativa Phosphates, Flint, Feldspar, Iron Ora, Manganssa, Antimony, Carbon, Corundum, Old Crucibles, Barytes, Brimstone, Slate, Soapstone, Graphite, Glass, Marble, Plaster, Anthracite and Bituminous Coals, etc.

WM. STEWART'S

Patent Bone Mills and Crushers.

For Grinding Bones, Rock, Quartz, and all hard substances; also, Corn, Wheat, Oats, Barley, Coffee, Spices, etc.

WALKER BROS. & CO., Twenty-third and Wood Streets, Philadelphia, Sole Manufacturers of Stewart's Celebrated Patent Bone Mills and Crushers, A. W. Straub & Co.'s Patent Revolution French Burr Mill and A. Duval's Patent Centrifugal Pumps.

CAMERON'S

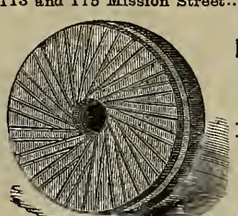
MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

JOS. WAGNER,

113 and 115 Mission Street.....SAN FRANCISCO.



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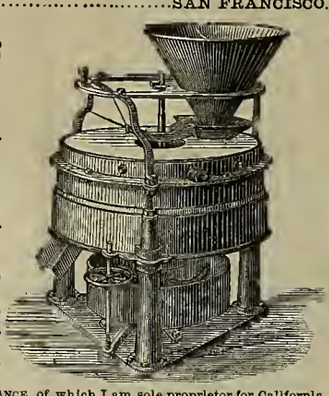
—AND—

Portable Mills.

—ALSO—

MILLS

Especially adapted for GRINDING QUARTZ.



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Dutch Anchor Bolting Cloths.

BOLTING CLOTHS MADE UP.

Eureka Smut Machines, Bran Dusters, Mill Irons, Spindles, Bails, Drivers, Steps, Regulating Screws, Silent Feeders, Pulleys, Proof Staffs, Hoisting Screws, Bails and Pins, Conveyor Flights, Plaster and Leather Belting.

Mill Picks, Mill Picks Dressed, Mill Stones Repaired and Rebuilt.

Mill Stones Balanced with FELLENBAUM'S PATENT BALANCE, of which I am sole proprietor for California, Oregon, and Washington Territory. 15v26tf-2am

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CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

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THOMPSON BROTHERS,

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129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

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PURCHASERS please say advertised in Scientific Press.

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STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

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C. W. MOULTHROP & CO.,

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Plans, Specifications, and Estimates for Machinery of all Kinds.

We also design machinss to meet particnlar demands and secure and assign the patents on the same.

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PRESCOTT, SCHEIDELL & CO.,

MARYSVILLE FOUNDRY.

Corner of B and Fourth streets, Marysville, Cal.

MANUFACTURERS OF

STEAM ENGINES,

STATIONARY AND PORTABLE

SAW AND GRIST MILLS,

Hydraulic Machinery,

Quartz Crushing and Amalgamating Machinery

Of every description, constantly on hand.

Plans and estimates furnished upon application. Repairs upon all kinds of Machinery promptly made, and at moderate charges.

Having unrivalled facilities, we are prepared to make to order, at short notice, anything required in our line. Specimens of our work may be seen in all the mining regions on this coast.

A. HANKE'S

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Entrance on Main Street.....San Francisco.

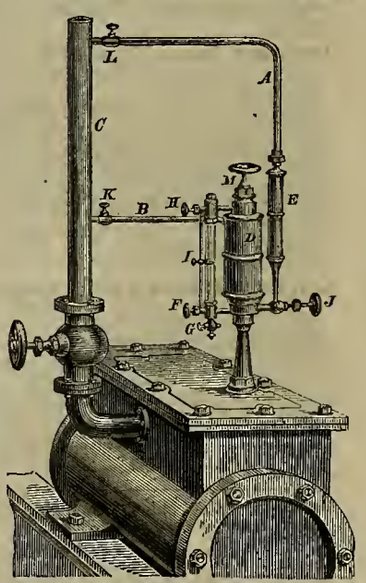
Every Description of Ornamental Work,

Stove and French Range Work, grate and fender work, small machines of all descriptions, house work, etc., promptly attended to.

25v25-3m

Machinery.

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

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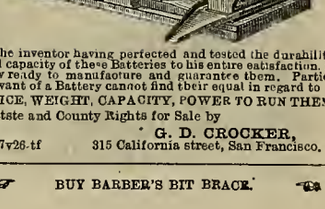
CROCKER'S PATENT

TRIP HAMMER QUARTZ BATTERY.



The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

☞ BUY BARBER'S BIT BRACE. ☜

Metallurgy and Ores.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

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G. W. STRONG. W. L. STRONG.

G. W. STRONG & CO.,

Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,

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SAN FRANCISCO, CAL. 7v21-3m

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,

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PHOTOGRAPHIC GOODS, ETC.,

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We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS, 655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows.

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco

Nevada Metallurgical Works.

RIOTTE & LUCKHARDT,

Consulting Mining Engineers and Metallurgists, No. 21 First St., S. F.

WORKING TEST MADE BY ANY PROCESS —TESTING OF PROCESSES.

Plans furnished for the most suitable Process for Ores.

Assaying in all its Branches.

Analysis of Ores, Minerals, Waters and all other substances.

☞ Speciel attention paid to the mining and metallurgy of Quicksilver. 26v11-6m

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.

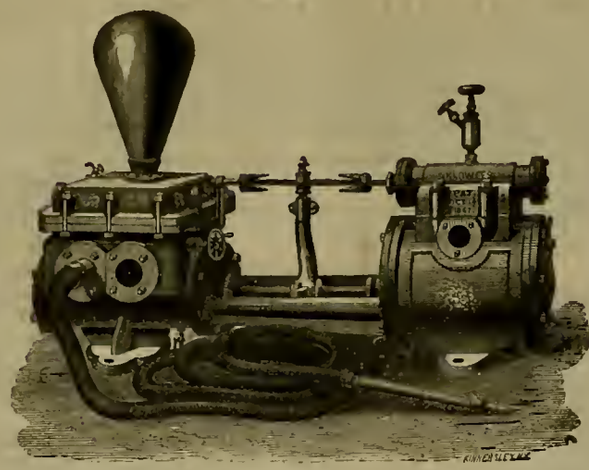
For all Laboratory and Manufacturing Purposes

H. M RAYNOR,

25 Bond street, New York.

Platinum Scrap and Ore purchased.

KNOWLES' PATENT STEAM PUMP.



It has no Cranks or Fly-Wheel, and has no dead points where it will stop, consequently it is always ready to start without using a starting-bar, and does not require hand-work to get it past the center. Will always start when the steam cylinder is filled with cold water of condensation.

CENTRAL PACIFIC R. R., OFFICE OF THE GEN'L MASTER MECHANIC, SACRAMENTO, Cal., January 14, 1873.

A. L. FISH, Esq., Agent of the Knowles Steam Pump, San Francisco—Dear Sir: In reply to your inquiry as to the merits of the Knowles Steam Pump, in use upon this road, I will say that it gives me great pleasure to report that they have performed their work well whenever called upon. In no instance have they failed. We have now over 30 of them in use on the road as fire engines, and pumping water for shop and station use. I consider the Knowles Steam Pump the best in use, and prefer it to any other. Yours truly, A. J. STEVENS, General Master Mechanic.

U. S. NAVY YARD, NEW YORK, June 3, 1871.

MESSRS. KNOWLES & STEARLEY, 92 and 94 Liberty street, New York—Gentlemen: In reply to your note of 31st, requesting my opinion of your Steam Pump, etc., as suggested from my experience with them in actual service, I have to state that I have used your pumps, and entertain the most favorable opinion of their great merit and usefulness, and for every purpose believe them to be superior to any others, and have so recommended and adopted them. They have given complete satisfaction in all cases that have come under my observation.

Yours very respectfully, WM. W. WOOD.

A. L. FISH, Agent Knowles' Steam Pump—Dear Sir: In answer to your inquiries, we state that the highest award for Steam Pumps at the Eighth or last Mechanics' Fair in San Francisco, was a FIRST PREMIUM and Diploma, awarded to the Knowles Patent Steam Pump, as published in the Official List September 23d, 1871.

A. S. HALLIDIE, President Board of Managers.

W. H. WILLIAMS, Sec'y Board of Managers Eighth Industrial Exhibition, M. I.

WE BUILD AND HAVE CONSTANTLY ON HAND

The Largest Stock of Pumps in the World,

And for Every Conceivable Purpose.

THE CELEBRATED BOOMER PRESS,

For Wine, Cider, Lard, Paper, Wool, Hops, Hides, Tobacco, Rags, etc.—the Most Powerful in Use.

A. L. FISH, Agent,

Nos. 9 and 11 First Street, San Francisco, Cal.

P. S. All kinds of new and second-hand Machines on hand. 10v26 lambp

Second-Hand Engines and Boilers

For Sale by McAFEE, SPIERS & CO., Boiler Makers, etc., 309 to 315 Howard St.

10-HORSE POWER PORTABLE THRESHING ENGINE—Cylinder 7 inches diameter, 12-inch stroke. Boiler well proportioned, has all the mountings, is mounted on wheels, in first-rate condition, and will be sold cheap. This is the very thing for opening a new or working a small mine. Price, $700.

30-HORSE POWER LOCOMOTIVE OR FIRE BOX BOILER—made of the best o. h. No. 1 American iron, 5-16 inch thick. Furnace 4 feet long, shell 42 inches diameter, contains 46 tubes 3x1½ inches, with grate bars, breeching and smoke stack, all in good condition. Price, $750.

THREE 35-HORSE POWER BOILERS, each 50 inches diameter, 16 feet long, containing 42 tubes 3½ inches diameter. These boilers have been entirely rebuilt, and are in thoroughly good condition. Will be sold together, or separately, at a low price.

15-HORSE POWER BOILER—32 inches diameter, 12 feet long, containing 32 tubes 2½ inches diameter, with steam drum, furnace front, grates and all fittings. Price, $300.

30-HORSE POWER BOILER—48 inches diameter, 16 feet long, containing 34 tubes 4 inches diameter, with furnace front, grate bars, breeching, stack and all mountings complete, and in good condition. Will be sold very cheap.

25-HORSE POWER HORIZONTAL STEAM ENGINE—Cylinder 10 inches diameter, 20-inch stroke, with heater, pump, governor, etc., complete. Will be sold very low.

Build all kinds of Boilers, Water Pipe, Pump Column, Buckets, Tanks, etc. jl4-1m

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 25v26 1y

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The San Francisco Nickel Plating Company

Are prepared to plate articles of all descriptions, of any metal, Cutlery, Liquor Flasks, Pistols, Guns, Swords, Bridle Bitts, Pole Crabs, Hub Bands, Dash Rails, and all articles of household hardware plated at short notice, and warranted. Nickel Plate never tarnishes or corrodes, always retaining its polish until the article is worn out. Office at the KIMBALL MANUFACTORY WORKS, Cor. Fourth and Bryant Streets. 12v26-3m

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Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

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EMILE BOESCH,

Patentee and Manufacturer of

LAMPS, LANTERNS AND REFLECTORS.

802 MONTGOMERY STREET, SAN FRANCISCO.

The patent head light, represented by this cut is the best and cheapest in the market. Prices: 10-inch reflector, $20; 12-inch reflector, $24; 14-inch reflector, $30. The three burners, and focus with regulating reflector, price $35. Each burner consumes only 1 gallon coal oil in 90 hours, no overheating, and a strong light is only produced. The reflectors, either silver or tarnish proof, are arched roof and reflectors, either silver or tarnish proof, are arched roof and reflectors are corrugated and covered with a composition which prevents oxidation.

New Mining & Mill Lights.

MANUFACTORY,

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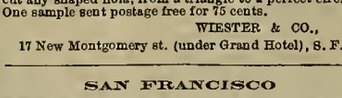
21v5-20w-3m



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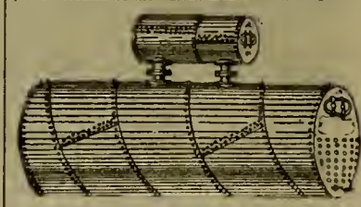

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Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

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ROCK DRILLS

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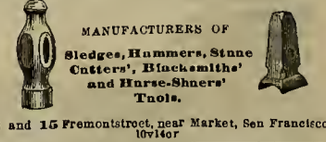

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Schell Creek Mining Company—Location

of principal place of business, No. 304 California street, San Francisco, State of California. Location of Works, Schell Creek Mining District, White Pine County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 10th day of April, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 304 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 14th day of May, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 2d day of June, 1873, to pay the delinquent assessments, together with costs of advertising and expenses of sale.

P. W. VAN WINKLE, Secretary.

Office, No. 304 California street, San Francisco, Cal.

ap19

POSTPONEMENT.—The day for deeming shares delinquent on the above assessment is hereby postponed until Saturday, the 24th day of May, 1873, and the sale thereof until Monday, the 26th day of June, 1873. By order of the Board of Directors.

P. W. VAN WINKLE, Secretary.

m15

POSTPONEMENT.—The day for deeming shares delinquent on the above assessment is hereby postponed until Saturday, the 7th day of June, 1873, and the sale thereof until Monday, the 30th day of June, 1873. By order of the Board of Directors.

P. W. VAN WINKLE, Secretary.

POSTPONEMENT.—The day for deeming shares delinquent on the above assessments is hereby postponed until Friday, the 27th day of June, 1873, and the sale thereof until Monday, the 21st day of July, 1873.

By order of the Board of Directors.

P. W. VAN WINKLE, Secretary.

"63" Gold and Silver Mining Company—

Place of business, San Francisco, Cal. Location of mine, Wallapai Mining District, Mohave County, Arizona.

There will be a meeting of the stockholders of the "63" Gold and Silver Mining Company, at the office of the Company, No. 306 Montgomery street, on Monday, July 7th, 1873, at 3 o'clock P. M., for the purpose of adopting a Code of By-Laws for the Company.

J. A. ALBERTSON, President.

jn28-2t J. M. CASE, Secretary.

Spring Mountain Tunnel Company—Prin-

cipal place of business, No. 37 New Merchants' Exchange, California street, San Francisco, Cal. Location of works, Ely Mining District, Lincoln County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of June, 1873, an assessment (No. 6) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, 37 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 18th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

J. M. BUFFINGTON, Secretary.

Office—37 New Merchants' Exchange, California street, San Francisco, Cal. jn28

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 20th day of June, 1873, an assessment (No. 5) of fifteen (15) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary of said Company, at his office, in San Francisco.

Any stock upon which said assessment shall remain unpaid on the 19th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 4th day of August, 1873, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office, 113 Leidesdorff street, San Francisco, Cal.

Silver Sprout Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Kearsarge Mining District, Inyo County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 3d day of June, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company in San Francisco. Any stock upon which this assessment shall remain unpaid on the 15th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 12th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B WINGARD, Secretary.

Office, No. 317 Montgomery street, San Francisco, California. j4

Virginia Consolidated Mining Company.---

Location of principal place of business, San Francisco, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 12th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Am't.
George Hearst		4,090	$204 50
George Hearst	12	1,365	68 26
Tyler Curtis	9	2,728	136 40
Tyler Curtis	10	910	45 50

And in accordance with law, and an order of the Board of Directors, made on the twelfth day of May, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Maurice Dore & Co., 317 Montgomery Street, San Francisco, California, on the 8th day of July, 1873, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, Room No. 13, 318 California street, San Francisco, California. je21

Yule Gravel Mining Company---Location

of works, Viola Claim Township, No. 8, Placer County, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 4th day of June, 1873, an assessment (No. 3) of Twenty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, Room 5 and 6, No. 302 Montgomery street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on Wednesday, the 9th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 29th day of July, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. H. WATSON, Secretary.

Office, Room 6 and 6, No. 302 Montgomery street, San Francisco, California. j5

SHAREHOLDERS, TRUSTEES, and SECRETARIES of ALL MINING COMPANIES,

Should see to it that their Notices are advertised legally in THE DAILY MINING PRESS, or the MINING AND SCIENTIFIC PRESS, at much less cost than the usual rates of daily publications. Every person interested in the prosperity of legitimate mining enterprises should favor such practical economy. Send for circulars of convenient dates for advertising, free blanks, and a copy of the New Code Corporation Assessment Law.

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General Agents, No. 210 Front Street.

20v22-3m16p

San Francisco Metal Market.

WEDNESDAY, July 3, 1873.

IRON.—			
Scotch Pig Iron, ₱ ton	$55 00	@	67 50
White Pig, ₱ ton	55 00	@	57 50
Refined Bar, head assortment, ₱ lb	— —	@	— 06
Refined Bar, good assortment, ₱ lb	— —	@	— 06½
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	9 00	@	
Nail Rod	11	@	
Norway Iron	9		
Rolled Iron	8½		
Other Irons for Blacksmiths, Miners, etc.	6½	@	9½
COPPER.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O. Nor's Pat	— 55	@	— —
Sheathing, ₱ lb	— —	@	— 29
Sheathing, Yellow	— 28	@	— 29
Sheathing, Old Yellow	— —	@	— 12½
Composition Nails	— 29	@	— 30
Composition Bolts	— 29	@	— 30
TIN PLATES.—			
Plates, Charcoal, IX ₱ box	14 50	@	15 —
Plates, I C Charcoal	13 50	@	14 —
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₱ lb	— 40	@	— 42½
STEEL.—English Cast, ₱ lb	— 20	@	— 25
Drill	20	@	— —
Flat Bar	22	@	— —
Plough Points	16	@	— 17
Russia (for mould boards)	17	@	— 18
ZINC.	9½	@	— 10
Zinc Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5½	@	— 9

Laws Concerning Corporations.

[Under the New Code—January 1, 1873.]

GENERAL PROVISIONS APPLICABLE TO ALL CORPORATIONS.
WAGON ROAD CORPORATIONS.
WATER AND CANAL CORPORATIONS.
HOMESTEAD CORPORATIONS.
MINING CORPORATIONS.
LAND AND BUILDING CORPORATIONS
ALSO, MINING PARTNERSHIP LAW.

A pamphlet containing the above provisions concerning Corporations has been printed from the Statutes of California. It furnishes those who wish these special laws an opportunity of obtaining them for the small sum of 25 cents (post paid). Address, DEWEY & Co., Publishers, and Patent Agents, S. F.

L. P. McCARTY, corresponding agent for the MINING AND SCIENTIFIC PRESS, PACIFIC RURAL PRESS, ILLUSTRATED PRESS and the JOURNAL OF COMMERCE, is sojourning in this county a few days canvassing for subscribers for these publications. These papers are first-class and well conducted, and the information derived from them is of a sterling character and well suited to the requirements of the mountain population. Mr. McCarty was formerly a resident of this county, is a live agent, and his representations as to the character of these journals may be relied on.—*Democrat, Sonora.*

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Harper's	$4 00
Atlantic	
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8v26-eow16p San Francisco,

Frear Stone Company of California---Lo-

cation of works and principal place of business, City and County of San Francisco, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment, No. 6, levied on the 27th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Booth, Lucius A	11	405	$810
Booth, Lucius A	12	46	90
Coleman, John W	54	400	800
Cornell, M E	110	20	40
Dam, G W	99	10	20
Dam, G W	107	5	10
Emery, J S	34	450	900
Spaulding, N W	16	405	810
Spaulding, N W	16	45	90
Spaulding, N W	19	405	810
Spaulding, N W	20	46	90
Syer, Robert	95	50	100
Tripp, E	41	8	16
Wegener, R, Trustee	56	6	10
Wegener, R, Trustee	72	11	22
Wegener, R, Trustee	73	34	68
Wegener, R, Trustee	76	50	100
Wegener, R, Trustee	90	250	500

And, in accordance with law, and an order of the Board of Directors, made on the 27th day of May, 1873, so many shares of each parcel of said Stock as may be necessary, will be sold at public auction at the office of the Company, No. 414 California street, San Francisco, California, on Monday the 21st day of July, 1873, at the hour of one o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco, California.

SWISS AMERICAN BANK,

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CAPITAL, TWO MILLION DOLLARS

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Lyons,	Geneva,	Chaux-de-	Lucern,
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Is annexed to the Bank. Assays of gold, silver, quartz, ores and salphurets. Returns in coin or bars, at the option of the depositor. Advances made on bullion and ores.

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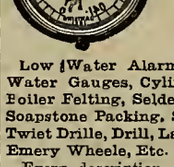

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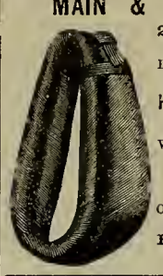

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26v5-3m

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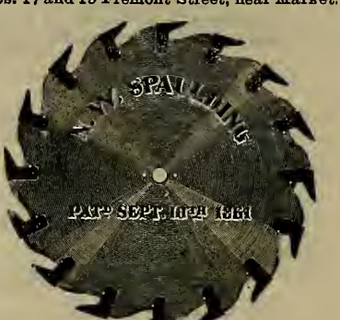

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HALLIDIE'S Patent Endless Wire Ropeway.

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Fretburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO.,
Little Cottonwood, Utah.
Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit across over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. At the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

Wire of all kinds and descriptions, furnished at lowest rates. A. S. HALLIDIE, 112 and 114 California St.

MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, JULY 12, 1873.

VOLUME XXVII. Number 2.

Rickard's Improved Ore-Washer and Amalgamator.

By referring to onr cut, illustrating this invention, the *modus operandi* of the machine will be at once understood.

A ie a tank of iron, or other snitable material, through which water is conetantly flowing, and into which the crude pulp is thrown. A shaft, passing through the drum, carries adjustable discs, *b*, *b*, c, c, *f*, *f*, made alternately of copper and galvanized iron. By using theee metals in combination, an electric current is engendered, which, it is claimed, will greatly facilitate the process of treatment. The discs are twisted on the shaft at any desired angle; or may be worked in pairs, inclined toward each other, giving a V form; or crossed, making an X section. These two latter arrangemente prodnce what is known as the "fish-tail" and "donble fish-tail" motione, when the discs are rotated. For washing ores, the pulp is simply fed from above; paeeee between the plates and is thoroughly agitated, the silt being washed off through a waste-way; while the heavier portion containing the free metal, sulphidee, etc., is collected at the bottom. When the machine ie used as an amalgamator, the copper plates are covered with the usual amalgam of mercury, which absorbs and retains the fine metallic particles, while the refuse ie carried away.

This form of ore-washer wae patented recently by Mr. W. F. Rickard, of Monitor, Alpine county, California, through the patent agency of the MINING AND SCIENTIFIC PRESS. It is deeigned to work on pulp containing free metal, the heavy sulphides, tailings and ores generally, as a washer and concentrator; to amalgamate, as stated above; and in a modified form is adapted to the mannfactnre of bntter, the fish-tail motion rendering it an admirable churn. The mode of attaching the agitating discs is the striking peculiarity and the etrong point of the invention.

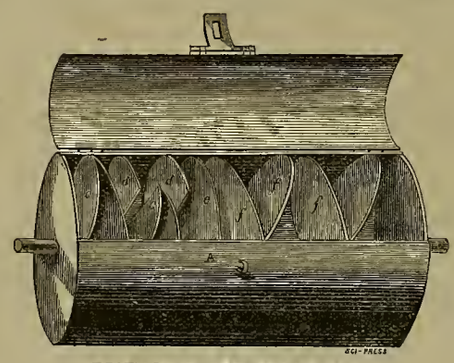
A DAM is to be bnilt at the lower end of Fordyce Valley, by the South Yuba Canal Company, which will give them an unlimited eupply of water through the entire season. The company, according to the *Transcript*, have now four artificial lakes, and thie new one will hold three times ae much as all the others. The dam will be of rock, and 650 feet across the top, at the hight of 50 feet; at the hight of 75 feet it will be 750 feet on top. After this dam is finished, the minere who get their water from the Sonth Yuba Company will have all the water they want.

NEW CANAL.—The new Canal of the Spring Valley Canal and Mining Company, at Cherokee Flat, was completed on the 5th inst., and at 6 P. M. the water wae in the discharging arm of the Dogtown pipe and flowed through towards Concow. This work, including 4,500 feet of thirty-inch pipe, a portion crossing a depression six hundred feet in depth, and eight milee of canal, eight ft. in width, has been pushed through in ninety days, at a cost of $75,000, and the Company will now have an almost unlimited eupply of water throughout the entire year.

IDAHO MINES.—Thomae Mootry, Jr., writes us from Placerville, Boise, Idaho, that the placer mines are doing well, and that water is plenty. There are no idle men, and a good yield of gold is expected from all parts of the Basin. He says his mill and miue are doing first-rate; they are running 25 stamps on good ore, and plenty of it.

Artificial Marble.

The enterprise of manufacturiug marble by a patented procese was inaugurated in California by the Manhattan Marble Company, a few monthe since, and they are now in full ruuuiug order. We paid a short vieit to the factory in Oakland this week, to see what they were doing. The main building in which the marble is made, is 160x30 feet, and at present some twelve men are employed. Tho procees of manufactnre is the invention of Mr. Frear, of Chicago, the patentee of the Frear Stone. A peculiar gypeum, called Keene's cement, which is made in Eugland, is the basis of the eubetance, and the patented solution ie employed to make a combination, which produces a hard and durable imitation of marble for useful and ornamental purposes. It is formed into a pasty mass, about the consistency of dough, and is run into moulds in which it remains about 24 hours. It "sets" rapidly and when hardened is romovod and exposed to the air for a ehort time. Before drying, the imperfectione in the eurface are removed by the application of sufficient of the eoft subetance forming the marble. The marble ie then taken to a drying room, which is kept at a temperature of about 100°, aud remains there for a week's time. It ie then put through the process of polishing aud cleaning.



RICKARD'S ORE WASHER.

The principal articles manufactured are mantels, tahles, table-tops, tiling for floors, etc., numerons samples of which are exhibited at the office of the company, No. 319 Pine street, in this city. The proportion and character of the eeveral ingredients, used in makiug the marhle, can be varied so as to produce variegated marbles of any desired color. The coloring material is added to the composition when iu a plastic state, or to the eolution with which it ie moistened, and beautiful imitations of all varieties of marble are obtaiued. Among the varieties imitated successfully, we may mention Malachite, Sieuna, Brocatello, Formosa, Tenneesee, Waunooska, Levantel, Lapis-Lazuli, Italian, Jasper, Verd-antique, Lisbon and Bardiglio. The Malachite, particularly, is a very correct representation, as in fact are all tho imitations. The marble is beautifully grained, aud in the colored varietiee the grain is seen to go clear through.

These variegated and colored marblee are all more or less expeueive and rare, when real, but the imitation can he manufactured at greatly reduced rates. As yot the demand for them is limited, since people on this coast are accustomed to use white marhle ouly, and many believe that no euch stone exists as is imitated by soveral patterne shown. Their iutroduction however is only a matter of time, as they really make handsome as well as useful ornaments and the prejndice against the color will rapidly wear away. The marhles all have a high polish which it is claimed is as durable ae that given to the real substance. One advantage claimed for the manufactured material over the natural, aside from cheapness, is the fact that inkstains, which go all the way through iu the latter and are difficult to remove, can easily be washed off of the artificial marble. Smoke, which stains white marble, can he easily washed off from this eubstanco.

As the demand for the artificial marble becomes greater, the company inteud increaeing their facilitiee proportionately. The factory is a fine, large building, well lighted aud ventilated and in a conveuient situation for shipping to the interior, being on the line of the railroad. All the patterns used are made at the factory. It is well worth a vieit to the office to eee tho varieties of marble made, some of them heing exceedingly beautiful. Of course the artificial product is furnished at a much cheaper rate than natural marble; the more elaborate the design, the cheaper it is proportionately. As it is all moulded while in a plastic etate, it naturally costs lees to produce than marble upon which the designs muet be cut by hand with mallet and chisel. The grain is quite fine, making it susceptiblo of a high polish. It can be readily understood that, with the capacity of making any kind and color of marble, there is more scope in design than ie usually the case, and the colors can be harmouiously blended to suit any taste or fancy. Nor does it require any argument to prove, after seeing how it is made, that this marble can be sold cheaper than the natural substance. It is probable that before long an exteneive trade in artificial marble will epriug up ae ite economy becomes known and the uses to whicb it may be put are extended. This factory is one more addition to the mannfacturing establishments of our State.

A MINER workiug in a claim in Calaveras county, who hae been running a tunnel for three years in hard bed rock, and got in 800 feet, had to quit on account of ill-health, and sold out. He went to work for wages for the new proprietors and in three weeks struck the gravel channel he had been looking for so long.

QUICK TEAMING.—The Pioche *Record* says, Jackson's mule teams (ten animals to each team and each drawing three wagone) came from Toano to Pioche in ten days and five hours. They were loaded with merchandise. This is the quickest time ever made botween Toano and Pioche hy loaded teams.

The Indian Troubles in Arizona.

The Apaches in Arizona are again on the war-path, and their signal fires are visible in the mountains about Tucson. They are, as nsual, well armed and equipped and ready to do ae much damage ae possible. This is a good time to send some of the advocates of "peace policy" to Arizona to get an idea of the "situation" iu that region. As their "situation" is, however, uenally in a political office, or a strong fort, or under a good guard when traveling, they might not comprehend the subject properly, nor see it in the same light as the eettlers do. Dispatches from Tucson wonld indicate that the Indians have better facilities for conveying information than the military.

During the late temporary peace the Indians have had the freedom of the conntry and know the situation of every cabin; and it is probable that death and destruction will be dealt out to the settlers and their effects, with more serions results than ever before. These Indians were whipped into submission by General Crook, the only man who has been able to do it; and they were then put on the reservatioue where they had nothing to do; were fed and clothed, and had arms and ammunition given to them. The general's peace policy ie extermination, and that is probably what it will come to in the end, after all the peace commissionere and army contractors bave filled their pockets. This policy has been a failure with the Apaches ever siuce it was first inaugurated; and how much longer it will be continued, depends, probably, on the longevity of the tribes, and the supply of money in the United States Treasnry. If General Crook gets permission to "go for" those redskins again, in his own way, it would not be a bad idea for the settlere, ae there is no telegraph, to intercept all messages and messengers from the outside world nntil he has a chance to "clean out" all the Indians. By thie meaue no word could be sent to Geueral Crook, until he had given them a sonnd thrashing and an idea of the powor of the Government. There is one conealation, however. No Peace Commissioners will be likely to risk their precious skine in Arizona just now, at least not in proximity to the Indians.

We want to eee a rapid settlement of this Indian question in Arizona, as it ie without doubt one of the richest Territories in the United States fn mineral wealth. Men are now sitting idly on dumpe of ore worth thoueands of dollars, which are of no value to them, as there are no mills to crush it, and capitaliste will not invest in the country while Indian disturbancee are eo frequent and dangerous. The fact that the mines now there can afford to ship ore, over a rough aud circuitous route at great expense, to this city for reduction, is sufficient guarantee of the mineral wealth of the Territory, and an indication of what could be done under favorable circumstances.

ENGLISH CAPITALISTS propose promoting railroad enterprise in China. It is in contemplation to furnish a gift of rolliug stock and ten milee of road, with a view to induce the Emperor to sanction a net-work of railroads. Half of the capital stock has heen subscribed, and the rest is expected. A call for a publie meeting has heen ieeued, undor the auspices of the Lord Mayor of London.

BULLION.—Over 65,000 bare of Cerro Gordo hullion paseed over the Los Angeles and Wilmington railroad last year, aud the Loe Augeles *Star* says there will be a material rise in this figure the ensuing year.

CORRESPONDENCE.

Notes of Travel in Eureka and Elko Counties, Nevada.

[By our Traveling Correspondent.]

Palisade.

The point of our first divergence from the C. P. R. R., to visit the mines of Esstern Nevada, is located st a pcint on the Humboldt River, where Pine Creek empties into the ssme, and 573 miles esst of your city, and is situated at an elevation of a little over 4,000 feet above the sea level. Pallsade contains about 150 inhabitants, and in the new county of Eureka; out off of Lander County by an act of the last Legislature. It is important as a point of divergence from the C. P. R. R., to nearly all of the mines of Eastern Nevada. From this point, where you arrive on the afternoon of the second day out from San Francisco, at 3:12 P.M., you take stages of

Woodruff & Ennor,

For Mineral Hill, Eureka, Hamilton, Treasure City, Eberhardt and Pioche.

They are among the oldest stage men in this State, and own three separate stage lines; viz: Virgina City, Schell Creek and White Pine which is the name of the one between Palisade and Hamilton, and is 125 miles in length. Three sets of careful drivers manipulate the reins between these two points, and thirteen changes of horses are used, six to each team; fine Concord coaches are used, and the time occupied in transit between Palisade and Hamilton is from 22 to 23 hours; fare, $25.

Mineral Hill

In Elko County Nev., is the first mining camp met with on this route; it is located 35 miles nearly south of Palisade, at an elevation above tide-water of 6,100 feet. It contains about 250 inhabitants, has one hotel, saloon and blacksmith shop, and four mercantile establishments. To show the liberality and patriotism of Mineral Hill, $600 in coin has been collected to celebrate the Fourth of July with, and it is scarcely yet one year, since a terrible fire swept the entire town away, with a very slight insurance. The following are the principle mines of that district.

Mineral Hill Silver Mining Co.,

(Limited) is an incorporation of English capital, the works and mines of which are located at Mineral Hill, Elko county, Nevada, of which I spoke at length in my letter to the PRESS July 20th, 1872. Some changes (local) have takeu place since my lsst visit to this company's works, but noue of note. Mr. H. H. Oakes is still the Superintendent.

This company was incorporated in the year 1871, since which time they have extracted and shipped $1,072,000 in bullion, being a yield of $392,000 since my last visit a twelve month since.

This corporation are at present working 60 men in their mines, and are crushing all the ore they extract at their Attwood mill, which hae fifteen stamps ruuning by steam, and reduces from fifteen to twenty tons per day, according to the hardness of the rock.

The Taylor Mill.

The new 20-stamp mill owned by this company, has been lying idle for twelve months past; in fact, they only run it some two months after it was completed. It is a very fine structure and cost tbis company some $135,000 to erect; it is now on sale and several parties have signified their intention to purchase the same. It is a splendid mill to any company tbat have use for it. This corporation uave no need for any more than fifteen stamps, which they have in their Attwood mill.

The mines of this company do not look so flattering as they did one year ago, but economy in accordance has been introduced, in the several departments by Superintendent Oakes, and mining agent F. Hoskins.

The Spencer and Austin Mines

Are working two or three men each, extraoting some good ore, but are not driving their work on acccount of having no mill of their own, and the high price of reducing ores charged by the custom mills, which, I understand, is $35 per ton.

Hardscrabble District

Is a uew district, located April 15th, this year, and is situated about five miles east of Mineral Hill; Dr. Hanson and R. H. Haysman I learn were the locators, and also present owners of the

Clarendon Mine,

The first discovered in this district. This mine lies in slate formation, with regularly defined walls. The course of this ledge and pitch is that of all the prominent lodes of this country, and has the appearance of a permanent one. It is being developed by a tunnel now in sixty-five feet, at which point it is forty feet to the surface, and shows a ledge of free milling silver ore six feet thick; from some ten assays made it shows an average of $100 per ton. The general character of the ore of this district, however is base metal and of a limestone formation, in a belt of quartzite, where the mineral is found ruuning north and south near the base of the mountains, and pitohos eastward at an angle of forty-five degrees, the width of which has not yet beeu obtained. Located in this latter formstion and prominent among those now being developed is the

Waverly Mine,

Located and owned by Mitchell, Rosenthsl & Co. This mine has been developed to a depth af 25 feet by a shaft, and a contract for sinking 25 feet more hss just been let; from 10 different assays from the average ores of this mine, it is shown that it contains about $30 per ton in silver besides the lead—the definite amount of which has not yet been ascertained. It is certainly a very promising mine; about one mile south of the Waverly is located the Stars and Stripes miue, which is being vigorouely worked at this writing, and ssssys well in silver. A little north of the Waverly mine is located the

Maricopa Mine

Similar in character to the above iu every respect, and is being developed by a deep open cut, and shaft. This company are working 3 men, their rock averages $30 per ton in silver. It is owned by parties resident at Eureka, and superintended by Mr. Hadley, one of the original locators.

L. P. Mc.

Cherry Creek Mines.

George W. Doane, one of the most persistent and reliable prospectors in Nevada, has returned from a trip to Cherry Creek and vicinity, and exhibited to the White Pine *News* some specimens found by him in that locality. The *News* has no hesitation in pronouncing the rock exhibited the richest that any section ever produced, and its similarity in general appearance to that found in the Comstock, leads us to the belief that a rich camp has been discovered. The presence of particles of pure gold and silver, in different varieties of rock, prove its richness, and the quartz formation in which it is imbedded adds additional proofs as to its extent and permanent value. George tells as that a great many miners, prospectors and speculators are daily making their appearance in the new camp; and all express unbounded faith in its future. The towns, foundations of two of which have been laid, are being built up with stores, residences, and the various adjuncts to a mining camp, as rapidly as lumber can be obtained for the purpose, and present appesrances denote a large camp in the future. Among tbe lucky owners of miuing claims there are Hunter & Briggs, the original locators of the district, and who are well known as former owners of the ranch 12 miles west from Eureka, now the property of Billy Nichols. They are made of the right kind of stuff to open up a new district, and are said to have faith enough in their new possessions to spend every "quarter of a dollar" on its development. Accommodatious for man and beast are said to be plentiful, and of the best quality. Mollinelli, of Austin and Schell Creek fame, has established a branch of his hotel there. The lumber used for building purposes is being supplied by Sanford Hall and partner, and the capacity of their mill, although kept running night and day, is not sufficient to supply the demand. Situsted so near splendid milling facilities, Esgle Cañon being only five miles from them, the owners of the mines caunot possibly fail to make a good thing from shipment of ores this season. We have every faith in the success of this district, and before snow again flies, we are confident of being able to chronicle many sales of mining grounds there and good results to purchasers of the same. Eastern Nevada is in a fair way to redeem itself among mining men, and White Pine county will yet foot up in wealth and population equal to any in the State.

New Mines at Sitka.

The quartz brought down here from Sitka by the passengers aboard the "California," and some of the crew of the same vessel, has been subjected to a rigid test by Captain Fisk, and a portion of it has proved to be quite rich. The specimens sent to Major Wood, the Adjutant-General of this Department, yielded at the rate of $100.45 per ton for the poorest rock and $276.15 for the best. This would readily prove the value of the mines, for the specimens have been takeu entirely from the surfaoe.

Another specimen of rock, somewhat different to the preceding, failed to yield any metal to the test; so that the region it was taken from must prove valueless in minerals.

Major Wood and half-a-dozen others have formed a Company for the development of their mine, and work will be commenced as soon as capital enough has been secured.

Some splendid copper mines have beeu discovered at Fort Wrangell, and they are said to be as valuable as auy yet found on the coast. A telegram received from San Francisco last evening, by Purser Goodhue, of the "California," stated that the assay of this copper would make it worth from $60 to $90 per ton. Should the whole prove as valuable as the specimens tested, the mine must be exceedingly rich, and, of course, highly remunerative to those having the energy and capital to work it.

At Galena a mine has also been discovered, some twenty miles from Vancouver. An analysis proved that it contained only seven per cent. of galena, the remainder being principally silicates aud kindred matter; but it contained silver enough to be worth $20 per ton.

The discoverer has resumed prospecting, and if a mine which has minerals containing fifty per cent. of galena is found, a company will be organized here to work it.—*Portland Bulletin.*

Supply of Nickel.

Those bodies cslled metals, which in one form or other of combination constitute an immense preportion of the whole mass of our globe, and whose number as elementary bodies classified by the chemist, far exceeds that of all other supposed elementary bodies, are by their unusually varied physical and chemical properties of the very highest value to mankind; yet it would be short-witted wisdom to say that they are the most importsnt bodies known to us. The metalloids are reslly just as important, for without their help the metals, in whstever state we found them, would prove intractable. The metals force themselves upon the notice of the most ignorant; the value of the metalloids is only seen through the medium of chemistry. It is a subject of curious interest, and not devoid of usefulness, to notice how the distribution and the chemical and physical proportions of the various metals influence their oost—quite apart from mere fluctuations of market value due to the course of trade. How abundantly is eaoh to be found in any state—how easily, or with what difficulty is it got into the metallic state from natural combinations—or how into new combiuations to become valuable? When reduced to regulus, what are its properties? Is it hard, rigid, tough, or soft, easy or hard to fuse? Is it beautiful aud glittering? Does it tarnish or rust? Does it alloy valuably with other metals? All these, and the answers to a hundred like questions, are involved iu the inquiry as to any known metal. What is its value as a material, and thence presumably in the market? Gold and platinum, through the combinatiou of their scarcity and their respective special properties, are called precious metals. Although we have in these latter days tracked the gold to its home in the quartz rock, we fiud it everywhere scattered iu fragments relatively so small and widely diffused, tbat the cost of its segregation largely enters into, and often equals or exceeds the current or standard values of the metal, and its value in the market has decreased with the increased abundance drawn from California and Australia. But its chief uses are for coin and objects of luxury, and were new sources of gold discovered, such as to increase a thousand fold the supply, it is difficult to see other uses of very great value to which it could be put. Its price would, therefore, probably rapidly decline, and the chief effect of such a discovery might be to derange, through its influence as a standard of value, the markets of the world.

Not so platinum. The total annual product is vastly below that of gold, and its price per pound is also much the lower. Why is this so, for except its beauty, it possesses most of the valuable properties of gold; aud some besides special to itself? The answer is, there are but few and small uses to which platinum has ever been applied. Yet to what endless and important uses in the arts, in chemical manufactures, in metallurgy, iu cookery, even in architecture and shipbuilding, might we not apply this metal were its supply to become sufficieutly abundant. But there is no prospect or even hope of this, and so the parsimony of its distribution rendes this metal, though scarcer than gold, and though unique in its combination of valuable properties, a declining one and below that of gold. This is even more certainly true of those ourious metals that, in excessively small proportions, accompany platinum in its crude state as worked from the sand. Palladium, rhodium, iridium, osmium, etc., may be said to be almost without use; their scarcity forbids any attempts to find a use for them—hence they have no real value.

Their price depends upon circumstances as factitious as those which make to the *dilletante* that of a unique engraved agate. With the exception of iron all the much-employed metals, lead, copper, zinc, and tin, are very easily smelted, and their ores, (excepting those of tin) largely and widely diffused. Hence, great as is their value, vast as is the demand for them, their prices within moderate periods of time remain pretty steady so far as natural causes are concerned, and only vary much through the intervention of fiscal causes. In a different class stands iron, and may one day stand alluminium. In the state chiefly of oxides both are found scattered broadcast as the dust beneath our feet. But oxides are terribly stable compounds in both cases, and in both the price is mainly dependent on the cost of isolation from the ore. This cost is larger even still with iron, considering the scale on which it is worked, but in the case of aluminium it is almost prohibitory—involving as it does the previous isolation of nearly the most oxidable metal known, sodium. Yet should means be found hereafter, as it is probable they will be, to reduce it as readily as iron, the metallurgy of alluminium may yet play a great part in the world. What numberless and important uses could this metal be put to; possessing the tenacity nearly of iron with the lightness of glass; malleable, ductile, difficult of fusibility, and at common temperatures showing—small tendency to combine either with oxygen or sulphur.

Again, viewed in this compound aspect of their determinants of value and of price, manganese, chromium, cobalt and nickel, may be classed together. Of the first the natural supply is practically boundless, but the difficulty in reducing it to metal, the high fusing point, and the great affinity for oxygen, have bitherto prevented its physical properties becoming sensibly and fully known. Its uses as a metal are few and its value small, while its price is higb. But cobalt, chromium, and nickel form that curious group of metals of which the natural distribution is sparse and rare; their uses few but important and well ascertained, and the price necessarily high. Cobslt and chromium may be said to so far have no value in their metsllic state—the coloring powers of their combinations constituting their chief value, which is enough, however, to maintain a high market price for both, but especially for chromium. Like titsnium, the uses of which are widely diffused—vsnsdum, and indeed a large catalogue of others—it is more than doubtful whether cobalt or chromium have ever been seen in a state of metsllic purity. It would be worthy of national expenditure to make on several of these little known metals extensive experiments as to their isolstion in purity, and their physical and useful properties so, aud ss alloyed.

We have been led to these remarks by the snnouncement lately made that the price of nickel had advanced so considerably as to hamper the manufactnre of German silver, and that should it further advanee to 30s. per pound, that trade would for a time be stoped. Nickel is obtained in commerce chiefly from kupper nickel, and from speiss, a sulpho-arsenate of uickel, and other metals, produced in the processes for obtainiug cobalt. For long it was neglected as a useless and unknown pest to the copper miner, whence its name; but at length one use for it was found—namely, to whiten the alloy of copper aud zinc so as to form German silver. To the present time, notwithstanding that the meaus have peeu found by M. Gaiffe, of Paris, to deposit pure nickel by the electrotype, it may be said to have but this one use in the arts. Its price was, we believe, at one time no more than 3s. or so per pound. What has produced the scarcity? In a small way this is an inquiry of as much interest as that of ooal.

The peopling of "the lone lands" of the New World and of Australia, the spread of wealth and desire for comfort everywhere, have uo doubt tended to expand the German silver trade into a very large one, which has been fostered and helped by electro-plating—a rather later developed art. But is it through demand overtaking supply that the great enhancement of price has risen? We should like much to be made sure of this iu the first place. It ougbt not to be forgotteu that there are a few of the metals, amongst which is uickel, that by reason of their comparative rarity and relations to the arts readily lend themselves to a monopoly eveu in the hands of a single large capitalist. Quicksilver wae made such a monopoly of by the Rothschilds some years ago, and the attempt was revived only two or three years since, but Californiau supplies had made it more difficult.

Bismuth, a metal produced in extremely small quantity, even since Australiau ores have supplemented those of Europe, yet of great importance to some arts as increasing the fusibility of alloys, is also one that has admitted of a monopoly, raising its price to a guinea per ℔. Is nickel now included in the category? If it be not, if the price be really due only to scarcity in proportion to the demand of the German silver trade, then ought those interested to bestir themselves in finding new supplies of the ores. Nickel is always an accompaniment of the palaeozoic and so-called ozoic rocks. Some of its most valuable minerals have been fouud in large quantity in the Lacustrian rocks of Canada, and there is good reason to believe it to extend in larger quantities to the north of the "Lake of the Woods," and in other places in British North America. "A prospecting" of these and other places would be now opportune.

It has long beeu currently stated, that Dr. Percy many years ago, when engaged by the firm or Evans & Asker, of Birmingham, in experiments made professionally for them on the production of German silver, fouud that manganese could be substituted for the nickel, and this rumor of scientific circles has received confirmation by a recent letter under the well-known signiture of "Y" in the *Times*, wherein the writer urges the substitution to be now made, which it is alleged was ouly preveuted before by trado considerations. If it be so, by all means let the metallurgist at once set to work to circumvent Nature's niggard supply, or the monopolist, wherever it be, just in the same way as King Bomba's sulphur monopoly came to an end uuder the domineering influence of pyrites. We confess, however, we do not anticipate very much here from manganese.

The fact that this last metal will *whiten* the alloys of copper and zinc was, if we be not mistaken, known from the days of Achard in Germany, but its power to prodnce a uuiform, staple tough alloy in substitution of uickel is quite another thing. The extreme difficulty of purification, the great oxidability, the extreme hardness, and the slender affinity for either copper or zinc, of manganese, render it very unlikely to produce a German silver of a tractable and durable character, even if unexceptionable in point of color and lustre. The experiments made by Messrs. Montefiore, Levi & Co., of Liege, for the Russian Government, upon the introduction of manganese into bronze and phosphor bronze for cannon, quite sustain our anticipations of failure—though we by no means wish to discourage an exhaustive trial, which could not but be undeniably valuable at least. But meanwhile though the sources of nickel are restricted, they are capable of great extension whence we have indicated and from elsewhere. To supplement largely the raw material is the true and obvious remedy either for a real scarcity of the metal or for an artificial one produced by aprocryphal statements or by monopoly.—*Engineer.*

MECHANICAL PROGRESS.

American Iron in England.

The only important advantage after a consideration of the coal qnestion, which England has over the United Statcs at the present timo in the prodnction and manufacture of iron, is cheap labor, and thie advantage is gradually disappearing nnder the continnal and successfnl efforts which are being made in that connlry to soenre a better price for lahor. This fact ie already patent to English iron masters and to capitalists there ingeucral. Indeed, we are already occasionally furnishing iron for English workers in that metal, as will be seen hy the following extract, from the Londou *Colliery Guardian*, which extract also shows what they think over there on this important matter.

"The present anomalons condition of the coal and iron trades of this conntry has received several striking illustrations during the last few months, but wo question if any more startling fact has been recorded than that mentioned in the letter of onr Wolverhampton correspondent, who has learnt, from a trnstworthy source, that an order for 1,000 tons of iron for consumption in England is in course of execntion in America, and will be delivered on onr shores at a lower prics than it can be bought for on the spot. It is also stated that axles are being sent over by American manufacturers and delivered in England at £3 per ton lower than the rate asked by home prodncers. This is a turning of the tables, indeed; ouly to he matched by the recent literal fnlfilment of the adage abont sendiug coals to Newcastle.

The causes of this anomaly are not diffienlt to ascertaiu. At the root of them all lies the simple question of labor. The pre-eminence of onr conntry as the workshop of the world was almost wholly due to the abundance, and conseqnent cheapness of labor. Onr rivals in new and undeveloped fields of indnstry felt this difficnlty to be almost insurmountable. This is sufficiently proved by the fact that onr American cousins, notwithstanding the hedge of "protection," thrown round their manufactures, have been outstripped in their own markot hy English prodncers. No hnman foresight ooald have predicted the strange revolntion which has taken place in the English labor market dnring the last two years. We have referred, time after time, to the mischief which conld not fail to result from the extravagant demands of the laboring classes, but sooner than we ooald have anticipated that mischief has become apparent.

The aspect of the iron trade, especially in the inland districts, presents something very much akin to stagnation, and it is clear that in a very short time, without some speedy and unlooked-for change takes place, the furnaces, mills, and forges must in many cases cease operations. The masters aver that, in the present condition and temper of the labor market, nothing can avert this serious collapse in trade. The matter rests, therefore, to a very large extent, with the men, or rather with those who have led them on to this situation of perplexity.

The qnestion is a most important one, and if great mischief is to be avoided, it will not admit of much frrther delay. It would be well if those who in defiance of all the simplest laws of political economy, have forced np labor to a purely fictitions value, would have the courage to confess their error, and employ their influence to modify the disastrous consequences which threaten commerce, and which their mistaken policy has mainly helped to briug about."

The labor question and the scarcity and high price of coal, however, are not the only things which are tending to transfer to this coutiuent the workshops of the world. The inventive genins of onr people is more earnest than the English in seeking out new devices to do away with hand-labor. Much of the work which in English shops is done by hand is done here by machinery, and at a greatly-reduced cost. The Englsh are not au inventive people to anything like the extent to which the Americans are. This fact is also fully acknowledged by our friends over the water; for the very article from which we have quoted so largely above contains the following sentence: "We, in this country, have relied too much on our cheap lahor supply, and have paid too little regard to the wonderful scientific progress in the provision of labor-saving machinery, which our transatlantio rivals have been makiug."

While we entertain no feelings of triumph at any success which the mechanics of this country may gain at the expense of our English friends, we nevertheless hold it a matter of dnty, as faithful chroniclers of "mechanical progress," to keep our readers iaformed of all such changes as they are brought to light.

THE Agricultural Society of Breslau, Germany, offers a prize of $700 in gold for the steam-plow apparatus which will work best at trials to be made on the farms near that city this summer.

The Future Supplies of the Superior Metals.

The nse of metals has grown so rapidly of late years that the qnestion is often seriously put, are we sure of adeqnate supplies? That can only be answered by a review of the source from whence we may expect to derive them. Copper, although it has risen in valne more rapidly than any other metal, in oonsequence of stocks being low, and becanse the price a short time ago was so poor as to stop numbers of mines, can be supplied *ad libitum*. The world is full of oopper. England and Wales are rich in the metal. Ireland abounds in it. There are good lodes of copper in the Peninsula. Ia the Himilays stones of oopper crop up. Australia possesses it in various dircctions. Bnt it is in the western hemisphere it is most abnndant. It lies almost iu every direction. Iu Canada, the United States, both east and west of the Rocky Mountaius; on the slopes of the Andes; iu Chili and Peru it appears in every form and in ovorwhelmiug quantities.

The supply eanuot fail at the present rate of consumption for thousands of years. Lately the price has gone down notwithstanding the new uses to which it has been pnt. In fact, the demand fell off, supplies iucreased, and stocks became so large as to weaken the market. Lead.—There exists no apprehension as to the supply of lead. The price has not advanced duriug the active years for the metal trade, 1871-72, at all in proportion to that of copper, tin, or iron, but it has advanced, and is likely to do so considerably in 1873.

There can be no lack of copper, for Cornwall, Shropshire, South Wales, Ireland, the Iberian Peniusula, Australia, and the United States of America, can produce all that will be wanted for ages to come. Black lead iu certain forms and black jack exist in Cumberland, Westmoreland, Derbyshire, Ireland, and in various countries abroad in quantities adeqnate to all possible demand for a time to come incalculable. The metals which are little nsed, or prodnced in the smallest quantities, such as platina, nickel, manganese, etc., are to be found in quantities sufficient for the demand in California, and especially in Colorado and Nevada.

Quicksilver is especially the product of Spain; much of what we import we export. The metal is also found on the Pacific slopes of the Rocky Mountains and Cordilleras. Tin—This is a metal more prized than it has ever before been, and than any other of the metals greatly in use except the precious metals. Cornwall and Devon had the mouopoly of its production from the days when the Phœnicians flocked to Marazian to exchange Tyrian cloths for it. The discovery of this metal in the Dntch settlements of the Straits added vastly to the supply, and it is now reported that in South Australia there is a considerable tin area, and in Queensland also; from the latter some freights have actually arrived. There is no prospect of its being too abundant, and although it has lately rapidly dropped in value, it is destined to bring a bigh price until some new and more extensive discoveries are made of it.—*Mining and Commercial Times.*

A New Cement—Pfundite.

There is a mineral found in Northampton County, Penn., which is made up as follows:

Silica	61.30
Alumina	21.55
Oxide of Iron	14.10
Lime	1 30
Magnesia	.63
Hygrometer moisture and loss	.82
	100.00

Mr. Anthony Pfund, of New York city, who has invented a method of utilizing this mineral, in the manufacture of hydraulic cement, has given to the mineral the uame of Pfundite.

By heating the mineral to a red heat, the silica is caused to combine with the oxide of iron, and with parts of the alkaline earths, and if this product is mixed with sulphate or carbonate of lime, tho mass is claimed to poseess the properties of a valuable hydraulic cement, becoming hard in a short time, and capable of resisting moisture.

Another compositiou of which the Pfundite is a base, is as follows:

The mineral is mixed with from three to four parts of carbonate of lime to one part of silica alumina, and oxide of iron and alkali. This mixture is formed into bricks which are burned at a read heat, and when cold, pulverized. The product is claimed to be a superior hydraulic cement.

Another composition is made as follows: The mineral is heated to a read heat, and then mixed in the following proportions: Pfnndite, one part, hydraulic lime, cement, or plaster of Paris, two parts; coal ashes, from five to six parts. This last, mixed with a sufficient quantity of water, is formed into bricks, or may be used for coating and fire-proofing walls.

Other mixtures may be made with various ingredients, and of various proportions, and it seems probable that the miuoral, which is tho principal ingredieut in all of them, will prove to be of high industrial value.

SCIENTIFIC PROGRESS.

Impurities in Lead.

Lead which is made in a blast furnace is always soft, dnctile, and flexible, bnt has only slight tenacity. A freshly cnt snrface has a bright lustre, which soon disappears. It soils the hands, papor and linen goods. It can he rolled without teariug; when melted has a white color, and beantifully smooth surface; by higher oxidation shows a play of colors which, however, differ but little from those on impure lead. Pure lead shows slight oryst dline strnctnre, and, on the whole, the surfaoe has an evenly fused appearance; if crystalization appears on the surface it is due to unequal solidification. Snch lead, when heated almost to its melting point, shows, ou breaking, a colnmnar fractnre. A white color on the surface and on the fracture are special signs of impure lead. Many poor sorts of lead are perfectly white from impurities, but then the color is due to silver rather than tin. The harduess of lead is due principally to the presence of sulphur, antimony, and arsenic. These impurities diminish its dnctility and mslleability; bnt snch lead will offer greater resistance to compression. Contamination with a small quantity of the oxide of lead, mechanically mixed, is an advantage if it has to bear a strain. If, on the contrary, ductility is reqnired, as for sheet lead and foil, oxidation must be avoided as far as possible when fusing. Copper has no influence on its hardness, bnt if iron and copper combined with sulphur are present, the lead is hard. The sulphur compounds melted at a higher temperatnre hardon the lead; at a lower temperature this is not the case. When melted at a low temperature, the sulphurets of the metals collect on the surface, snd such lead, when used for making white lead, shows irregular dark shades.

Lead takes up one per cent. of zinc, and less than one per cent. of iron; the amount of copper taken up increases as the temperature. If it does eot contain over one to one and a half per cent. of antimony, it may be smelted in a reverberatory furnace, air heing admitted. The pure lead separates and flows out, while the snlphides of the metals remain, even when they are oxodized by the use of nitre, and separated in this way. If more antimony is present, which is the case with Spanish lead, the oxidation is prolonged, and a hard lead is obtained, while the slag contains much antimony.

As yet no successful method or process has been devised for perfectly separating antimony and lead. Even refined lead contains always very small quantities of sulphur, iron, tin, and antimony, and a somewhat larger qnantity of copper. If it is entirely free from tin and antimony it exhibits, when fluid, a splendid play of colors. Pure lead is recognized by a fine scum, which covers it when fused, but which tears on moving the surfaoe. Soft lead breaks with a fibrous fracture, and the surface is coated with beautiful red and blue colors. If the lead contains zinc, or zinc aud antimouy, it appears of a beautiful white; tin and zinc are less common, but antimouy, usually in combination with sulphur, gives to blast-furnace lead its peculiar white color and hardness. Since sulphur compounds of copper, antimony, iron, and arsenic are melted into lead at higher temperatnres, it must first be purified from these as far as possible before any further use is made of it.

As regards impurities in lead that has been purified, there is always a trace of iron present, also antimony, which is, however, combined with very small qnantities of silver. If the copper is to be all or very nearly all removed, a number of successive smeltings is necessary. The higher the temperatnre, the more oopper can be taken up, about one and a half to two per cent.; if considerable sulpher is present, the oper combines with it, and may be more easily removed, because almost the last traces of sulphide of copper rise to the surfrce and can be ekimmed off. Lead purified thus contains but 0.1 to 0.2 per cent. of copper.

For many technical uses it is not necessary to have the lead so perfectly pure, but for glass, and in making white lead, small impurities are injurious, which are much less so in sheet lead or lead pipe. If lead used in making white lead contains much copper, it gives a faint reddish shade. This red color disappears entirely, if a sufficient quantity of the gasses are admitted during its manufacture, and scarcely appears at all, if there is a stronger current of air, and the red color is more perceptible in the iuterior of the white lead. When sulphide of antimony is present, the red is no longer perceptible. Pure lead melts at 625° to 635° Fah., and solidifies quietly with depressed surface. Heated almost to fnsion, it becomes brittle, and breaks in pieces under the hammer. At a white hoat, iu the absence of air, it boils and begins to give off vapor.—*G. Brigel in Berlin Chem. Soc. Proc.*

SOLUBLE GLASS.—The employment of soluble glass in the chemical and industrial arts is constantly increasing, and its value is now fully established. Recently a cement of great harduess and various applicability has been produced by mixing defferent bases with this singular substance. It is found that, combined with fine chalk and thoroughly stirred, it will produce a hard cement in the course of six or eight hours. With fiue sulphate of antimony, a black mass is produced which can be polished with agate, and possesses a superb metallic lustre. Fiue iron dust gives a gray black cement. Zinc dnst prodnces a grry mass exceedingly hard, with a brilliant metallio lnstre, so that broken or defeotive zinc oastings can be mended and restored.

Cause of the Decomposition of Eggs.

The question of the decomposition and decay of eggs has been the object of numerons experiments, some of which seemed to lead to opposite oonclusions. A committee of the French Academy have arrived at the following conclusions:

1. Eggs that have not been shaken can be preserved quietly without fermenting or decaying.

2. Shaken and broken eggs decompose in less than a month.

3. In no stage of decay is the slightest traco of an organism, either animal or vegetable, to he found in the egg.

The decomposition of eggs, with all signs of decay, and without the presence of any microscopic organisms, is contrary to Pasteur's theory, according to which every destruction of organic matter, and its conversion into its inorganic elements, is due to the development and increase of small organisms. U. Gayon has made some new experiments on this subject, the results of which are given in *Comptes Rendus*, vol. 76, p. 232.

By exposing unshaken eggs to the atmospherie air, at a mean temperature of 77° F., he found that one portion of the egg underwent decay, the other did not.

On making the same experiment with shaken and broken eggs, some decayed, others did not, even for several months.

In all csses where the eggs remained sonnd it is impossible to discover the slightest trace of an organism; on the contrary, in all those which decayed there were numerons microscopic organisms from the species of vibrones and mushrooms.

These facts contradict the previous supposition. Without anticipating any decision which may be obtained by further experiment, Gayon inolines to the opinion that the germs of organisms are originally present in those eggs which decay.

NEW HORTICULTURAL FERTILIZER.—Some time since we called attention to a new chemical fertilizer for horticultural purposes, suggested by Dr. Jeannel of Paris. *Les Mondes* of recent date, in commenting on results obtained by its use, says that it represents the fertilizing principles of at least one hundred times its weight of concentrated animal manure, and supplies to the plants nitrogen, phosphorus, potash, sulphur, and iron in a completely soluble state. The compound consists of 400 parts of nitrate of ammonia; 200 parts biphosphate of ammonia; 250 parts nitrate of potash; 50 parts muriate of ammonia; 60 parts sulphate of lime, and 40 parts sulphate of iron. These ingredients are pulverized and mixed. One dram of the powder (about a teaspoonful is then dissolved in a quart of water and a wineglassful of the solution given two or three times a week, in accordance with the health and luxnriance of the vegetation.

The plants may be placed in any kind of earth, however poor, eveu pure sand, or may not be potted at all. It is stated that certain flowers, the fuchsia, for example, may be cultivated without earth by simply placing the stalk in a jar, at the bottom of which is an inch or so of water, just sufficient to cover the ends of the roots. To the fluid a proportional qusntity of the fertilizer is added, as above specified, once in eight days. The foliaceous development of plants treated with the substance is said to be truly wonderful, and yet the rapid growth of the leaves does not interfere with tho most luxuriant flowering. To this we may add that quite recently we have tried a compound hastily oomposed of the majority of tho substances above detailed, merely as an experiment, on a small and sickly fuchsia. The plant was drooping and little else remained than a half dry stalk. After two applications of the fertilizer, its effect was apparent, and at the end of ten days, duriug which probably half a pint of solution had been supplied to the earth, new shoots had sprung out, leaves formed, and the entire plant became perfectly loaded down with buds.

HOW DELTAS ARE FORMED.—It appears from the observations of Mr. David Robertson, F. G. S., that iu fresh water particles of clay were held suspended for a long time before wholly subsiding, while salt water, or a mixture of salt and fresh, became comparatively clear in the course of a few hours. The results showed that water only slightly brackish had a great power in precipitating the clay, and from this he conoluded that the great bulk of the clay carried down in solution by rivers must be deposited before it could reach any great distance from the seashore. This may throw some light on the formation of deltas, and on the silting up of the river courses within the influenoe of the tides. It may also assist iu determining how far the glacial mud, for example, could be carried into the seas by tides and currents.

RENEWAL OF THE REWARD OF ONE HUNDRED THOUSAND DOLLARS.—The Legislature of the State of New York has recently renewed, for the period of one year, the offer of one hundred thousand dollars reward for improvemente in canal navigation. This will be good news to scores of inventors.

Table of Fluctuations.

Showing Highest and Lowest "Regular" Sales of Mining Stocks on the Board List of the San Francisco Stock and Exchange Board, during the last Four Weeks, together with Number of Feet, Shares, Last Dividends and Assessments.

NAME OF COMPANY	IN MINE.	IN FEET.	SHARES	LAST DIVIDEND.	LAST ASSESSMT.	1873. WEEK ENDING WEDNESDAY June 18 High	June 18 Low	June 25 High	June 25 Low	July 2 High	July 2 Low	July 9 High	July 9 Low
WASHOE.													
Alamo Gold and Silver M. Co		300	6000		5, Mch. 1, '71	75c	75c	75c	75c	75c	75c	....	....
Alpha Consolidated		3600				31	27	32	29	31	28	24	24
Alta													
American Flat			30000		1, May 17, '73	6½	6¼	6¼	4¼	4¾	4⅜	4⅝	4¼
Arizona & Utah		1900	18000		5, June 16, '73	4	2½	2¾	2¼	2⅞	1⅞	2⅞	1¾
Bacon Mill and Mining Co		65	24000	21, July, '71		3¾	3	3	3	3	2	2	2
Baltimore Consolidated			54000		3, June 3, '73	11½	8¾	12⅛	8⅝	10	8¾	9⅝	7¼
Belcher		1040	104000	16, July, '73		96½	86	97	88	93	82½	87	87½
Belcher-Potosi		224	22400		8, Feb. 7, '71	4¾	3¾	4¾	4¼	4¾	4⅜	4⅝	4½
Best & Belcher		29	5000			3	....	....	....	....	....	....	....
Bowers			16000		7, Jan. 21, '73	1¼	1½	1⅜	1¼	....	....	....	....
Buckeye		2500	25000		15, June 11, '73	95	88	97	92	110	98	101¼	96
Bullion			24000		45, Aug. 6, '72								
Caledonia Silver Mining Co		5000	20000		4, Feb. 5, '73	18¼	16½	19	16⅜	17½	16½	16½	14
Central		150	10800										
Central No. Two		100	20000			6	5	5⅜	5⅛	6½	5⅞	6	6
Challar-Potosi		2800	28000	28, Feb., '72	4, Feb. 13, '73	64½	51	59½	53	57	53	56	50
Confidence Silver Mining Co		130	24960	6, May, '65	10, Mar. 18, '73	7⅞	7¼	7⅝	7	7	6¾	6¾	4⅝
Cons. Gold Hill Quartz		34½	20000			3	2½	2	2	....	....	2	2
Consolidated Virginia		1160	23800		15, June 11, '73	95	88	97	92	110	98	101¼	96
Cook & Geyer		1600	24000		1, Sept. 4, '72								
Crown Point Gold and S. M.		600	100000	22, July, '73	6, May 28, '73	117⅜	91	116	107	103½	100	103	99
Daney		2000	24000	2, July, '63	6, May 28, '73	1	¾	1	50c	1¼	1¼	1⅜	1⅜
Dardanelles		1200	24000										
Eclipse		70	25000			6½	5½	6	5½	6	6	5½	5
Empire Mill and Mining Co		75	50000	21, May, '67	13, June 10, '73	5⅜	4½	5¾	4¼	5	4⅛	4¾	4¼
Exchequer		400	8000		9, June 26, '72	10½	10	10⅜	9½	9	9	9½	8
Flowery		3000	12000										
Franklin			20000		3, July 24, '73	1½	1	1½	1⅛	2¼	2⅛	2¼	2⅛
Globe		1200	48000	36, Oct., '70	18, June 9, '73	15	10½	12½	11	1⅜	1⅛	1⅜	1⅛
Gould & Curry Silver Mining		400	16000	36, April, '71	40, July 1, '73	45	35	44½	40	45	40	43	35
Hale & Norcross		184	100000	30, June, '68	16, Apr. 8, '73	6¾	6	6⅞	5⅝	6¾	5¾	6¾	5⅝
Imperial						2	1⅞	....	....	2	2	....	....
Indus			20000										
Insurance		2000	30000		1, May 5, '73	....	....	....	....	....	....	....	....
Julia Gold and Silver M. Co		2000	30000		14, June 9, '73	2½	1⅝	1¾	1½	1⅝	1½	1⅝	1¼
Justice		3000	21000		6, June 24, '73	2½	2	2⅛	1⅞	10⅜	9⅝	11⅛	8¼
Kentuck			95	38000	62, Mch., '70	10, Apr. 25, '73	12½	9¾	11⅞	10½	10⅛	9⅛	9
Knickerbocker		1200	24000		5, Mch. 24, '73	3¾	3⅜	4¼	3⅝	4	3¾	3⅝	2¾
Lady Bryan													
McMeans		3600	36000										
Mint Gold and Silver Mining		1600	50000		1, May 6, '73	1¼	1	1¼	1	1	1	1⅛	1⅛
Nevada		3000	40000										
New York Consolidated		3600	36000		4, May 31, '73	1¼	¾	1½	1	1½	1	1⅝	1
Occidental		800	10000	1, Mch., '69	1, Feb. 8, '73	4	3½	4½	4	4	4	4½	4½
Ophir Silver Mining Co		1400	16800	22, Mch. '64	25, June 24, '73	37	31¾	39	29	34	30½	32	27
Overman Silver Mining Co		1200	12000		26, June 4, '73	39½	34	46	36	38½	31½	36	30
Pine Silver Mining Co		1200	24000										
Pioche		2000	30000		3, June 19, '73	35c	25c	35c	20c	39c	30c	30c	30c
Pioche Consolidated			24000		1, June 20, '73					50c	37c	40c	30c
Rock Island			16000	52, June, '69	9, Apr. 7, '73	147	110	139	120	158	127	162½	127½
Savage		800	6400		4, July 20, '71	53	47½	55¼	48½	55	50	54	46
Segregated Belcher		1160	10000			1½	1½						
Segregated Caledonia			24000		8, June 24, '73			1	1	50	50	62½	50c
Senator Silver Mining Co			20000	11, Jan., '71	30, April 17, '73	12	11	11½	10½	10¾	10	10½	10
Sierra Nevada			54000		1, Dec. 24, '72	22	18	20	19	20	19½	20½	20
Silver Hill			24000			1¼	40c	2	1¼	....	....	....	....
South Overman			22800	2, Oct., '71	5, Nov. 26, '72	2½	2½	2¼	1¾	2¼	2⅛	....	....
Soccor Mill and Mining Co		1600	24000										
Sutro		20	50 0			5	5	5	4½	....	....	....	....
Trench		2250	33000			1	⅞	1¼	75c	1⅛	⅞	87½	50c
Tyler		803	20000		3, June 13, '73	....	....	75c	50c	....	....	....	....
Union Consolidated			20000		2, May 6, '73	2½	2⅛	....	....	....	....	....	....
Utah		1400	28000		11, Mch. 12, '73	3	2¾	2⅞	2⅜	3½	2½	2¾	2
Woodville Gold and S. M		1200	24000	25, Aug., '71	15, Jan. 4, '73	68	61	66	55	64	61	63	59
Yellow Jecket													
NEVADA.													
Adams Hill			50000		3, Dec. 23, '72	....	....	....	....	....	....	....	....
Alps Silver Mining Co		800	30000		4, May 6, '73	1¼	1	1½	1	2	1⅝	1¾	1⅜
Amador Tunnel and Mining					2, May 6, '73	....	....	....	....	....	....	....	....
American Flag Mill and M			30000		2, June 3, '73	6	4	6	4¼	5	4⅝	6¼	5½
Arkansas		300	30000		3, Jan. 18, '73	....	....	....	....	....	....	....	....
Belmont						4	3½	4	3½	3½	3	4	3½
Bowery			30000		3, May 5, '73	1	70c	1¼	75c	3	1¼	1½	1
Chapman Mill and Mining			30000		3, Mch. 4, '73	25c	20c	75c	30c	35c	35c	25c	25c
Charter Oak Silver Mining		1000	30000		1, Mch. 3, '73	....	....	....	....	10c	10c	....	....
Chief of the Hill			30000		2, May 23, '73	....	....	2½	1½	2¼	2¼	....	....
Chief East Extension			28000		1, May 28, '73	10c	10c	15c	15c	40c	15c	40c	30c
Columbus Mill and Mining		10000	50000		3, April 26, '73	....	....	....	....	....	....	....	....
Condor			25000		1, Sept. 12, '72	....	....	....	....	....	....	....	....
Eureka Consolidated			50000	5, June, '73		13½	12	14¼	12½	12½	10¼	12	11½
Excelsior			12000		1, June 20, '72	....	....	....	....	....	....	....	....
Harper Silver Mining Co			30000		1, Jan. 27, '73	....	....	....	....	....	....	....	....
Hermes		1000	30000		4, May 10, '73	8	6	9½	8	12½	7½	8	7
Home Ticket													
Huhn & Hunt Silver Mining		3600	30000		6, May 12, '73	2⅜	2	4	3½	3½	1½	2¾	2½
Ingomar Silver Mining Co		1000	40000		4, Mch. 1, '73	2¼	⅝	75c	50c	87½	62½	75c	75c
Isabella			30000		2, Dec. 31, '72	....	....	....	....	....	....	....	....
Jackson			50000		6, June 25, '73	1¼	1	30c	25c	25c	5c	10c	10c
Juniata Consolidated		5000	50000		1, Jan. 17, '73	2½	2	3¾	3¼	....	....	....	....
Kentucky Gold and Silver		1000	30000		6, June 2, '73	3	2½	2½	2½	2½	1	2¾	2½
Kineton		1000	30000		1, Aug. 28, '72	....	....	....	....	....	....	....	....
Lehigh		1000	30000			....	....	....	....	....	....	....	....
Lillian Hall		1000	15000		2, Jan. 23, '73	....	....	....	....	....	....	....	....
Louise		2400	30000		3, Sept. 15, '72	25c	25c	....	....	62½c	30c	40c	40c
McMahon		1000	30000		4, June 19, '73	....	....	....	....	....	....	....	....
Marion			30000		1, Dec. 24, '72	....	....	....	....	....	....	....	....
Meadow Valley		24023	60000	17, July, '73	7, May 30, '70	23¼	21¾	24¼	22½	23	20¼	21¾	21¼
Mocking-Bird		1200	30000		1, Dec. 5, '72	....	....	....	....	....	....	....	....
Monitor Belmont				2, Mch., '73									
Murphy		2000	60000			1¼	1	1⅜	1	1¼	1	1⅜	1⅛
Newark Silver Mining Co		800	32000		4, Apr. 10, '73	....	....	5	1¼	7	4½	7¼	5¾
Pacific Tunnel and Mining													
Page & Panaca Silver Mining		2400	40000		3, Feb. 3, '73	1	1	1⅜	1	1⅜	1¼	1½	1
Peavine		1000	30000		3, May 12, '73	20c	20c	40c	25c	50c	30c	45c	35c
Phoenix			50000		11, May 28, '73	40c	10c	35c	25c	50c	20c	50c	45c
Pioche Silver Mining Co		1000	20000	3, Aug., '72	3, Feb. 21, '73	9¼	8	9½	8½	9¼	8½	9	9
Pioche West Extension			35000		4, May 16, '73	1	1	1¼	1¼	1	1	1	1
Pioche-Phoenix			40000		3, May 6, '73	3½	2½	4	3¼	4½	3⅜	3½	3⅜
Portland					3, May 6, '73	....	....	....	....	....	....	....	....
Raymond & Ely		5000	30000	22, Feb., '73		61	56	65	61	66	60	62	60
Silver Peak			30000		2, April 3, '73	1½	1	1¾	1¼	1¾	1⅛	1⅝	1½
Silver West Consolidated					4, June 10, '73	....	....	....	....	....	....	....	....
Standard Mill and Mining					1, May 16, '73	....	....	2	2	2	2	....	....
Star Consolidated		18000	50000		3, June 19, '73	....	....	....	....	....	....	....	....
Starlight		6000	25000										
Sterling			30000		1, July 15, '72	....	....	....	....	....	....	....	....
Spring Mount			35000		2, Jan. 15, '73	....	....	....	....	1	75c	....	....
Spring Mountain Tunnel			20000		6, June 20, '73	....	....	....	....	....	....	....	....
Ward Beecher													
Washington and Creole		200	30000		8, April 25, '73	2⅞	2½	2¾	2⅜	2¾	2½	2¾	2¼
Yellowstone													
CALIFORNIA.													
Alpine		1200	12000		4, May 13, '73	....	....	....	....	....	....	....	....
Bellevue		8800	20000		6, April 14, '73	....	....	....	....	....	....	....	....
Calaveras Gold Mining Co		2200	20000		3, Feb. 12, '73	....	....	....	....	....	....	....	....
Cedarberg Gold Mining Co			24000	4, Feb., '73		4½	4½	4½	4¾	4½	4	4	4
Consolidated Amedor				5, April, '73									
Cottonwood Creek			20000										
Dunderberg Mill and Mining													
El Dorado Ind. Quartz M.													
Eureka Gold Mining Co		1650	20000	9, July, '73		21	21	....	....	....	....	....	....
Gillis			24000		1, July 20, '72	....	....	....	....	....	....	....	....
Independent Gold Mining		1800	25000		3, Apr. 2, '73	1	1	....	....	....	....	....	....
Keystone Quartz			10000	1, July, '72		....	....	....	....	....	....	....	....
Mt. Jefferson		1500	25000		4, Dec. 18, '72	....	....	....	....	....	....	....	....
Oakville Quartz Mining Co													
Rye Patch						11¾	7	8½	6	10	7½	9	8
St. Lawrence Milland M. Co					1, Mch. 11, '73	....	....	....	....	....	....	....	....
St. Patrick		1800	20000		6, Oct. 31, '72	....	....	....	....	....	....	....	....
Tecumseh		3000	30000		20, May 28, '73	....	....	....	....	....	....	....	....
Yule Gravel		400	10000	9, April, '72	3, June 4, '73	....	....	....	....	....	....	....	....
IDAHO.													
Empire			25000		3, April 10, '73	½	....	....	....	....	....	50c	50c
Golden Chariot		750	10000	9, Mch., '71	9, May 26, '73	15½	10	15	11	18	14	18½	18½
Ida Elmore		1300	100000	6, Feb., '70	9, Mch. 25, '73	5¼	5	5	4⅜	4¾	4⅜	4½	4½
Mahogany G. and S. Mining		720	10000	1, Aug., '72	9, June 11, '73	11⅜	9	10¾	8½	8	8	7	7
Minnesota Gold and Silver		1070	20000		6, May 21, '73	11	8¾	10½	8¾	11	10½	15	12
Red Jacket						4¾	3¾	4	3⅞	4	3⅝	5	4
South Chicket		660	20000		6, May 23, '73	3	2	3	2	2⅝	2⅜	3	2¼
War Eagle		1000	10000		1, Nov. 4, '72	....	....	....	....	....	....	....	....
WHITE PINE.													
General Lee		1000	20000		6, Jan. 9, '73	1	1	....	....	....	....	....	....
Mammoth Silver Mining Co		1800	36000		1, Mch. 3, '73	45c	40c	50c	45c	45c	40c	....	....
Noonday		1000	20000		14, May 31, '73	....	....	30c	25c	....	....	....	....
Original Hidden Treasure		800	21333	1, June, '70	6, Oct. 9, '72	7½	6¼	7⅝	7	7	6	6½	6
Silver Wave						....	....	40c	40c	....	....	....	....
Ward Becher			24000		1, Nov. 21, '72	....	....	....	....	....	....	....	....
UTAH.													
Deseret Consolidated		2400	30000		1, Sept. 16, '73	....	....	....	....	....	....	....	....
Wellington			50000		1, Nov. 12, '72	....	....	....	....	....	....	....	....
OREGON.													
Virtue		2300	20000			....	....	....	....	....	....	....	....

☞ IN EVERY FRIDAY'S ISSUE of the DAILY MINING PRESS we publish, in connection with this table, the highest and lowest rates of sales during each of the past twelve months.

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	*Location.*	*No. Amt. Levied.*	*Delinq'nt.*	*Sale.*	*Secretary. Place of Business.*
Amador Tunnel M. Co.	Ely District	1 1 00	June 4	July 10	July 30	L. Kaplan, Merchants' Ex.
American Flag M. & M. Co.,	Ely Dist.	2 1 50	June 3	July 9	Aug. 4	Geo. R. Spinney, 320 California st
Arizona & Utah		5 1 00	June 16	July 21	Aug. 12	Joseph Maguire, 419 California st
Baltimore Con. M. Co.	Washoe.	3 75	June 3	July 8	July 31	D. F. Bagley, 401 California st
Bellevue M. Co.	Placer Co., Cal.	6 50	April 14	May 19	July 30	T. F. Cronise. 438 California st
Chief of the Hill M. Co.	Ely District.	2 50	May 23	July 1	July 21	C. S. Neal. 419 California st
Consolidated Virginia M. Co.	Washoe.	15 3 00	June 11	July 16	Aug. 7	D. T. Bagley, 401 California st.
Chief East Extension M. Co.		1 20	May 28	July 1	July 20	R. Wegener, 414 California st
Daney G. & S. Co.		6 50	May 28	July 1	July 25	Geo. R. Sweney, 320 California st
El Dorado Quartz M. Co.	Cal.	10	July 3	Aug 11	Aug 29	G. W. R King, 411 California et
Empire M. & M. Co.	Washoe.	13 1 00	June 10	July 14	Aug. 6	Geo. R. Spinney. 320 California st
Globe M. Co.	Nevada.	3 25	July 2	Aug. 4	Aug. 25	Joseph Maguire. 419 California st
Gould & Curry S. M. Co.	Nevada.	18 1 00	June 9	July 14	Aug. 4	A. K Dnrbrow, room 22, Merch's' Ex
Golden Chariot M. Co.	Idaho.	40 2 00	May 26	June 30	July 21	L. Kaplein, Merchants' Exchange
Hale & Norcross S M. Co.	Washoe.	5 00	July 1	Aug 2	Aug 22	J. F. Lightner, 438 California st
Huhn & Hunt's Canon	Ely District.	6 1 50	May 12	June 18	July 15	T. W. Cobburn. Merchants' Exchange
Hayes G. & S. M. Co.	Robinson Dist.	2 25	May 16	June 19	July 15	Geo. R. Spinney. 320 California st
Hermes M. Co.	Ely District.	4 3 00	May 10	June 16	July 14	B. B. Minor. 411½ California st
Julia G. & S. M. Co.	Nevada.	14 20	June 9	July 12	July 31	A. Noel, Room 20, 419 California st.
Justice M. Co.	Nevada.	6 1 00	June 2	July 28	Aug 18	R. Wegener, 414 California st
Jackson M. Co.	Nevada.	6 10	June 25	July 29	Aug 18	H. C. Kibbe, 419 California st
Kentucky G. & S. M. Co.	Ely Dist.	6 1 50	June 2	July 21	Aug 11	J. P. Cavallier. 509 Montgomery st
Kentucky G. M. Co.	Cal.	4 20	June 23	July 24	Aug 8	Geo. Fletcher, Grees Valley
Lady Franklin G. & S. M. Co	Cal.	50	July 1	Aug 15	Sept 15	J. S. Lutz, 507 Monigomery st
Mahogany G. & S. M. Co.	Idaho.	9 00	June 11	July 19	Aug 4	E. McMeldin, Express Bld'g
McMahon S. M. Co.	Nevada.	4 25	June 19	July 25	Aug. 19	Geo R. Spinney. 320 California st
Minnesota M. Co.		6 1 00	May 21	June 27	July 21	Wm. Willie. 416 California st
New York Cons. M. Co.	Washoe.	4 60	May 31	July 2	July 31	H. C. Kibbe, 419 California et
Noonday M. Co.		14 20	May 21	June 27	July 21	J. Maguire. 419 California st
Ophir M. Co.	Washoe.	26 5 00	June 24	July 29	Aug 18	J. Marks, Merchant's Ex
Overmen S. M. Co.	Washoe	24 4 00	June 4	July 8	July 28	W. W. Stetson, 414 California et.
Peavine M. Co.	Ely District.	4 25	May 12	June 11	July 12	C. F. Balcolm. 420 Montgomery et
Phenix S. M. Co	Nevada.	11 25	May 28	July 3	July 23	Joseph Maguire, 419 California st
Pictou M. Co.	Nevada.	3 20	June 19	July 21	Aug. 8	S. Phillips, 408 California et
Pioche Phenix M. Co.	Ely District.	3 1 00	May 6	June 19	July 11	C. F. Elliott. 419 California st
Pioche West Ex.	Ely District.	4 50	May 16	June 24	July 22	T. W. Colburn. 414 California et
Portland S. M. Co.	Ely District.	1 25	May 6	June 9	July 15	B. J. Gray. 438 California et
Rock Island G. M. Co.	Washoe.	5 50	June 20	July 20	Aug. 12	W. E. Dean. 419 California st
Senator S. M. Co.	American Flat.	8 50	June 24	July 29	Aug 18	Henry Boyle, Stevenson's Bld'g
Silver West Con. M. Co.	Nevada.	4 25	June 10	July 17	Aug 12	F. R. Bunker, 36 Montgomery st.
South Chariot M. Co.	Idaho.	6 50	May 23	June 30	July 21	J. L. King, 411 California et.
Spring Mountain Tunnel Co.	Nev.	6 20	June 20	July 29	Aug 18	J. M. Buffington, 37 N. M. Exchange
Star Con. M. Co.	Nevada.	3 10	June 19	July 24	Aug 18	Geo. R. Spinney. 320 California st
Tecumseh G. & S. M. Co.		20 25	May 28	July 1	July 19	T. J. Herrmann, 418 Kearny st.
Yule Gruvel M. Co.	Placer Co , Cal.	3 20	June 4	July 9	July 29	W. H. Watson, 302 Montgomery st

Other Companies (not on the Lists of the Boards.)

Atlantic & Pacific Con. M. Co.		6	June 20	July 24	Aug. 12	A. Noel. 419 California st
Angels Quartz M. Co.		35	1 50	March 4	April 3	July 16	Geo. Congdon, 408 California st
Auburn G. M. Co.	Placer Co., Cal.	4	50	April 24	June 3	July 15	R. Wegener. 414 California st
Beckwith M. Co.	Ely District.		15	July 7	Aug 11	Sept 2	W. H. Watson, 302 Montgomery st
Brown's Valley Cons. M. Co.		1	50	June 27	Aug 2	Aug 25	R. B. Noyes. 411½ California et
Buena Vista Vinicultural Society	Cal.		5 00	June 12	July 15	Aug. 4	H. Selmer, 409 Battery st.
Bunker Hill M. Co.	Cal.	10	10 00	June 16	July 28	Aug. 28	C. H. Knox, 19 First st.
Caroline M. Co.	Ely District.	1	20	June 20	Aug 8	Sept 4	C. E. Elliot, 419 California et
Central Land Co.	Cal.		1 25	June 9	July 10	July 28	B. F. Haewell, 338 Montgomery st.
California Beet Sugar Co.	Cal.		10 00	May 26	June 30	July 22	Louis Franconi, 314 California et
Cederberg First N. Ext. G. & S. M. Co.	Cal.	3	20	May 27	June 28	July 18	J. N. Webster, 506 Montgomery st
Central Con. M. Co.		20	20 00	June 10	July 15	Aug. 5	W. Hillebrase, 457 8th st. Oakland.
Central Polynesia Land Co. Navigators Is			5 00	May 14	June 17	Aug 5	J. J. Meaburn, 319 California et.
Clear Lake Water Works.			5 00	May 24	June 25	July 12	S. I. C. Swezey, 3 Front st
Commercial Coal M. Co.	Cal.		50	July 9	Aug. 16	Sept. 3	S. B. Hanson. 402 Montgomery st
Daisy Hill G. M. Co.	Grass Valley.	6	50	May 12	July 14	Aug. 2	H. Silvester, 419 California st
Dutch Flat Blue Gravel M. Co.		2	50	May 13	June 14	July 14	W M Helman 401 California st
East Idaho M. Co.	Cal.	1	5	June 18	July 28	Aug 16	P. H. Paynter, Grass Valley
Eclipse & Lee G. M. Co.	Cal.	1	25	June 13	July 19	Aug. 11	A. Treadwell, 411½ California st
Emerald Hill M. Co.	Utah.		25	June 24	Aug 1	Aug 26	F. Madrey, Merchants' Ex
Enterprise Gravel M. Co.	Grass Valley.	21	4 00	June 11	July 10	July 31	M. McDonough, Grass Valley.
Eureka M. & Smelting Co,	Eureka Nev.	1	20	June 4	July 9	Aug. 1	T. P. Beach, 217 Sansome st.
Eliza M. & M. Co.	Siskiyou Co., Cal.	2	1 00	May 1	June 9	July 30	T. F. Cronlee. 438 California st
Equitable Tunnel & M. Co.		2	10	May 5	July 17	Aug 8	C. S. Healy. Merchants' Ex
Frear Stone Co.	Cal.	6	2 00	May 27	June 28	July 21	R. Wegner, 414 California st
Granite Tunnel M. Co.	Cal.			10	June 27	Aug 4	Aug 22	W. G. Holmes, Cor. Wash. & Battery
Grace M. Co.	Schell Creek.	1		10	June 20	July 26	Aug 20	W. H. Knight, 331 Mont. st
Great Blue Gravel Range.	Cal.	3		10	June 12	Aug. 4	Aug. 5	Wm. H. Watson, 302 Montgomery st.
Greenville M. Co.	Plumas Co., Cal.	4	1 00	June 11	July 16	Aug. 4	H. C. Kibbe, 419 California st
Grand Duke Tunnel & M. Co.	Utah.	2		10	May 16	June 23	July 12	H. Kosminsky, 322 Sansome st.
Green Valley M. Co.	Placer Co., Cal.	2		20	May 16	June 21	July 14	A. D. Carpenter. 605 Clay st
Heckerdorn G. & S. M. Co.	Cal.			25	June 9	July 10	July 28	L. Ternc, 734 Montgomery et.
Hasloe M. & M. Co.	Maripova Co.	1		50	May 14	June 28	July 21	J. W Tripp, 419 California st
Hermigiera Mining Co.	Lower Cal.	7	3 00	May 6	July 2	Aug 18	J. H. Applegate. 729 Montgomery st
Lady Eden Tunnel & M. Co.	Utah.	3		5	June 11	July 17	Aug. 3	C. S Healy. Merchants' Ex
La Paz M. Co.	Ely District.			50	June 16	July 21	Aug. 15	W. W. Hopkins. 411½ California st
Lady Emma M. Co.	Cal.	3		30	June 25	July 26	Aug 18	A. D. Carpenter, 605 Clay st
Meridha S. M. Co.	Nevada.	1	1 00	June 9	July 15	Aug. 11	Geo. R. Spinney, 320 California st
Manhattan Marble Co.	Cal.		1 00	June 23	July 24	Aug 11	D. M. Bokee, 319 Pine st
Mazeppa S. M. Co.	Ely District	1	50	May 20	June 24	July 15	N. F. Gane. 320 Sansome et
Newton Booth Con.	Ely District.		50	May 7	June 14	July 12	L. Franconi. 314 California et
Omega Table Mountain M. Co.	Cal.	2	5	June 4	July 5	July 28	David Wilder, Merchants' Ex.
Orient S. M. Co.	Nevada.	2	10	May 14	July 19	Aug. 11	Joseph Maguire. 419 California st
Placer G. M. & Canal Co.	Cal.			10	July 8	Aug 11	Aug 30	Geo. W. R. King, 411 California st
Potrero Land Investment Co.			70 00	June 11	July 14	Aug 4	B. B. Minor, 411½ California st
Phenix Tunnel & M. Co.	Utah.			10	July 2	Aug. 6	Aug. 15	C. S. Healy. Merchants' Ex
Pioneer Cons. M. Co.	Nevada.	1	10	June 19	July 25	Aug. 15	419 California st
Potrero Land Investment Co	Cal.		70 00	June 11	July 14	Aug 4	B. B. Minor, 411

Our Weekly Stock Review.

THURSDAY EVE, July 10, 1873.

The members of the Stock Board having been taking a holiday, the Board did nol convene unlll Tuesday last. Contrary to general expectations, the market was dull, stale and unprofitable. Little business has been done during the week and prices bave been low. There is little news of interest from the mines. The Belcher has declared a dividend of $8 per share, amounting to $432,000 payable to-day. Last month it paid $10 per share, or $1,040,000. Crown Potat pays this month only $4 or $400,000, whereas last month it declared as dividends $1,000,000. The reason for the fall was breakage of machinery and other unlooked for mishaps which naturally decreased the ore production. Meadow Valley pays its usual $1 per share or $60,000. Eureka, (Grass Valley) pays $t per share, aggregating $20,000. The Raymond & Ely mine has again passed its dividend. Underground work in the mine has been suspended for the present until the extensive surface repairs and alterations in contemplation and under way are completed. An immense amount of machinery for the mine is on the way there. The Crown Point carries over to next month's account $400,000.

The Comstocks this week have been very dull, little business being done in them, and prices declining. On Wednesday the whole list broke down, and at close Belcher was $1.50 lower; Balt. Con., $1; Chollar, $5; Gould & Curry, $1; Hale & Norcross, $5; Ophir, $4; Overman, $5; Savage, $30; Seg. Belcher, $8; Jacket, $4. The decline in Savage was the feature of the day.

To-day the market looked up a little, and prices advanced to some extent. The fluctuations, however, were slight.

The following items of interest from prominent mines are collated from letters or telegrams from superintendents on file at the offices of the respective companies in this city.

Belcher.

Dispatch of the 8th says south crosscut, 1200-foot level (305 feet south of the line) shows some ore in face. No change in 1300-foot level crosscut. South face, sill floor, improves. South drift in fine ore. General progress of mine very fine. Car samples, $82.

Dispatch of the 9th says the south crosscut, 1200-foot level, shows some splendid ore. The crosscut on the 1300-foot evel remains unchanged. South drift, 1300-foot level, still in splendid ore. Assay $78 per ton.

Buckeye.

Letter af the 7th says have na change to report from company's mine. Shipped to-day one bar of bullion valued at $1,196.88. Ore clipe for the 3d 16 tons 650 pounds.

Crown Point.

Dispatch of the 8th says that on the 1400-foot level crosscut they have about two-thirds as much water as they can handle. Winzo of the 1200-foot level is in fias ore, and if the first wall keeps its present course it will be about thirty feet yet to the east wall. In the crosscut from the sill floor they started a winze from the 1300-foot level on the east wall and about 275 feet in a direct line north of the Belcher. The winze is down four feet, is $100 ore. No change elsewhere.

Dispatch of the 9th says we have three drill holes in face of 1400-foot level crosscut, 17 feet deep, and also another in 13 feet. Will run it 20 feet in if necessary. Think this hole will give us all the water we can pump. Have made no progress in sill floor crosscut, 1300-foot level, since last report. No change elsewhere.

Chollar-Potosi.

Letter of the 8th says during the twenty-four hours ending morning, 123 tons of ore were taken from the mine, and and 60 tons, 100 pounds forwarded to mill. Work at all points of the mine is fully resumed. Water supply as pumped from the shaft is adequate for steam making purposes, also for fire, should any occur. East crosscut on fourth station, has some quartz showing some metal. Nothing important at this writing.

Caledonia.

Letter of the 8th says the face of the main drift at the second station is now exceedingly hard blasting rock. Has touched the south drift. There is nothing new to report, the ground still continuing tough, and the work is of course slow.

Equitable Tunnel.

Letter of the 4th says there ie no special change in the appearance of the rock in this tuanel, streaks still continue, and the rock looks as favorable for ore still as at any time since work was commenced, and we feel confident, from indications, that we are in the vicinity of ore. The appearance of the rock ie precisely the same as it was before the vein was struck. Work will be got on more rapidly the coming week, as no one was working this week. It will be run night and day in this until contract is finished.

Gould & Curry.

Letter of the 8th says the pumps are rapidly reducing the water, accumulated during the stoppage, on the 1600-foot level. The air gallery connected with the Savage mine is nearly timbered. The passage of air currents through this connection is rapidly reducing the temperature of the various parts of the mine. From this point we have started a crosscut to the east at a point 100 feet distant from the southern boundary. On the tenth, or 1500-foot level, we are still advancing with the northeast drift, on hard material. On the second level we are extracting a few tons of ore of a paying quality daily.

Lady Esten Tunnel.

Letter of the 4th inst. says the contract closed on the tunnel on the 3d. The entire length of the tunnel is 360 feet. From hroast to surface, 155 feet. The rock for the last twenty feet has not been very encouraging, rather barren, not mineral rock. A change is evidently taking place, spar and lime coming in on the right, and looks decidedly more favorable. The air pipes will have to be put in before the tunnel is driven any farther. Have concluded to start a drift on the vein of pyrites of iron and peacock copper, and test it, but shall not go far unless it improves.

Ohio Con. G. M. Co.

Letter from the Superintendent under date of the 7th says that the chimney in south drift has been proved for 18 feet in length thus far, it has narrowed down, but indications are that it will soon widen again, the chimney has only been worked for 60 feet in depth, from the top in old works, which leaves a body of ore of 100 feet overhead to stope out, which will mill $50 per ton. The cross drift to the east vein still continues very hard; only able to make one foot in 24 hours it is expected, however, that the lode will be reached during the present week. The second clean-up from the mill will be made by Monday, which will give the result of 100 tons in full.

Page & Panaca.

The work is progressing favorably and as fast as possible with no new developements.

Mining Summary.

THE following is mostly condensed from Journals published in the interior,in proximity to the mines mentioned.

California.

AMADOR COUNTY.

OTIS MINE.—Amador *Dispatch*, July 5: We were shown a very rich piece of quartz which had just been taken out of this mine near this place, now being prospected by Mr. Pierre David. The piece would probably weigh about 75 or 80 pounds, and was literally studded with sulphurets, interspersed with numerous particles of free gold.

CALAVERAS COUNTY.

OHIO CONSOLIDATED.—This mine, located one mile east of West Point, shows tangible symptoms of a valuable mine. The property consists of two parallel veins some 100 ft. apart. The main shaft, on the west vein, is 160 feet in depth, at the bottom of which, levels are being run north and south. A transverse drift is also driving towards the east vein which the Superintendent expects to tap in a few days. About 50 tons of ore were crushed at Harris' mill, which yielded over $25 per ton. The mill is running again on similar ore from the same stope. Judicious management of the mine gained a victory in spite of adverse circumstances, and the present Superintendent should receive the praise he has merited.

DURYEA HYDRAULIC CLAIM. — Calaveras *Chronicle*, June 5: Work is being pressed forward energetically in the mine with the most satisfactory results. Acres upon acres of the ridge—the gravel being over 100 ft. deep, having been washed away, and still scarcely a commencement has been made towards working out the claim. 300 inches of water are constantly used, and the mine is fully supplied with all the modern appliances for working to advantage. A monster derrick has recently been erected for removing the cement lately uncovered, and the machinery works as well as could be wished. The mast is sixty feet in height and the boom fifty feet in length, both being massive timbers capable of sustaining almost any weight. The derrick is operated by means of two hurdy-gurdy water wheels, on the same shaft so constructed as to permit of reversible action. The derrick greatly facilitates operations by removing the rocks from the mine rapidly and with but little expense, allowing the hydraullo unobstructed play upon the bank of gravel. A short time since a blast, composed of 14 kegs of powder, was exploded under a point of the bank that was so hard as to be "piped" with difficulty. Two tunnels were run in a considerable distance and transverse drifts dug accross their inner extremities in which the powder was placed. This blast did good execution, shattering the bank and loosening the gravel for a considerable distance. The Duryea claim is the most extensive and profitable in the county.

BREWN & COOGINS have run an incline 200 ft. in length, to the bottom of the tunnel. The claim is on the famous Tunnel ridge lead, which has paid continuously for miles. The channel has but recently been reached and the work of getting the claim in shape for profitable working is just completed. The gravel taken out pays handsomely, and we feel certain that the mine will shortly rank among the first in the district. The gravel is brought up "out of the depths" in cars drawn by mules.

BRACKETT & CO.—This mine is an old one, from which thousands of dollars have been extracted, but a new tunnel has lately been run for the purpose of tapping the channel higher up the ridge. The tunnel is 400 ft. in length, the greater portion of the distance through solid bedrock, straight as an arrow and one of the handsomest pieces of work of the kind we ever saw. The channel is just reached and the gravel looks excellently well. No washing has yet been done but the claim is known to be a good one beyond a peradventure. A battery is to be erected, for the purpose of crushing the gravel, as soon as the new diggings are fairly opened.

SIMPSON, VEITH & SHEAR.—This is one of the most extensive and promising claims in the county; 300 inches of water, with a pressure of 200 ft., are brought to the mine in a 11-inch iron pipe and projected against the bank with prodigious force. The claim is one of the best fitted-up of any we ever saw. The appliances connected with it being first-class. The company own a large area of ground, and the washing, so far, has paid beyond the most sanguine expectations. The bank is about 80 ft. in height, and contains gold from the bed-rock to grass roots.

MOZER & HOWARTH.—The work that has been accomplished by these gentlemen is truly surprising. When they commenced operations, about two years since, the entire gulch was filled with tailings from the mines in the ridges on either side, to the height of from 40 to 75 ft. The debris has been washed away down to the bed-rock, for a considerable distance, thousands of inches of water being at times employed in the work. The water was collected in reservoirs at the head of the gulch, and when filled the flood-gates were hoisted, the deluge sweeping the tailings with irresistible force down the ravine. The gold settled to the bottom of the gulch, and now the auriferous gravel is being shoveled into sluices. We learn that the claim is paying splendidly. From six pans of gravel $300 were obtained. A clean-up is to be made shortly, when we look for a larger yield, in proportion to the quantity of gravel washed, than ever obtained in this vicinity.

NEVADA COUNTY.

MANZANITA CLAIMS.—*Transcript*, July 1: The Manzanita Mining Co. made their first clean up for the season yesterday. The result was 641 ounces of gold, and the yield has been excellent. There is yet a large amount of work to do fitting up the new and lower tunnel, which it is expected will be ready for mining by the beginning of next season. The new tunnel is much lower than the present working point, and will enable the company to work to better advantage.

RICH STRIKE.—Novada "Transcript," July 2. The Gold Run Mining Company, on Gold Flat, have made a rich strike. A few days ago they cut the ledge, which is a foot and a half thick, and it is estimated the rock will pay from $60 to $80 per ton. In a day or two they will commence drifting on the ledge from the old works, which were lost some years ago. Having struck the rich shute they will soon be getting out good pay. The prospect of this Co. is highly encouraging.

CEDAR QUARTZ MINE.—Placer *Herald*, July 5: Owned by Mr. James Nickerson, located on Wolf Creek, about two miles north of Gautier's Toll House, on Bear River, is proving to be one of the most important in the State. The ledge is some 30 ft. in width; is full of sulphurets, which yield gold, silver and copper. Its course is northeasterly and southwesterly, the entire length of which is 4,600 ft., following along and through the bed of Wolf Creek for 1,400 ft., at which point an abrupt turn of the creek is made, and the ledge pursues its course through a high and precipitous bluff, but showing its croppings the remainder of the distance. Two shafts are sunk at the foot of the bluff, and a tunnel 130 ft. in length, at a depth of 40 ft., is drifted along the course of the ledge. The rock is looking well and shows minute specks of free gold. Samuel Bethell, U. S. Deputy Mineral Surveyor, has just completed the final survey for patent, and likewise made surveys for a water ditch. He finds that at a distance of one-half mile from mill site a fall of 40 ft. can be obtained on Wolf Creek and an excellent point for a dam secured, together with plenty of free water, thus securing force to drive a 40-ft. over-shot wheel at comparatively small expense. A gang of men (some Chinese) are grading a road from the old Grass Valley Toll Road, a distance of some 2 miles, to the mine. A new dwelling-house, boarding-house, blacksmith-shop, stabling, etc., are nearly completed, and appearances indicate that work in earnest is commenced, and a full development of this promising mine will be made. Judge Goodwin, late of Nevada, has recently purchased an interest of Mr. Nickerson.

CHERRY CREEK.—White Pine *News*, June 28: George W. Doane has returned from a trip to Cherry Creek and vicinity, and has exhibited some specimens found by him in that locality. We have no hesitation in pronouncing such rock as we saw, the richest that any section ever produced, and its similarity in general appearance to that found in the Comstock, leads us to the belief that a rich camp has been discovered. The presence of particles of pure gold and silver, in different varieties of rock, proves its richness, and the quart formation in which it is embedded, adds additional proof as to its extent and permanent veins. He says that as great many miners, prospectors and speculators are daily making their appearance in the new camp, and all express unbounded faith in its future.

TUOLUMNE COUNTY.

THE EXCELSIOR.—Tuolumne *Independent*, July 5: Last week cleaned up out of 20 tons of ore, 62½ ounces melted gold—which will net about $1,200.

Water has failed at the Spring Gulch Mine, and the chances for more ars slim until the rains set in.

The miners at Cherokee have plenty of water since the farmers in the hills have stopped irrigating their clover.

Funck & Co., Cherokee, from a run of eight days, (crushing 40 tons of rock in their five stamp mill,) brought into camp, on Monday, 54 ounces of gold.

CORDOVA.—The prospects in this mine are good. Frank Prudhomme, the owner, has sunk an air shaft from the top to the tunnel. Will probably crush a small batch of rock next week.

NEW MILL.—The Golden Gate Quartz Co. have contracted for a new ten stamp mill. The Seeber Bros. have the contract for building, Bradford & Way; the lumber; and Phelps, Shepard & Cowie, of the Sonora Foundry, the machinery. Excavation for a foundation has already been commenced.

The claim just north of Capt. Eskin's, at Columbia, still holds good, and is paying $5 per day to the hand, although worked in the primitive manner peculiar to Chinamen. The place was formerly the garden of John Alexander, who sold the ground to the Chinamen for $550. They have already taken out several thousands of dollars, and to-day the mine is worth hundreds more than was originally paid for it.

RICH CLAIM. — Some very rich dirt is now being taken out of Capt. Eskin's claim, in the old reservoir, Columbia. Several pieces of from 75c. to $1 have been picked out of the bank of earth they are washing, and the prospects are that the pay-gravel will run deep. A company of Chinamen are very anxious to purchase the claim, and have offered $4,000; but the Captain's price is $6,000, exclusive of the pipe and flume. The probability is that the Celestials will finally raise the cash and close the bargain, as they are now in correspondence with parties below.

PATTERSON MILL AND MINE.—After three weeks' run with his new twenty-stamp mill, Mr. Hughes has cleaned-up. The result is most gratifying. It has exceeded the most sanguine expectations. The rock crushed was not selected, and the gold bricks produced are convincing proof that this mine and mill will take a high rank among the gold-producing institutions of the county. The sulphurets, which yield a large assay, are collected in large tanks, and Mr. Hughes intends to erect apparatus to work them, and thus add to the magnificent returns which he is already receiving.

WONDER.—Quartz vein, on Fox Gulch, west of Columbia, owned by D. H. Crocker & Co., is proving true to its name. The rock prospects splendidly, showing free gold in every piece, and the casing is also exceedingly rich. The vein, including casing, is 2½ ft. wide, and in the tunnel just started gives every indication of increasing. Mr. Knight, an expert from below, visited the mine on Friday of last week, and expressed himself well satisfied with the prospect.

GOOD ROCK.—Twenty-eight tons of rock taken from the Horse Thief mine near Jesus Maria, lately paid $700 — an average of $25 per ton. The quartz was crushed in the arastra connected with the mine. We learn that the lead is developing well and that the prospects of the mine are very flattering.

Nevada.

BRISTOL.

HERCULES.—Work during the week has been principally of a nature preparatory to operations on a larger scale than heretofore.

SULTAN.—The ledge has widened in sinking during the past week, and is now fully 10 ft. wide, showing throughout its width ore of fully as good an average quality as previously.

ELY.

ALPS.—Pioche *Record*, June 29: Work is being rapidly prosecuted on the lower drift from the main shaft, which is now in about 250 ft. It is expected the ledge will be struck at about the distance of 280 ft. From the stopes and drifts on the 164-ft. level the same quality of ore is being extracted. About two tons of first-class ore is being raised daily.

PEAVINE.—No material change to note. The ore throughout the mine is fully equal in quality and quantity to the developments of the past few weeks.

RAYMOND AND ELY.—Underground work has been suspended for the time being, until the extensive surface repairs and alterations in contemplation and under way are completed. An immense amount of new machinery for this mine is now en route from Palisade to this place.

SOUTH SIDE.—This location—a home incorporation—is situated just above the crest of the mountain, some 450 ft. beyond the water tank. The shaft was started in hard blue limestone, and has now attained a depth of 100 ft. At about 75 ft. the character of the limestone changed, and is heavily stained with mineral.

AMERICAN FLAG.—Shifting the main shaft, and crowding the work with all possible dispatch. Shipping ore constantly to the mill, which is running on full time.

PACIFIC TUNNEL.—A contract of 100 ft. has just been completed, making the extreme length of the tunnel 1263 ft. A new contract for from 100 to 200 ft. will be let to-morrow. Indications of the close proximity of a main ledge are unmistakable. For some distance past, bunches of ore have been cut in the tunnel, some of which assayed very high.

HAVANA.—Shaft 320 ft. deep; vein 9 ft. wide; all ore. About 10 inches from the foot-wall is a streak of ore 30 inches thick and of extraordinary richness.

EXCELSIOR.—Still drifting from the new shaft at a depth of 180 ft. to make the connection with the old workings. As soon as this is accomplished, ore will again begin to come to the surface.

BOWERY.—A great change for the better is noticeable in this mine. Everywhere throughout the stopes an improvement is visible. There are now about 50 tons of magnificent ore on the dump, equal if not superior to the rich ores that made the name of the Bowery famous in the past history of Ely District. Expect to commence crushing again on the 1st proximo, or as shortly thereafter as the mill can work for them.

PIOCHE.—Working the usual number of hands and raising about five tons of ore per day. Expect to resume crushing on or about the first of July.

CHIEF OF THE HILL.—Have completed the raise from the 150-ft. level, Wright's shaft, and drifted 20 feet from the top of the raise, the drift showing a little ore all the way. The Wright shaft is now thoroughly timbered from top to bottom for the distance of 210 feet below the level of the tunnel, and sinking is now going on night and day. Taking out ore all the time; 40 tons on the dump. The stopes appear to be improving as they are raised upon.

SILVER PEAK.—The grading is completed for the reception of the machinery now on the way. This machinery, consisting of one 8x16 engine, with all the modern appliances and improvements that can make the works a success, has been heard from en route, and may be expected to arrive about the 2d proximo. The incline is being put in thorough order, and is being solidly timbered—preparatory to permanent and extensive work. Pending these changes, however, the raising of ore, is, for the time being, necessarily suspended.

ORIGINAL DEXTER.—Drifting both ways from bottom of incline. Plenty of good ore in sight.

MEADOW VALLEY.—Pioche *Record*, July 5: No change to note. Shipped $150,000 this month.

MAZEPPA.—The hoisting works have been completed; steam was raised on Monday the 23d, and sinking the main shaft resumed.

ORIGINAL DEXTER.—Pioche *Record*, July 6: Still running drifts in ore. In the south drift the vein is fully 3 ft. wide, and in the drift to the north it is over 4 ft. There are about 60 tons of rock on the dump—some of it very high grade. We recognized considerable ore that was the exact counterpart of the rich, dark-colored ore that first gave the Alps mine the prominence it has since so well maintained.

PIOCHE PHENIX.—Mr. Nelson has recently been appointed Superintendent of this mine, vice Captain Hardy, resigned, and work, which for a long time was suspended, has been resumed.

CHAPMAN MILL AND MINING CO.—Running a drift for the ledge from the 420 ft. level with favorable indications. The rock in the face is now deeply stained with mineral, and in all probability it will not be long before the ledge is reached.

LOUISE.—Drifting on a narrow seam of ore, cut last week in the 200-ft. level. The ore is a rich chloride, assays going over $200 to the ton. It is believed that this will lead to a large body of ore.

VULTURE.—Shaft between 85 and 90 ft. deep. More ore is coming in, and the general prospect may be said to be exceedingly good.

CAROLINE. — Captain Hardy, Superintendent of this mine, goes to the Bay in a few days, to be absent about two weeks, and on his return work will be resumed on a larger scale.

ALPS.—The face of the drift running from the ledge at the lowest level is now in hard white quartzite, and expect to strike the ledge very shortly. Elsewhere no important change to record.

PIOCHE.—Working the same number of hands as last week, and extracting about the same daily average of ore.

SILVER PEAK.—The machinery for the new hoisting works is now on the ground, and will be put in position with all possible dispatch.

EXCELSIOR.—Nothing new to note. Drifting from the new shaft continues.

LA PAZ.—Sinking the winze on the ledge and taking out some excellent ore.

PEAVINE.—Working full force, and piling up good ore on the dump.

SPRING MOUNT.—Pioche *Record*, July 6: This Co. is sinking to strike the Spring Mount lode, which is undoubtedly identical with the famous Burke ledge. In the upper works they struck 3 very large and well-defined ledges, but the ore was not considered rich enough to pay for working at present. The main shaft is down 350 ft., and is being driven night and day with three shifts of hands.

SOUTH SIDE.—Sinking the shaft, and averaging one foot to the shift.

PORTLAND.—Working the usual number of men and raising ore all the time.

BOWERY.—The rich ore noticed in our last still continues, with good promise for the future.

RAYMOND AND ELY.—As noticed in our last Review, underground work has been suspended for a while, pending the erection of the new hoisting works. Part of the machinery arrived during the week.

MEADOW VALLEY.—No ore is being raised at present through the shafts on No. 7 and No. 5—everything coming through the No. 3 shaft—though in point of fact it hardly deserves the name, when taken in connection with such a mine as the Meadow Valley, being small and crooked. In size it is only 5x3 feet, and of this only two feet nine inches is devoted to the bucket, which is necessarily small in order to raise the requisite amount of ore to the surface to run the mill. The lack of carrying capacity has to be made up by a speed of 800 feet a minute. The wear and tear is tremendous, so that the same kind of rope that was formerly used three months, now outy lasts 24, or at most 28 days. As soon as a connection is made with No. 5, where are the main hoisting works of the company, everything above and including the 7th level, will be worked through that shaft. This connection will certainly be made by the 1st proximo, by which time it is expected that the new works on No. 3 will be completed. The new engine has a 12 inch cylinder, and is rated at 40-horse power. It was made at the Risdon Iron Works, San Francisco. Thirty-six tons of ore are now being raised daily, notwithstanding the difficulties to which we have alluded, and it is certainly fully as rich as any we have ever seen from the mine. The bullion shipment for June was in the neighborhood of $135,000.

HIGHLAND.—HAMBURGH.—The vein in the shaft is gradually widening and is now a good three feet. On Thursday last, in the bottom of the shaft there was struck a narrow streak of a white and blue decomposed ore that assayed $350 to the ton. They will commence crushing ore from the Hamburgh at the Mendha mill about the first of August.

GEORGIA.—Driving ahead on the tunnel Ledge looks well.

MENDHA MINE AND MILL.—The mine looks well throughout and the mill is running steadily on its ores, with very satisfactory results.

OTHELLO.—Tunnel in on the ledge 60 ft., and shaft sunk at the end of the tunnel on the ledge about 12 ft. The vein is from 2 to 4 ft. wide, mostly galena ore, carrying a high percentage of silver. An average of thirty assays made by Mr. John Cahill gave a little over $180 to the ton. Notwithstanding the presence of galena, the mass of ore has been found to be of a good milling quality. Work on this mine, which has been for some time suspended, will be resumed next week.

CHIEF OF THE HILL.—In the drift at the head of the raise from the 150 ft. level from the Wright shaft, have made 23 ft. during the past week, and expect to make the connection with the works of the Chief East, in about a week more—sinking all the time. Working the usual number of hands, and taking out ore steadily. About 50 tons of ore on the dump. Mr. Cook, the foreman, showed us a specimen that to our minds cannnot be beat in the camp. We have seen all the beautiful specimens in the show windows and cabinets in town, but nothing finer than this; and what makes it more gratifying is the fact that there is plenty of it.

WASHOE.

UTAH.—Gold Hill *News*, July 5: Sinking in the new shaft of the Utah mine will be resumed on Monday next.

JULIA.—In the Julia the east drift at the 800-ft. level is being driven ahead, and at the 1000-ft. level the south drift is running alongside the ledge.

SENATOR.—The shaft of the Senator is down 375 ft., in the same encouraging character of vein matter as last reported.

MINT.—The upper tunnel of the Mint is in 150 ft., with two crosscuts into the ledge, showing very favorable-looking ore, and the Jacob Little has developed a good body of ore in the second crosscut.

IMPERIAL.—The Imperial turns out about 80 tons daily from the lower levels. Drifting both north and south at the 1400 and 1500-ft levels of the Yellow Jacket develops only excellent indications as yet.

CROWN POINT.—The Crown Point machinery is running all right, and the daily yield of the mine has increased to over 400 tons. In crosscutting for the ore vein, at the 1400-ft. level, the drill is kept running in ahead as a precautionary measure, guarding against a great rush of water.

BELCHER.—The Belcher is yielding over 500 tons per day. The 1300-ft. level continues to show improvement and the face of the main drift south is all in first-class ore. The main incline is now down below the

(Continued on Page 28.)

Largest Grape-Vine in the World.

California is noted for its "big things" the world over, and "we to the manor born" have, in oonssquencs, to be more careful in our assertions than those of other climss. But sven while ths average Californian feels not the slightest prickings of conscience when recounting the bsauties of his Goldsn State, people who have never crossed the continent are apt to maks some allowance for the sxaggeration which custom has long psrmitted travelers to indulge in. We have the largsst mines, ths largest valleys, the largsst farms—but why recount the many natural peculiarities of our thrice-fevored clime, which are so well known to all of us on the shores of the Pacific, though but half believed in away from the sound of its waters? One thing, however—the pride of the "lower country" has so obtruded itself upon publio notics, that its claims to notoriety are universally conceded. Ws refer to ths Santa Barbara Grape-vine, a rspresentation of which is given on this page.

Most natural curiositiss and localities of note have connected with them some little bit of romance, which lends an additional charm to the quist of a ruined church or towsr, and softens the ruggsd weather-beatsn sides of rocky heights, or lightens up a gloomy chasm as sparkling forth do the dark watsrs of a mountain stream. So it ie with this California wonder. We are told—no matter by whom; euch thinge should not be traced too rudsly—that a Spanish lady, when starting from Sonora on horssback, had given to hsr by her lovsr, a branch from a grape-vine, to be used as a riding-whip. She must have cherished this as a memento aside from its ussfulnese, for when she arrived at Santa Barbara, aftsr hsr long journey, she planted the branch, which has since grown into notoristy as the laigest graps-vine in the world. How long ago it was planted is somewhat uncsrtain. Some sey the Spanish lady came here bsfore the beginning of the present century. Others say the vine is 40 years old, and still othsrs say 48 years. Like many other things, evsn of rscsnt origin, the dates in connection with it are uncertain—though the grapes are not.

This famous vine is situated about thres miles and a half from the town of Senta Barbara, in the court-yard of an old adobe house. The trunk is fonr fest fonr inches in the largest part. It begins to branch out at about six or sight fest from ths ground, and is then supported on framework, which it covers as a roof, as shown in our illustration. The whols vine, supported on the framework, now covers over an acre of ground. Ssveral of ths limbs ars as much as tsn inches in circumference at a distancs of 25 or 30 feet from the trunk. Ths annual yield of grapes from this mammoth vine is from 10,000 to 12,000 pounds. The clusters of grapss average, whsn ripe, from two to two and a half pounds each. The vine is on rather high ground, and it is stated that the ground about it has never besn manursd at all. The soil under it is hard, and ths Spaniards dance undsr the shadow of the leaves of the vine, which form a completely sun-proof covering of living verdure. Thie vine by ite product eupported the old woman who owned it for many years. Another vine, near by, bids fair to rivel the "father of all vines," the fruit from it rather excelling that of the "big vine." A emall stream of water runs near both vines, which probably helps their growth.—*Ill. Press.*

THE SANTA BARBARA GRAPE-VINE.

Mixing Colors.—When different colore are mixed together, the reeult is not the destruction of any of the coloring elements, nor their chemical combination. The microscope ehows that the particlee of each of the colors entering into the mixture remain entirely separate and unchanged.

Fidelity, good-hnmor, and complacency of temper, outlive all the charms of a fine face, and make its decay invisible.

A Revolution in the Production of Butter.

Statemsnts havs been widely publishsd describing the msthod of manufacturing so-called butter from animal fat, as it has been carried on in Francs. The Nsw York *Sun* gives an account of what is now being done in New York. It is to bs presumed that thsre will be considerable room left for the old-fashioned kind of buttsr for soms time to coms, and at prices that will justify making. We copy as follows:

A company has bsen orgenized in this city, with a capital of $500,000, for the manufacture of butter. It is claimed that ths buttsr is genuins, the means of producing it being alone artificial; in other words, the discovsrsr affirms thet ths article is not merely butyrous, but in every respect the complete and psrfect thing, as agreeeble, nutritious, and usabls as the bsst Orange county butter. A gentleman of recognized ability as a chemist is the fortunate introducsr of this nsw wonder. Several persons of wealth havs bought stock, and in a week or two the manufacture will be conducted on a vsry large scale. The temporary offices of the Oleo-Margarine Manufacturing Co., as the corporation is called, ars at 40 Broadway, and their manufactory at Forty-fifth street. Arrangements have bsen made for securing better accommodations in Fiftieth strest, and very soon the markst will be fully supplied with the new product. At pressnt the demand for the article is so great that it is beyond the capacity of the company to supply it. The profits are expected to be over 100 per cent.

Fashionable Hotel Butter.

As this city-made Orange county bntter is need in many of the most fashionable hotels and restaurants, both for cooking and for ths table, it may be interesting to the readers of *The Sun* to lsern something of the method in which it is made. In the first place agents are employed to visit the slaughtsr houses and to buy up all the beef fat usually styled suet. This suet is carted to the buttsr factory and cleansed. Then it ie put into ordinary meat choppers and minced fine. It is afterward placed in a boiler with as mnch water in bulk as itself. A eteam pipe ie introduced among the particles of the suet and they are melted. The refuse or membrane goes to the bottom of the water, the oily substance floats and ie removed. Thie latter consiets of butter matter and etearine. A temperature of 80 degreee melte the former and leavee the stearine at the bottom. The butter metter, or cream, is drawn off; then about thirteen per cent. of freeh milk is added and the necessary salt, and the whole ie churned for ten or fifteen minutee. The reeult is Orange county butter at about one-half the ueual cost.

The stearine is sold at twelve cents a pound to the candle maker, and the refuse at seven cente a pound to the mannfacturer of food for cattle.

Butter for Summer Tourists.

All the leading eteamship lines between here and Europe are to be supplied this Summer with this newly invented butter. In taste and appearanes it is precisely similar to the finsst country butter, made from the milk of live cows. Several of the leading msn in the bntter trade have pnrchased stock, as have also many of the steamship linss and the proprietors of the lsading city hotsls. Prof. R. Ogden Doremus has testified to the success of the nsw method of butter manufacture, and prophesies great prosperity for the new corporation. Prof. Paraf, the discovsrsr, expects that the new product will drivs live cow buttsr out of the market altogether. The few unscientific outsiders who are acquainted with the facts now first made public, regard ths whole thing with amazement. It seems extrsmely odd to them that the same carcass which furnishes a fresh steak for breakfast should also supply the Orange county buttsr which they spread upon their accompanying hot rolls.

Admitting all that is stated in the foregoing to bs true, as rsgards ths process of manufacture and quality of the product, yet we fail to psrceivs the immsnse advantage claimed for the nsw process. To gst at ths "buttsr matter," as it is called, the animal must needs be killed; which ssems very much like "killing the goose that laid the goldsn eggs;" and yet the number of animals necessarily slaughtered for bsef, would undoubtsdly afford a considsrable supply.

All of this suet supply is not in the possss-sion of the new styls hutter mekers; they will have to buy their stock from the butchers; and how long would it be after it was known that these patent butter makers were making a profit of "100 per cent." ou cost of the suet, befors the butchers would put up the prics of ths same. So ws will rest easy, believing that California made buttsr, by the old process, will not wholly go out of fashion, in any event, not before we can dispose of our Stete's considerable stock of cows.

New Lake.—The Ventura *Signal* bas the following: Some distance up the San Buenaventura river, on the Saxby & Gilbert ranch, there is a beautiful little lake in the mountains, probably 500 feet above the sea, which hae been recently formed by the sliding down of an immense backbone of earth and rocks, entirely closing the place of egreee to the water, which, in the Winter comee ponring down the barancas and mountain sides. The lake affords a plentiful supply of fresh water for any number of cattle and sheep, and is clear and cool. The trees which stood in the bottom of the ravine are now almost lost sight of in the water, their dead tops only being visible above the surface.

The Colorado Desert.—A thorough and complete eurvey of the Colorado Desert, east of San Diego, with a view of ascertaining the practicability of turning the Colorado river into the Desert, and thus reclaiming vast tracts of land, is to be made by Mr. J. E. James. He is said to be backed by heavy capitalists.

Erroneous Wheat Estimate.

In our recsnt June 28th nnmber, we gave a tabular statemsnt copied from the Secramento *Record*, that now appears to us to be wrong somswhsrs. That statement put the total yield of whsat for 1872, at 12,701,000 csntels. Now the commercial records of ths port of San Francisco show, that ovsr 11,000,000 of centals of the crop of 1872 havs already besn shipped to foreign ports; whilst the quantity required for ssed and the year's consumption conld not have hesn less than 4,500,000 centals; which addsd to ths 500,000 centels of the old crop now on hand, would carry the yield of 1872 altogethsr above the *Record's* estimate of 12,701,000 centale as the total yisld. Will the *Record* set us right in the matter, and show us upon what it bases its estimate for an increased yield the prssent year over that of the last.

We think it a mistake of that portion of the press of ths State, which over-estimatss the probable yisld. It is doing the farmsrs an injury; for with every statement, up goee the prics of sacks one or two cents or more. As long as it was belisved that ths orops would be light, or less than last year, sacks were reasonably low; and the same condition also affects the price of frsights. The shipping "ring" would have evsry farmsr believe that there are again, this year not ships enough to frsight the wheat, and having nsarly all the tonnage to thsmsslvss, up goes the freight.

Now the facts undoubtedly are, that the crop cannot possibly excesd that of last year, and as there are ships enough chartered to take the whole crop away in reasonabls time, the probability is that if farmers do not crowd ths markst till it absolutely chokes, there will be no riss in freight. Lst the farmers hold on to every bushsl of wheat they can till it is wanted, actually callsd for to complets cargoes and a fair prics will be obtained for evsry bushel of our surplus.

There ars several large farmers in different parts of the State, who are making arrangements to store their grain in bulk, determined that the rapacions maw of the middlemen and "ring" managers shall no longer nttsrly consnme the whole cost and profit of production.

The farmers through the action of the Granges should combine—and in a year or two will—and procure their own ships and ship their own wheat; and show to the plundersrs of their hard earnings, that they are entirsly competent to manage thsir grain interest, and possibly to some considerabls extent the political affairs of the State.

Sounding the Pacific.—The Navy Department, for several days past, has had under consideration a proposed lins of soundings, between the Amsrican and Asiatic continents, acrose the Pacific ocean. Instructione have besn sent to Commander Belknap, commanding the U. S. eteamer "Tuscarora," in this city, in regard to the immediate execution of thie work. It is proposed to make two lines of soundings—one on the arc of the great circle, and the other by a more sontherly route. The former will run cloee to the Aleutian Archipelego, and will probably touch at one of the islands of the Japanese group. The "Tuscarora" will sail some time during Angust.

Copper.—The Pueblo *Chieftain* says: The copper mines near Cañon city are being very setisfactorily developed, the ore taken from the lodes four or five feet in width bearing 52 per cent. of copper. Meesrs. Paine, Allen, Dickereon and Jennings are abont to erect copper reduction works, to bc completed some time during the summer.

The mines in Husdler, in Victoria, have yielded a profit to their English shareholdere of £400,000 since the month of October, 1871.

Useful Information.

Care of Guns.

A trns sportsman, like a good soldier, should alwaya be prepared for inspection, and keep his weapons in condition for immediate servica. On his return from a day's shooting, beforo ha lies down to rest, he should see that his gun is fit for service on the morrow. At the end of the shooting season it is much mors important that thia should be done at onca elss it may he forgotten, and a favorits and a valuahls wcapon injured beyond ropair by silent corrosion. To prevent this, here is a preparation which we havs used for years aud which we know to be good: Twenty ounces hest olivs oil, one ounce and a half spirits of turpentine. This should he rubbed on ths gun-harrels, outside and in, with a rag; leave all that adheres to the barrels, and put the gun away until wanted. Do this and yon may bid defiance to rust, aven in the rainy season of California.

How to Clean a Gun.—No one should put away a gun without cleaniug, not even if it has fired hnt one shot, that ono harrel ahould hs cleaned. First take ths barrels off the stock, and immerss them in cold water ahout four inches deep. Then wrap some stout cloth (tow clings to the barrels, and leaves particles in them,) about the cleaning rod, so thick that yon will have to press rather hard to get it into ths barrels; then pump up and down, changing ths cloth till the water comes out clear; then pour hot water into them, stopping up the nipples, and turn them muzzles downward. Then put on dry cloth, and work till you can fesl the heat throngh ths harrels, and the cloth comes out without a particle of moisturs on it. Theu put a few drops of clarified oil (made hy putting rusty nails into good salad oil,) ou the cloth and rnh the insides; rub the outsides all over and then put the gun away.

Jumping.—Mr. Wilson, an English professor of gymnastics, writes as follows on the subject of jumping: A high jumper will clear fivs feet, a first rats one five feet aud a half, and an out and outer among the first rates, six feet. The late Mr. Ingleby of Lancaster, we have seen clear a stick held six feet two inches high, springing off the turnpike road with a run of about five yards. What Ireland could do without the spring board we know not—probably not two inches more than Mr. I. Mr. Inglehy despised perpendicularity, and swayed himself over almost horizontally with singular grace, elegance and facility. Twelve feet is a good standing single jump on level ground; fourteen is a job for two or three in the country; twenty feet is a first-rate running single jump, hut has heen done often; twenty-one is something very extraordinary, hut noways apocryphal; and twenty-two is, we believe, accomplished ahout once every twenty years, and that almost always by an Irishman. A hundred sovereigns to five against any man in Engiand doing twenty-three feet on a dead level. With a run and a leap, on a slightly inclined plane, perhaps an inch to a yard, we have seen twenty-three feet done in great style, and measured to a nicety; hut the man who did it (aged twenty-one, hight five feet eleven inches, weight eleven stone) was admitted to he (Ireland excepted) the best fair leaper of his day in England.

Facts About Ropes.—"Alston's Trestise on Seamanship" gives the following facts and rules for computing the strength of ropes:

"To find what size rope you require, when roven as a tackle, to lift a given weight, divide the weight to he raised by the numher of parts at the movahle block, to obtain the strain on a single part; add one-third of this for the increased strain hrought hy friction, and reeve the rope of corresponding strength.

"One-sixth of 40 tons is 6⅔ tons, which, with one-third added, is 9 tons nearly, for which you should reeve a six-inch or six and a half inch rope.

"Conversely—To find what weight a given rope will lift when rove as a tackle: Multiply the weight that the rope is capahle of suspending hy the numher of parts at the movahle hlock, and substract one-fourth of this for resistance.

"Thus: 8-9 tons, the strength of the rope, multiplied hy 6, the number of parts at the movable hlock, minus 13-3, or one-fourth, gives 40-1 tons as the weight required.

"Wire rope is more than twice the strength of hemp rope of the same circumference; splicing a rope is supposed to weaken it one-eighth.

"The strongest description of hemp rope is untarred, white, three-stranded rope; and the next in the scale of strength is the common three-strand, hawser laid rope, tarred."

Adulterating Tea.—That sugar can be 'sanded" is too well known hy the grocers to admit of dispute; hut the process of "doctoring" tea ia a trick prohahly peculiar to the Chinaman. Dr. Lethehy, of London, a well known sanitary statist, made an examination into samples of this article obtained from honded warehonses, which he found to contain from forty to forty-three per cent of iron filings and nineteen per cent of silica, in the form of fine sand, which had been cleverly mixed with and added to the leaves before curling, with a view to increase their weight and bulk. After the leaves were curled they had been thickly covered with a green pigment. When it was infused in boiling water it produced a turbid solution, offensive to the smell and nauseous to the taste.

Wasp Trap.—It sometimes becomes desirahle to rid one's premises of the unpleasant presenco of numerous wasps, and hers is a way to do it as suggested by a cotemporary: Mount four panes of glass of equal dimensious in tin framing (liks a lantern), leavs the top and bottom open, cover ths latter end with thick white paper well attached with strong water-proof glue, and ths paper well oiled, and protected from damp or firs. In this maka a hols about six inches in diameter, and then placs this hole over a plate, on which three pieces of bricks aro put; in this plate you will havs put a mixture of beer, sugar, aud a littls rum. On the top end you will have fittod in a glass pano, removahls at pleasure, to clean ths tray. Now prepare soms long matches of stout paper dipped in brimstone; when your trap is "all alivs" with captives, ignito a match and put it under the hole, they will soon ho suffocated. Each day empty out the contents for your pet toad'a dinuer. I once saw a most ingonioua insect-catoher in Africa, invsnted hy soms English Artisan. Thera was a wirework dome like a meat-cover; just below it a roller covered with cloth, saturated in ayrup, slowly revolved when the clockwork adjustment had been wound up. Into this "Sirens cave" every flying thing tempted to settle on the sweet stuff was unconsciously drawn, and ths cags was soon a museum of Diptera and Hymenoptera! There was a trap-door at which the suffocating operation was carried out (as in the first mentioned trap). It was altogether a great success.

Enameling Cooking Vessels.—To enamel the insids of copper cooking vssscls, in which acid fruit and vegetahles are cooked, and thus prevent the formation of the so-called "verdigris," the following method is recommended: Twelve parts of unburnt gypsum aud one part horax are finely powdered, intimately mixed, and fused in a orucible. The fused mass is thsn poured out, and after cooling, is rnbbed up to a paste with watsr. The copper vessel is to be coated inside with this preparation, applied hy means of a hrnsh, and the vessel placed in a moderately warm place, so that ths coating may dry uniformly, after which it is subjected to a gradual increasing heat, till at length the preparation fuses. On cooling, the vessel is found to be protected iuternally hy a white opaque enamel, adhering very firmly to the copper, not chipping off hy ordinary knocking and rnbbing, and impervious to vegetable acids.

Curious Facts in Science.—Science has elicited many curious facts respecting water, among which are suhjoined. Of every twelve hundred tons of earth a landholder has in his estate, fonr hundred are water. The snow-capped summits of Snowdon and Ben Nevis have water in a solidified form. The air we hreathe contaius five grains of water to every cuhic foot of its hulk. The potatoes and turnips which are hoiled for dinner have, in their raw state, the one seventy-five per cent. and the other ninety per cent. of water. If a man weighing ten stone were squeezed flat in a hydraulic press, seven and a half stone of water would run out, and ouly two and a half dry residue remain. A man is chemically speaking, forty-five pounds carbon and nitrogen, diffused through five and a half pailsful of water.

Uses of Willow Wood.—In Eugland there are few varieties of wood in greater demand than good willow wood, of good size. It is light, smooth, soft and tough, will take a good polish and does not easily burn. It will hear more pounding and hard knocks, without splinter or serioua injury than any other wood, and hence it is used for cricket hats, and whenever it can be obtained in good condition and of suitahle size—for the floats of steamer-paddles, "strouds" of water-wheels, break-blocks for luggage and coal trucks, etc., where the wear and tear is considerahle. To the wood-turner it ia invaluahle, and were it grown as timher, and obtainable, it might he largely used for very many purposes to which timber is now applied, and that too with considerable advantage to both consumer and producer.

The Earth's Density.—As the density of the earth is equal to a solid globe of gold—the heaviest of metals—of nearly 6,000 miles in diameter, instead of 8,000, the full diameter of the earth, the question naturally arises as to what can that centre portion he composed of, which offers such an incalculahle resistance to the centrifugal motion of the planet on its axis, a velocity of 1,100 miles a minute for its equatorial regions.

From Joppa to Jerusalem by Rail.—Under the ahove head the newspapers are announcing, as a new illustration of modern progress, that travelers are now taken over that historic road hy rail. The truth is that the *surveys* for a railroad over that route have lately been completed, and plans sent to Constantinople for the consideration of the Minister of Puhlic Works.

Over one hundred and fifty kilns are engaged in making crockery ware exclusively, in the United States. These kilns are capahle of producing at the rate of ahout $30,000 worth of ware each per year, making a total, for all of nearly $4,500,000 per year.

Lime to the Ton.—When hot from the kiln, twenty-six and a half bushels of gronnd lime go to the ton; but after keeping some time a ton swells to thirty hushels. A bushel of fresh lime may be taken at one-seventh more than a bushel of stale lime.

Good Health.

Bathing.

Bathing is not only an act of cleanliness, but is in an eminent degree conducive to health. Ths fine and sensitive pores of the skin soon become torpid and their delicate and most important functions are suspended hy tha aolid materials in the perspiration, and the accumulations of filth, and require very frequent ahlution, with water, to preservs their normal condition, without which no person can be healthy, happy or God-like in any sense. The mers wearing of proper clothing and washing of the more exposed portions of ths hody, and the frequent changing of clothing, is hut an imperfect attsmpt at oleanliness, without being accompanied hy entire submersion of ths body in water, either tepid or cold. It must be admitted hy every sensible person, that there is no more real appreciative luxury than a pleasant warm gensral bath when ths system is in a *proper condition* to receive suoh bath; it is, in fact, ons of the most valuahls but most neglscted hygienic remedies we possess.

We admit that many people aro susceptihle of taking cold, and ars, so to speak, "*living barometers;*" but evsn to such ths warm bath would always prove advantagsous. One half or mors of the rheumatic twinges, swollen limhs, and cramped joints that occur in suoh persons, would yield to proper perseveranoe and confidence in this potent alleviator. For ordinary purposes, cars must hs taken that a warm hath is not used at too high a temperature at first. As a general rule ws would adviss, niors especially in cases whers some chronic disease is firmly located, using the warm bath for a few days, first followed hy the tepid hath, then ths cold. In *all* cases, whsther the warm, tepid or cool hath is nsed, the first should be of only a few minutes duration, which may soon be increased to fiftesn or twenty minutes at a tims, care being taken never to remain immersed sufficiently long to induce a sensation of cold on coming out. A healthy reaction should follow the hath, and a pleasant glow of warmth should diffuse itself over the surface of the body. If this he not the case, the bath has heen indulged in too long, or injudiciously taken. When any symptom appears that contra-indicate the use of the cold hath, the tepid, warm or vapor bath may be suhstituted, according to circumstances; the spirit vapor hath especially, is one of our most safe and valued curative and porphylactic agents.

In conclusion we would say to *all*, keep the skin free and active in health or disease by some kind of bathing, the frequency of which must of course depend upon all the surroundings and conditions of each life in all that pertains to hahits, etc., etc.—*Ex.*

Cooling Off.

Every ohserving farmer knows that men and horses are the only animals that have douhle means of refrigeration, and all others have hut one. No other heings sweat like men and horses, and therefore cannot cool themselves hy perspiring through tha skin. This will ha found trne throughout the whole range of comparative anatomy, and applies to the largest as well as the smallest beings. All the thick-skinned animals except the horse, have powers in the skin to exhale heat by perapiration, it being only a secretive surface. All the cleft-feet species, including those with feet and toes rounded and unprovided with claws, the rhinoceros, elephant, bison, mastadon, huffalo, swine, ox, deer, lion, tiger, hear, wolf, fox, squirrel, dormouse, opposshm, raccoon, all, like the dog, have no means of cooling themselves, when heated, except through the medium of respiration. Thus the ox, when very hot, thrnsts out his tongue and pants, to exhale the heat generated hy exercise; and if driven without time allowed for this, will die with the heat that accumulates within him.

Hogs perspire mainly through their fore legs. There is a spot on each leg, just helow the knee, in the form of a sieve. Through this the sweat passes. And it is necessary that this is kept open. If it gets olosed, as is sometimea the case, the hog will get sick; he will appear stiff and cramped—and unless he gets relief it will go hard with him. To cure him, simply open the pores. This is done by rubbing the spot with a coru-cob, and washing with warm water. Hogs often die when driven too fast, hecause they cannot readily part with their generated heat.

Brain-Work and Brain-Worry.—This is the text of a good hygienic discourse in a foreign journal, and the "conclusion of the whole matter" is as follows: "Brain-work is conducive to health and longevity, while hrain-worry causes diseases and shortens life. The trnth of the statement, and its application to what we see around us, is evident enough; yet it is well that such subjects should be continually discussed. Intellectual labor, although severe, like that performed by the judges of our higher courts, or hy scholars and persons devoted to literary pursuits, if nnmixed with excitement, and followed with rsgularity, is seen to promote hodily health and long life. On the other hand, mental cares, attended with suppressed emotions, and occupations which from their nature are subject to great vicissitudes of fortune, snd constant anxiety, hreak down the lives of the strongest. Every ons has seen a class of meu whoss early mental training was deficient, and to whom the writing of memoranda was irksome, engaged in middle life in grsat undertakings, and taking the memory with a mass of complicated business accounts, simply because they could more easily remember than write. Their power of msmory for a certain kind of facts is trnly astonishing, but the strain is at last too much, and they die befors their time. Ths brain-worry of our school children might furnish usefnl illustrations of ths truth of the same general proposition, hut we forebsar."

Domestic Economy.

Ripe Bread.

Bread mads out of wheat flour, when taksn out of ths oven, is unprepared for the stomaoh. It should go through a change, or ripen hsfora it is eatsn. Young persons, or persons in ths enjoymsnt of vigorous health, may eat bread immediately after being baked without any sensible injury from it; hut weakly and agsd persons cannot; and nons can eat such without doing hsrm to ths digsstivs organs. Bread, after heing baked, goes through a change similar to ths change in newly hrewed heer, or newly churned buttermilk, neither being healthy until after ths change. During the chsnge in bread it sends off a large portion of carbon or unhealthy gas and imhihes a lafgs portion of oxygen or healthy gas. Bread has, according to ths computation of physicians, one-fifth more nutriment in it whsn ripe than when just out of the oven. It not only haa more nutriment, hut imparts a much greater degree of cheerfulness. Hs that sats old, rips bread will havs a much grsatsr flow of animal spirits than he would wers he to eat unripe hread. Bread, as bsfors observsd, discharges carbon and imhihes oxygen. One thing in connection with this thought should he particularly noticed by all house-wives. It is, to let the bread ripen where it can inhale the oxygen in a pure state. Bread will always taste of the air that surrounds it while ripening; hence it should ripen where the air is pure. It should nevor ripeu in a cellar, nor in a close cupboard, nor in a bedroom. The noxious vapors of a cellar or a cuphoard should never enter into and form a part of the bread we eat. Bread should be light, well baked, and properly ripened hefore it should he eaten. Bread that is several days old may he renewed so as to have all the freshness and lightness of new bread, by simply putting it into a common steamer over the fire, and steaming it half or three-quarters of an hour. The vessel nnder the steamer containing the water should not be more than half full, otherwise the water may hoil up into the steamer, and wet the bread. After the hread is thus steamed, it should he taken out of the steamer and wrapped loosely in a cloth, to dry and cool, and remain so a short time, when it will he ready to be cut and used. It will then be like cold new hread.—*American Farmer.*

Root Beer.—As the season is now upon us when the greatest demand exists for this popular heverage, it may interest some of our readers, to learn that it is most satisfactorily made by a process similar to that used for soda water. If the old method of fermentation ba adopted, it requires that a numher of specialties for it he in constant use; that the root beer is only in the right condition for use during a limited time, and if kept on hand too long, it runs into the acetic fermentation and gets sour. By the soda water method it can quickly be made, is ready for use at once, remains good until all is drawn off, and does not sour. We give the following process, employed with great satisfaction hy a correspondent of the *Druggist Circular:*—

Sugar house syrup, or nics molasses	½ gallon.
Knapp's extract for root beer	1 ounce.
Caramel (to color)	1 to 2 ounces.
*Flavor for root beer	1 ounce.

This may he kept ready mixed in a bottle, and, when necessary, is put into a soda water fountain, with four and a half gallons of water, and then charged with carhonio acid to a pressure of 80 or 100 pounds to the square inch, as indicated by the usual gauge upon the apparatus. Those of our readers having a soda water apparatus can readily use one or more fountains for this purpose with both convenience and profit.

*Flavor for root beer:—

Oil wintergreen	4 drachms.
Oil sassafras	2 "
Oil Cloves	1 "
Alcohol	4 ounces.

Mix.

Adulterations in Olive Oil.—Olive oil ia very generally adulterated with poppy or lard oil. Such adulterations may be detected as follows: dissolve six parts of quicksilver in seven and a half of nitric acid of a specific gravity of 1.36—dissolve without heat. Add one part of this freshly prepared solution of nitrate of mercury to ten of the oil. If the latter be quite pure the mixture will solidify in from three to four hours. Fish oils may he detected in vegetable oils by the red tint they give; whon the oil to be tested, is mixed in the proportion of five volumes to one of sulphuric acid; or in the same way with similar effects, you may use a solution of caustic soda, of the specific gravity of 1.34

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:
Saturday Morning, July 12, 1873.

Legal Tender Rates.—S. F., Thurs., July 10.—buying 87; selling 87¼.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Artificial Marble; Indian Troubles in Arizona, 17. Explosion at Virginia—Nitro-Glycerine and its Compounds; Academy of Sciences, 24. To Obtain a Patent; The Pressman's Guide, 25.

ILLUSTRATIONS.—Rickard's Ore Washer, 17. The Santa Barbara Grape-Vine, 22. The Sluthour Pump; Jordan's Attachment for Horseshoes, 25.

CORRESPONDENCE.—Notes of Travel in Eureka and Elko Counties, Nevada, 18.

MECHANICAL PROGRESS.—American Iron in England; The Future Supplies of the Superior Metals; A New Cement—Pfundite, 19.

SCIENTIFIC PROGRESS.—Impurities in Load; Soluble Glass; Cause of the Decomposition of Eggs; New Horticultural Fertilizer; How Deltas are Formed; Renewal of the Reward of One Hundred Thousand Dollars, 19.

MINING SUMMARY from various counties in California, Nevada, Oregon, Utah, Arizona, Idaho and Montana, 21-8.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 20.

USEFUL INFORMATION.—Care of Guns; Jumping; Facts About Ropes; Adulterating Tea; Wasp Trap; Enameling Cooking Vessels; Curious Facts in Science; Uses of Willow Wood; The Earth's Density; From Joppa to Jerusalem by Rail; Lime to the Ton, 23.

GOOD HEALTH.—Bathing; Cooling off; Brain-Work and Brain-Worry, 23.

DOMESTIC ECONOMY.—Ripe Bread; Root Beer;

MISCELLANEOUS.—Cherry Creek Mines; New Mines at Sitka; Supply of Nickel, 18. A Revolution in the Production of Butter; New Lake; The Colorado Desert; Sounding the Pacific; Copper, 22. Patents and Inventions, 25. Clarence King on Veins, Deposits and Limestone Formation; The San Francisco Mint, 26.

CENTRAL PACIFIC DIRECTORS.—The annual election of the Central Pacific Railroad Company for Directors was held at the office in Sacramento on the 8th inst. The following gentleman were elected Directors for the ensuing year, without opposition: Leland Stanford, C. P. Huntington, Mark Hopkins, E. H. Millor, Jr., Robert Robineon, C. H. Cummings and Wm. E. Brown.

REPORTS from Wyoming state that extensive placer mines have been found near the head waters of the Big Laramie River and its tributaries. It is said by people from there that there are 40 or 50 miles of gulches that will pay $10 per day to the hand.

AN EXPEDITION is being fitted out in this city to fish for pearls on the Mexican Coast, on this side, as far down as Panama. A diving bell is to be used—the same tried in fishing for gold sands at Gold Bluff.

THE recent warm weather has cleared all the Utah cañons of snow, and the shipment of ore is going on on a grand scale. Times are reported lively at Alta, more miners being employed than ever before.

THE new quicksilver mines, from twelve to fourteen miles from Healdsburg, are sending in quicksilver to that town. The opening of the mines has just commenced.

ANDERSON'S School of Natural History, Pescadero Island, under the supervision of Professor Agassiz, opened on the 8th inst.

SILVER-BEARING quartz is said to have been found in the Coast Range of mountains in Clateop county, Oregon.

THE first locomotive for the Pioche and Sevier narrow-gauge railroad arrived in Salt Lake City this week.

BORAX.—It is stated that parties in this city have paid $10,000 for a horax mine in Kern county,

The Explosion at Virginia---Nitro-Glycerine and Its Compounds.

The fearful explosion at Virginia City, which occurred on the 29th ult., and caused such great loss of life and property, is still fresh in the minds of the people, and the feeling gains ground that its origin should be thoroughly investigated. That large amounts of explosive compounds should be kept in a dwelling-house in the center of a populous town, is strange enough, especially when the dangerous nature of the substances in question is well known. The impression prevails, and is corroborated by direct testimony that experiments were being made with explosive compounds by one of the victims — General Van Bokkelen — in order to invent an explosive that would take the place of Giant Powder. The local papers state that six cans of nitro-glycerine were stored under the bedroom of the gentleman referred to, a few days previous to the accident. It is also stated that a quantity of Giant Powder, Hercules Powder, and common black powder, as well as gun-cotton, were in the building. It could hardly have been possible to have collected in one spot anything more likely to cause an explosion than these substances; and to make them even more dangerous, a pet monkey was kept in the room. If the experiments referred to have been going on for any length of time, the only wonder is that the accident did not occur before it did.

General Van Bokkelen was acting as sort of agent for the sale of Giant Powder in Virginia. He was paid a commission on his sales, as are others in the same business. Some of the large companies on the Cometock, who use quantities of the powder, preferred to buy of the principals in this city, both on account of becoming dissatisfied with Van Bokkelen's manner of doing business, and tho fact that the article could be purchased here with the commission paid to agents deducted. Van Bokkelen demurred to this action of the company, but they insisted on their right to sell without the interference of the middle-men, and he resolved to invent a powder of his own. To this end experiments were instituted with nitro-glycerine, gun-cotton, etc. That these things were present there is no doubt; that Giant Powder was in the building there is a doubt. At the coroner's inquest, Frank M. Thayer, a mining Superintendent, who has been employed at the Savage, Julia and Arizona and Utah mines, and who is familiar with Giant Powder and its odor, did not detect any smell of that compound at the time of the explosion. The company state that there was none there at the time. The Hercules Powder company, a rival to the Giant Powder company, reduced the rates of their powder a short time since, and the latter company were forced to do the same, lowering the rate from $1 to 75 cents. In April the Giant Powder company sent a man to Virginia to take account of the powder in the hands of Van Bokkelen, and other parties in Gold Hill and Silver City, who were acting as agents. This was done that the amount they had on hand should be sold to them at reduced rates as well as what they were then buying, for obvious reasons. At that time Van Bokkelen stated that he had from 50 to 60 cases in the magazine and 10 in Smith's hardware store. He would not be likely to conceal the presence of other boxes, as he would have to pay $1 instead of 75 cents per pound for it when settling up. Since then only 25 cases have been sent up which were for one order.

At that time the Giant Powder Company's traveling agent, Mr. White, was in Mr. Van Bokkelen's room with him. He is now in Utah, but immediately on hearing of the explosion, he wrote to the company in this city, and as his letter throws some light on the subject, we have been permitted to copy it. It is as follows:

OPHIR CANON, UTAH, July 2d, 1873.

BANDMANN, NIELSEN & CO., SAN FRANCISCO.

Dear Sirs—Have just seen the telegraphic account of the terrible explosion in Virginia City, in which it is stated that 150 pounds of Giant Powder, together with six cans of nitro-glycerine and 200 pounds of black powder, were exploded. As far as the Giant Powder is concerned, this is a mistake. Gen. Van Bokkelen kept his supply of Giant Powder stored in the magazine of J. P. Smith, and had for many months past. As you entered the General's office on B street, in the first corner to the right, were two sample cases of Hercules Powder; one case of Hercules Powder and gun cotton saturated with nitro-glycerine, and one case of cotton pulp saturated with nitro-glycerine. These cases were about the size used by your company; and, as Gen. Van Bokkelen was for some time your agent in Virginia, to the casual observer, the cases would pass for those of the Giant Powder Co.; but the two cases of Hercules Powder were so branded, while the gun cotton and cotton pulp were branded "Powder Cartridges," from the California Powder Co., and the shipping mark was "J. P. Smith, Virginia," with J. S. V. in the lower left hand corner. When I visited Gen. Van Bokkelen to take account of his stock and settle his accounts with yourselves, as the General Agents of the Giant Powder Co., he told me he would soon have a blasting agent in the market that would excel Giant Powder. On my asking what it was, he turned to the above mentioned cases and opened them, showing me the gun cotton saturated with nitro-glycerine, together with the cotton pulp mixture. (It was this fact that caused me to particularly notice the marks and brands on the cases.) During this conversation, Gen. Van Bokkelen said, "White, when I get this fairly started, which will be in about six weeks, I'll give you $300, and expenses per month, to introduce it to the mining public." And, I presume, it was for the purpose of making these cotton-nitro-glycerine compounds that he had the six cans of nitro-glycerine. Any of the attachees of J. P. Smith's hardware store will tell you Van Bokkelen *always* kept his order book there; and they attended to his powder business during his absence, and will confirm my statement as to the Giant Powder being stored in Smith's magazine.

Yours, truly, OSCAR W. WHITE,
Traveling Agent G. P. Co.

Mr. Kent, at the inquest, testified to having seen the General making experiments with cartridges in his room. Mr. Searles testified that there were two boxes in his room that looked like Giant Powder, and the General told him to be careful in handling them, as they were probably the gun cotton. Mr. Kellogg, foreman of the Crown Point mine, testified that the General, not long ago, wanted him to try a preparation of gun cotton and nitro-glycerine at the mine, saying it was as safe and effective as Giant Powder. Kellogg refused to try it, as the agent of the Hercules Powder Company, who had experimented with it, said it was not safe. Van Bokkelen had about 25 pounds of it at that time. Other testimony goes to prove that experiments were being made to get a substance to supersede Giant and Hercules powder.

The unfortunate result of these experiments ought to warn others who are ignorant of chemistry from meddling with substances, the nature of which they do not understand. Nitro-glycerine, particularly is a most dangerous substance to handle, even with the greatest care. As a general thing it is made on the spot where it is to be used. It is against the law to transport it on steamers or railroads. The Giant Powder Company in this city never even keep it over night. It is made in the morning and turned into Giant Powder at night, to prevent accidents.

As the nature of the substance is little known we are confident that some account of its manufacture and properties will be read with interest. Nitro-glycerine is made from a mixture of nitric and sulphuric acid, one part of the former and two of the latter. Into this is introduced slowly a small stream of glycerine; the mass is kept constantly stirred and cooled. The nitro-glycerine forms by this process and while it is in this mixture swims on top of the acids on account of its specific gravity. The whole mixture is now run into water, and it is repeatedly stirred in the water in order to completely free it of all acid. It is washed in three different waters and an alkaline substance added to neutralize the acids. If any acids remain it is very dangerous or it is liable to explode, and this was the mistake made which led to so many accidents. After stirring it in the large bodies of water, it was sometimes allowed to remain, and as it was heavier it sank to the bottom. It was supposed that the water would protect it from all chemical action and danger of explosion; but on the contrary it seems that it was not in all instances completely freed from acid and the result was a chemical action of the acids on the nitro-glycerine, causing heat and a generation of gases.

Now, if this process of decomposition occurs without being confined under water or otherwise, the nitro-glycerine is set on fire, and burned up; but if the decomposition is allowed to take place under a considerable weight of water, or is otherwise confined, the gases cannot escape freely, and an explosion follows. For this reason all manufacturers of nitro glycerine are careful, in addition to washing the substance thoroughly, to apply an alkaline substance to neutralize any trace of acids that may remain. The secret of securing the safety of nitro-glycerine from explosion, lies in "cushioning" it. The sharpness and violence of the concussion of a blow is what explodes it. A nail can be driven in by a blow, not pushed in unless with great force. The principle is simple, and well understood. If a soft substance is placed between the nail and hammer the blow has little effect. The nitro-glycerine is put in a cushion, so to speak. There are different substances used for this purpose, the best of which is infusorial earth. When in that condition you might as well try to drive a nail with a sand bag, as explode it by concussion. It is then Giant Powder. The *infusoria* in the earth used, form so many little tubes, the force of capillary attraction absorbing a large amount of nitro-glycerine, which is cushioned in this manner. Every material with which nitro-glycerine is mixed which has not these absorbent properties in a high degree, is dangerous, for if by any means nitro-glycerine runs or is squeezed out, you have all the original dangers of pure nitro-glycerine. Common gunpowder absorbs a considerable portion of nitro-glycerine, but is more dangerous than infusorial earth, as it comes out easier. It will hold about 55 or 60 per cent. while the infusorial earth holds 75 per cent. In warm weather it exudes from the powder badly.

Cotton is a poor absorbent and very dangerous; chalk also; magnesia is a good one. The present Herculee powder, which used to be made of black powder and nitro-glycerine is said to be made with magnesia, and in ordinary temperatures may be deemed a safe absorbent. The higher the temperature the more liability to leakage in all of these substances. These compounds explode more readily according to temperature and wetness or exudation.

Giant Powder, formed of nitro-glycerine, is well known in the East, and has been used in large quantities here since 1868, and in Europe since 1867. No accidents have ever occurred with it in transportation. It never has exploded where the blame was chargeable to the powder. The Austrian Government having first prohibited its transportation on railroads and stages, in 1869 reversed the law, it having been proven that it was perfectly safe. It is carried everywhere on this Coast. There are five factories of it in Europe, one in this city, and one in New Jersey. The consumption is from 1,500,000 to 2,000,000 pounds per year, carried about in every possible way. All the explosions which have occurred in this city were caused by nitro-glycerine, not powder. At the only explosion ever occurring here, at the Giant Powder Company's Works, in 1869, when the nitro-glycerine blew up, there were 5,000 pounds of Giant Powder within thirty feet of the nitro-glycerine, which was unharmed. The concussion blew open the boxes, but did not explode the powder. The nitro-glycerine was left under water at that time, which caused the explosion, as spoken of above. Very recently, when the steamer "Meteor" burned up, on Lake Michigan, there were 8,000 pounds of Giant Powder aboard, which all *burned* up, with the entire cargo, without any explosion, whatever. Here are two simple cases illustrating that it will not explode by ordinary concussion, or by the action of heat.

In the matter of heat it is peculiar. It can be burnt. If a small particle of the powder is put on a bar of iron, one end of which is in a fire and red-hot, the red end will burn it; the cold end has no effect; but on the part where there is a dull heat there will be a semi-explosion or detonation once perhaps in thirty or forty times in trying it, but not uniformly. Put this in a gas pipe under similar conditions and it will explode violently, being confined. But unless the confinement is such as to restrain the gases it will burn up. In tin vessels or wooden boxes there is no explosion, but in a quicksilver flask closed tight, it would burst. The large caps made for the purpose are the only things that will explode it. If a small piece of Giant Powder is placed on a hard substance and ground up fine by rubbing with a knife for some time, and then struck it will explode. But then it is nitro glycerine, not powder. In grinding, the capillary tubes are destroyed, the powder turns from white to brown and then darker, while a dampness is perceptible, showing that the nitro-glycerine has exuded or been forced out. These conditions are not likely to occur in every day use of the powder.

It will be seen from the foregoing what danger there was to ignorant persons to experiment with nitro-glycerine and its compounds. If the nitro-glycerine used was not thoroughly washed free of all acid, it is likely to explode at any time. If the gun cotton exuded the nitro-glycerine, as it would, the slightest jar would be sufficient to explode it. All these experiments were made by Nobel, the patentee of Giant Powder, when first inventing his compound. They were all found to be dangerous. The use of black powder was at that time and since, tried, but discontinued, for it would not hold the nitro-glycerine in warm weather and was therefore dangerous. It is not possible that the explosion was caused by Giant Powder, but nitro-glycerine either pure or mixed with the gun-cotton. To show that a concussion will not explode Giant Powder and that the nitro-glycerine explosion could not have set it off, the instance of the violent explosion in this city may be cited, as well as many others. In England, very recently, a box of the powder was put on the buffer of a car, which was allowed to run down a grade and collide with another violently, smashing up both cars, but no explosion took place. The flames would burn but not explode it.

The verdict of the Coroner's Jury, convened at Virginia to hold an inquest on the bodies of several who were killed, states that the jury believe that the explosion was caused by gun cotton saturated with nitro-glycerine in the deceased Van Bokkelen's room. It is not likely that the nitro glycerine was made there, but must have been shipped there by parties unknown. In doing this the law was not only violated, but people's lives were endangered while it was *in transitu*. The poor fellows who were making the experiments lost their lives by them, and others suffered from their ignorance and carelessness. It is to be hoped that what we have said will deter others from experimenting in the same direction, without a thorough knowledge of the conditions under which nitro glycerine will explode, and even then the utmost precautions must be taken to prevent explosions.

Academy of Sciences.

At the last meeting of the Academy of Sciences, the following members were elected: W. S. Chapman, (Life); Major Geo. H. Mendell, F. A. Bishop, John C. Robineon, F. A. Miller, O. Button and J. W. Claes.

A number of donations were received. Among them a skate's egg, a number of stuffed birds, a peculiar specimen of crawfish, a female tarantula and eggs, in her nest, and several mineral specimens.

Prof. Davidson explained the character of the instruments used in triangulation, and the various modifications made in their construction for the purpose of more readily determining the distance of any given object from the point of observation, illustrating his remarks on the blackboard. He stated that he hoped to be able at the next meeting of the Academy to show an instrument of his own invention, with which he could determine the exact distance from the point of observation to any given object, by a new method.

R. E. C. Stearns, read a long and interesting paper on the money of uncivilized man, more particularly referring to wampum, or different kinds of shells.

The President stated that C. E. Watkins, the photographer had offered to furnish a cabinet photograph of each one of the members, provided the Academy would furnish an album to contain them.

To Obtain a Patent.

Editor Morning Call:—As the *Call* seems to be posted pretty much upon all topics, would it be kind enough, in the present instance, to inform an old and regular subscriber, through its columns, the way to apply for a patent. No one hereabouts seems to have any knowledge of the matter. No matter where you inquire, you are as once referred to those agents who make it a business, and who expect a round fee for their services—too much. Furthermore, you are compelled, in employing those parties, to disclose your secret, which is something altogether too hazardous, as not a few have found out to their cost before now. What your subscriber desires to know, is, how to place his application before the Commissioner of the Patent Office at Washington, in such shape as to have his business properly recognized, without the aid of the "middle man," the cost of the fee, and where to get the proper blank, and how to send it, and when to expect a notice of his application at the hands of the Commissioner. The way to obtain a copyright is simple enough. But proper information in respect to a patent is not so easily reached. By giving this information you will confer a favor, doubtless, on many of your readers. The money that might be required to fee the agents might not be so great an obstacle. It is the cold fact that you are placed in the power of those who might take advantage of your plans and inventions, and so work it to your loss and confusion, which they palpably could. Trusting that my meaning is clear, and hoping that the favor will not occasion too much trouble, your respectful subscriber signs himself, INVENTOR.

San Francisco, July 5th.

[We can do no otherwise than to refer "Inventor" to some respectable and responsible patent agency. "Inventor" would not attempt to defend an intricate and difficult lawsuit without the aid of a lawyer; and in obtaining a patent, just as a claim before Government, it is best and cheapest to secure an efficient and experienced agent. We never heard of one of these stealing a man's invention.—*Ed. Call.*]

The above letter published in the *Morning Call* of this city, during the past week, fairly illustrates the feeling of a class of people in every community, in regard to Patent Agents. While we stand ready to acknowledge that all Patent Agents are not immaculate, we do deny the sweeping charge made by "Inventor." He certainly never talked with any person who had ever done business through the SCIENTIFIC PRESS Patent Agency.

It is the same with Patent Agents as it is with lawyers, doctors, preachers or the members of any other profession. Either can do a community a vast amount of good, or a vast amount of harm, according to his manner of doing business. The inventor however, has one consolation, and that is, that a patent agent who abuses the confidence of his clients is sure to reap the result of his errors, by being avoided by subsequent inventors. The best test in the world to prove the standing of any professional person, is to find out what his old clients think of him. If they recommend him, and give him their business, why should you distrust him? Dewey & Co have conducted a Patent Agency in connection with this paper, for the past twelve years. During that time we have procured over three thousand patents for Pacific Coast inventors, and we venture the assertion, that to-day not a man can be found out of the large number for whom we have done business, that will assert, that we ever attempted to take the slightest advantage of him or his invention. On the other hand you will find hundreds, and we might say thousands who will tell you that Dewey & Co., have, as faithful advisors, saved them hundreds of dollars, which otherwise would have been spent in a fruitless attempt to patent an old device, and further, these same persons will tell you that the Patent Agency of Dewey & Co. has disseminated a knowledge of patent matters amongst inventors on this coast, which they could not have obtained in any other way.

"Inventor" grumbles at the "fee" charged by Patent Agents. Did "Inventor" know that Dewey & Co. charge precisely the same fee for procuring a patent that New York or Washington agents charge? or, knowing this, does he wish to abolish Patent Agents entirely? He certainly does not expect them to exist and work for nothing. For the future benefit of "Inventor" we will give him this piece of information. Not only is it beneficial to the inventor to employ a competent agent to do his business, but the Patent Office in Washington prefers that inventors should apply through an agent. First: A patent specification is a legal document, requiring both legal and mechanical skill in its preparation, otherwise it will fail when you apply the test of the courts to its validity. Secondly: The rules, regulations and forms, required by the Patent Office to be observed, are continually being changed so that it requires the undivided attention of the agent to keep himself posted. We venture to say that every case presented to the Patent Office by the inventor himself, causes more trouble and annoyance to the Examiners than twenty cases presented by a competent attorney. These are facts that have been long established and we are familiar with a number of instances where the Examiner refused to proceed further with a case until a competent agent was employed and the case put into shape. In every such instance the application was made by the inventor and was found to be informal. The inventor, not being familiar with the rules, &c., of the office, each step he took placed his case in a worse condition than before, until finally nothing short of the skill of an attorney could get it into proper shape.

The Patent Agent should be posted not only in the legal and Patent Office practice, but his business is such that he becomes familiar with the existing state of all the arts. By making frequent preliminary examinations, he learns what has been done in almost every field of art and commerce, hence he is qualified to advise as to the novelty and patentability of any particular invention. There is a certain list of inventions which are reproduced every few weeks by enthusiastic inventors, who would rush "bald headed" for a patent, and pay out their money only to be rejected, were they not checked before hand; for instance, every few weeks we have some one to present us the model of a combined beer faucet and tap, the object of which is to draw beer from a barrel without driving in the cork. Within the past year this same device, without the slightest alteration, has been presented to us at least twenty times, and in each case we have saved the inventor his money by showing him the illustration of it in the Patent Reports.

We might recite numerous points of benefit which the inventor obtains by being able to consult a competent Patent Agent, but the above shows sufficiently the error of "Inventor's" statements. Let "Inventor" seek an honest, reliable, responsible and competent Patent Agent, and place his case in his hands, and we will warrant him that he will fare much better than if he attempted the business himself. To find such an agent let him go to those persons who have procured patents before him, and find out by enquiry whom to go to.

Supporting Attachment for Horse-shoes.

We illustrate herewith a device intended to keep horses from sinking in soft ground. It is styled a "supporting attachment for horse-

JORDAN'S HORSESHOE ATTACHMENT.

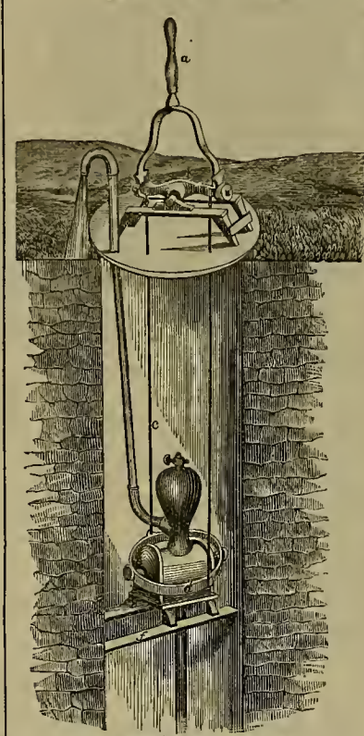
shoes," and was recently patented through the agency connected with this office by Robert K. Jordan, of Alameda county. The nature of the attachment can be easily seen by reference to the cut. It is an ordinary horseshoe, the heels or extremities of which are made longer than usual, and the extension thus formed bent outwards in opposite directions as shown. A metallic rim-plate of the desired width, (usually from an inch to an inch and a half) is bent so as to encircle the shoe; its length being greater than its width, so as to extend a short distance both in the front and in the rear of the heel and toe of the shoe. The sides of this surrounding rim-plate are secured to the outwardly bent extensions, by means of rivets or bolts, while the forward part of the plate is bent upwards and supported by a bar or plate from the toe of the shoe.

The bar or plate will usually be welded or permanently secured to the toe of the shoe when the shoe is made, and in fastening the plate to its opposite or upper end, a bolt or screw can be used so that when desired the rim-plate can be removed from the foot. The bar or plate shown stands upward at an angle, so that its upper end will support the forward end of the shoe at a point above the plane of the shoe, thus preventing the rim-plate from interfering with the stepping of the horse. The band which encircles the forward part of the horse's hoof can be used or not, as desired, but the inventor prefers its use, as it aids in binding the shoe with greater firmness to the foot; when it is used its opposite ends are also secured to the extensions at the heel, as shown. The attachment can be applied to worn out horseshoes if desired, as the character of the soil on which the bearing rim would be likely to be used, would not require that the shoe should be as perfect as is necessary on harder ground. The inventor claims that with this attachment to their hind shoes, horses can travel over ground in which they would sink to their knees if not provided with any supporting device. The attachment is cheap, simple and light, and Mr. Jordan thinks it will not interfere with the travel of horses after they once become accustomed to wearing it.

The Sluthour Pump.

We give this week an illustration of the force pump, for which letters patent were issued, April 9th, 1870, to Mr. Sluthour, of Ohio. The particular form represented is designed for mining or deep well purposes. It will be at once remarked, that the peculiarity of this pump lies in the fact that the power is applied at the ground level by the lever *a*, as seen in the engraving, and transmitted by connecting rods, *C*, *C*, to the working part beneath. When a large pump, requiring a driving engine, is employed, this proves a matter of great convenience.

"This pump," says the circular of the company, "has been approved (as a fire and bilge pump,) and adopted by the Supervising Board of Inspectors of Steam Vessels, and by



A DEEP WELL PUMP.

the Secretary of the Treasury; as appears by Circular No. 4, issued from the Treasury Department, Feb. 21st, 1872." For it are claimed the following advantages: Simplicity; durability; economy of power—it being stated that only one-third the power usually required, to drive any force pump of equal capacity, is needed by the Sluthour; and utility as a fire extinguisher, though applied ordinarily to other purposes.

Different styles are manufactured to meet varying requirements; in point of capacity ranging from the hand pump of ten gallons, to the monster steam pump delivering one thousand gallons per minute; and to be suitable for hand, horse, windmill or steam power. Those who may be interested in seeing the pump in practical operation, will do well to call at the warerooms of the Keeler, Hine and Thomas Co., 727 Market street, where it is on exhibition.

MINING DEPOSITS AND PATENTS.—Commissioner Drummond of the General Land Office, has decided that lands valuable on account of deposits of carbonate of soda, nitrate of soda, sulphur, alum and salt, may be patented under the mining Act of May 10th, 1872, as well as other valuable mineral deposits, except those specially reserved by Act of Congress.

RIVER MINING promises to be more favorable this season than for many years, along the Trinity; numbers of Chinamen are at work there.

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS]

By Special Dispatch, Dated Washington, D. C., July 8th, 1873.

FOR WEEK ENDING JUNE 24TH, 1873.*

ADDING MACHINE.—Gustavus Liuderoos, Point Arena, Cal.

CAR COUPLING.—Mordecai Disney, assignor to H. C. Kibbe and J. D. Hildreth, Oakland, Cal.

KINDLING WOOD-CUTTER.—Nicolas Sonnichsen, S. F., Cal.

SECTIONAL CAM FOR ORE STAMPS.—James M. Thompson, S. F., Cal.

ORE STAMP FEEDER.—John D. Cusenbary and James A. Mars, S. F., Cal.

PREVENTING INCRUSTATION IN STEAM BOILERS.—Roht. A. Fisher, S. F., Cal.

SHEEP SHEARS.—Andrew S. McWilliams, Colusa, Cal.

PLOW.—John C. Potter, Helena, Cal.

MORTISING MACHINE.—John Driver, Marysville, Cal.

PAINT BRUSH.—Syranus Standish, Eureka, Nevada.

MEDICAL COMPOUND FOR THE CURE OF CONSUMPTION.—William H. H. White, S. F., Cal.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

San Francisco and the Interior.

An erroneous impression seems to have been in some way impressed upon the minds of many in the interior, to the effect that San Francisco is responsible for the excessive levies which are made upon the people, in the way of wharfage and dock charges; that San Francisco, in fact, sits at the Golden Gate as a toll-gatherer, taxing the industry of the interior for her especial benefit. We often find in the columns of our interior cotemporaries paragraphs like the following, which we clip from a late number of the Colusa *Sun:*

"We were informed by a Colusa County farmer that he had to pay one year four hundred dollars wharfage on his grain crop. Let the farmers' organizations inquire into this matter, and if there is any thing for the Legislature to do, let them demand that it shall be done. For one, we do not believe in letting San Francisco sit down at the Golden Gate like a toll-gatherer, and tax the industry of the country at such a fearful rate."

We fully agree with the *Sun*, that the Legislature should look after this matter, and free the State from the onerous burthen imposed upon her in the manner indicated; but we fail to see how San Francisco can be held responsible for such a state of things. If left to the people of this city, or their representatives, this burdensome tax could be removed at once. Indeed the only effort ever made for such removal was initiated and urged by the people of this city, and their representatives at Sacramento, and with such effect that the charges were reduced about one half.

The fact should be known and published in every interior journal that San Francisco has not one dollar's interest in the wharf and dock at this port; but that the Legislature both levies the dues and directs the disbursement of the moneys derived therefrom. This information should be published to the end that our interior friends may see to it that legislators are sent to Sacramento, next winter, who are opposed to such extortionate charges and by whose votes the thing may be done away with.

The interior delegations opposed to such excessive charges will be promptly aided by the delegates from this city. We say, with the *Sun*, "Let the farmers' organizations inquire into this matter," and see that no one receives *their* support for the next Legislature who is not all right on this important issue.

THE PRESSMAN'S GUIDE.—Too little attention is given to the press-work done in ordinary American newspaper printing. The setting of type on a weekly paper occupies the entire time of perhaps a dozen compositors, while the actual printing is done by one or two hands in 24 hours. And yet the fine appearance of the sheet depends as much upon the press-work as upon the composition. At least nine-tenths of all newspaper printing (except on daily publications) is done too hurriedly and at a consequent waste. It would therefore benefit publishers (as well as the eyesight of "many readers") if greater attention were paid to the press-work on newspapers. We know all this from 15 years experience and observation in printing.

To assist both pressman and publisher, R. Cummins & Co., of Brooklyn, have printed and offer for sale, for 50 cents per copy, a pamphlet bearing the same title as the heading of this item. It is a simple work containing hints, instructions, recipes, etc., which we dare say would repay nearly every publisher, pressman and apprentice in the Union to purchase and review.

Clarence King on Veins, Deposits and Limestone Formation.

The White Pine *News* is publishing *in extenso* the teatimony of Clarence King, the eminent mining expert, in the case of the Eureka Consolidetsd Mining Co. againat the Richmond Mining Co., of Eurska, Nevade. From the volnminous testimony elicited on the sxamination, we condsnss some interesting points. Mr. King firat stetes that hs is by profession a geologist and studied at the Yale Scisntific School, undsr Dana. He is now Director of the Geological Survsy of the Fortieth Parallel.

Q. How long have you heeu engagsd in that work? A. Sincs April, 1867.

Q. Havs you hed occasion while engagsd upon that survey to examine the mines of his coast? A. Yes, Sir.

Q. Ars you acqnainted with the Richmond workings on Ruby Hill? A. I am.

Q. You understand that map that is posted thers, I presume? [referring to the "mep of the Bichmotd mine of Eureke, 1872"] A. Yss, sir.

Q. Just describe in your own way how in your judgment that depoait of ore was formed there, the cavity formed in which it ia dsposited, how the ore was formed, and how it is classified hy gsologists, or how it would he classified? A.

The Geological Formation of Ruby Hill

Is qaite a simple one, the main mass of the Hill being formed of an underlying bed of quartzite, which is capped by transition strata of silicious limestone and followsd upward hy heavy beds of chrystalline mstamorphic limetsone. This hill, from its evident connection with ths othsr mouutains of the region, is the eroded fragment of e fold or mountain uplift. The strata of which it is compossd ers submarine in origin. They belong, as shown hy fossils discoverod here in them hy assistanta of my owu, to the silurian and devonian period, a very early period of the stratified rocks. Theee fossils also show thet it was an oceanic deposit. Other geological evidence gotten in here, and throughout the Great Basin, show that these streta were lifted from their submarine position at the close of the triassic period, and folded into mountains and permanently lifted above the level of the eea, in fact, at that time they reeched their present eltitnde above the level of the Pacific. Such an immense uplift aa this, with the consequent preesure in the axes of the folds, produces two great effects: the metemorphism of the strata and the fissuring of the strata.

Connected with euch deep-seated fissuring as must neceesarily take place in the folding of beds, which our survey has proven to he 30,000 feet thick, the fissures must necessarily penetrate to a great depth, and that they heve penetrated to a great depth is proven by the deep-seated chemical action which has made itself eviduot through these fiasures, resulting partly in mineral veins, partly in metallic mineral veins or lodes. In this especial instance, the evidence of uplift is preeent in the inclination of the main beds of the formation. The evidence of fissuring is present in the dislocation of etrata, the preaence of planes of fissuring, of cavities and of atiratiou of surface, indicating actual faulting. So far as that goes, we have them up to that point a suhmarine deposit lifted high into the air metamorphosed and riven with fissurea. Upon entering the Richmond mine at this point, B, where the old incline begius, we find ourselves immediately in ore, or within a few feet in ore, and following its workinge downward to this point (showiug) with a descent of about 140 feet, if I remember right, or 138, perhaps, to be more exact, were all the way in ore. That ore is composed of three recognizahle zones: that next the lower conntry rock, or silicious limestone, containing chiefly iron material impregnated with galena and carhonates of lead and eilver; a central zone chiefly occupied by carbonates of silver and lead colored with oxide of iron; and a third zone which usually caps the deposit, which is poorer; chiefly oxide of iron, whose tenure of oro, however, is carried up by gold.

The Presence of a Deposit

Of this character—I nse the word denosit not in a technical sense in which it hae heen nsed here, but in the generic sense, in which it is alone known to geologiats, ao far as I am aware—to include all those hodies of ore which are found in the eolid rock, or otherwiee all depoeite of ore. The presence of such a—or, I should go back a little further and etate that at three points in the Richmond workinga, having gone downward through the ore perpendicular to its general inclination, we come upon a surface of silicious limestone, which, in my opinion, is the definite foot-wall of the vein, and that in two or three places in the upward developments of the mine we come upon broken surfaces of limeetone more or less shattered in their surfaco, more or less impregnated for a little way with bunchea and stringere of ore, which I take to be the rough hanging wall of the lode. The preaence of a hody of ore like thia, enclosed in solid rock, can have owed its origin to only one, as I take it, of three possible causes: either it was laid down synohronously with the strata, that is upon what is now the approximste foot-wall of the vein, and npper country limestone waa laid down on the top of it; or elss it was poured in by the Divine hand from the top; or else, like other fissurea and true vsins, it percolated from a deep source. I shall brisfly examins thsse

Three Possible Theories

To see what ground is left ns to stand on. In the case of ors heds, as thsy are technically tsrmed, we have dsposits of various metallic minerals which ars absolutely a part of the stretification, following the plane of stratification resting upon the even surface of euhmarine deposition, in no case penetrating into the foot-well an inch or a foot; having a level surface of deposition on thsir own top and followed in the course of dsposition by the upper country rock in a smooth plane. Such deposts sometimss — often occur in iron and coal. end snch minsrals as that. The evidence as to the hsddsd origin of this vein ia very clear. In the firat plecs, the hody of ore doea not exactly follow ths planes of stratificetion, hut breaks into them here and thsre, and alongsids that within the solid body of ore are masses of limestone, which are termed "horses." Not going through like a continuous sheet, as if they had heen dsposited npon a top portion of the ore during the general dsposition of ore, hut terminating at their ends and of irregular form, therehy conclusively proving that the hody conld not have been deposited in the ordinary msthod of ocsanic deposition. To examine for a moment the othsr possible theory, that it was poured in from the top.

Ample Geological Evidence

Exiats that these mountaina, as I have said, since the close of the triassic psriod—a period anterior to even the chelk period of England—have hsan in thsir prssent positiona of elevations; and furthermore, that the only portions of the Grsat Besin that have heen since that period covsred by watsr, have heen covsred by fresh water lakes. They simply occupied the hroad meridinal depression of valleys or synical axes of thsse ranges, rssulting in proof to my mind absolutsly conclusive that these mountains have nevsr aince that period heen coversd hy watsr, and in order to suppose the mineral material to heve hsen poured in from ahove, we ehould have to have some Angel Gebriel with a pitcher, or some other superhuman enginery, to get this material in there; and the fect that it waa never done, ie proven by the conditions within the ore hody iteelf, for whenever yon pour a material into a cavity, it shows the resulta of stretification inevitably, which this does not; ehowing a hedding peralel iu a meaaure to the inclination of ite dip. Furthermore, in order to have the cavity to heve poured this meteriel into from ahove, it is necesaery that we should have had a fissure to begin with, for the weter percolating or flowing over eolid limeetone, haa not the power to eet or erode ite way into it. It must firet find some crevice, some fissure, some hole formed by dynamic agencies, into which it can percolate, and create the cavern, or aperture, or hollow, or whatever you wish to cell it. Therefore, I eay, thet it could not have been poured in from ahove, and that even if the evidence of stratification were preeent, of its having been poured in from ahove, it would necessarily have implied a fiasure to hegin with. I therefore rejeot these two propoeitions as ahsurd; the proposition of a bedded vein, or of a deposit poured in from ahove. I am therefore driven hack on the first theory,

That it is a Vein or Lode;

And I will as briefly as possihle examine the evidence which exiete hearing upon this question. In the first place, within the Richmond worke. I will indicate the points which I mean exactly. At this point here, (showing) just within the little arched mase of rock which overhangs the opening of that tunnel which rnns to the Richmond incline—

Mr. Hillhonse—(interrupting)—Juet designate it, if yon please, hy lettera as you go along, Mr. King, and we can get it down.

A. Well, it is in the immediate neighborhood of that B. I don't know within half an inch there on the map exactly the spot, for that little archway is not indicated. And underlying the hody of ore is a smooth, well-defined face of rock, possessing npon ite eurface marke of attrition or striation, the polish of movement, and differing altogether from the ordinary rough planee of etratification. Upon descending the main incline of the Richmond mine, and following thie lowest level to this point, (showing) the limeetone np to thiis time showing varioue evidences of fisauring and somewhat silicioue in its nature, shows at that point the same foot-wall equally smooth, equally evincing the lines of movement.

Q. What is that last point? Juat name it. A. The last point of that map is near the point E. Yes, sir; near the point E. At a third place, which is at this point N, the hottom of that ie also a moderately emooth enrface of eilicious limeetone, which, from its pitch and its relation of depth to this (ehowing), and its relation of strike and depth to that, (showing,) I take to be the eame plane which hounds the ore in that direction. At a point FF—no, FF, at a point 15, if I know the map rightly, is also an upper surface of limeetone, which I take to be the lowest manifeetation of the hanging country or hanging wall, irregular though it be. Down this incline, (showing,) over the lead, appears also limestone, elightly impregnated with blocks of ore, but, nevertheleee, a country limeetone, and the dovelopments which have been run into the Tiptop, ont in thie direction, (showing,) through firet the Richmond, into the Tiptop, and out in thet direction, prove that that is the country rock, and that there are no masses of ore of any consequence above that point. Bsnsath what I callsd the foot-wall the shaft hes gone down on an incline of 250 or 300 fset undsrneath the foot-wall altogether in country limestone, and run out on a drift through country limestone, proving that et those points there are no importent or considerable stringere or outlyere of ore in that direction. The evidsnce, at I havs said, of fissuring is in the snrface of these walls, which do not absolutely follow the planes of stratification, and possess physical differences from thoss planee of stratification in the cross of fissures which make thsmselves apparsnt at the end of the workinga in this direction, (showing,) end at the end of this ore chember—at the edge of this ore chambsr hsrs, (ahowing,) whsrs

The Limestone of the Country Rock,

With also linss of fracture and fisauring, hound the deposits at those points.

Q. Now name those points where it is houndsd hy that? A. At this ore chambsr hensath the point of winze No. 5, and also at a point not on this map, where a long incline runs up or ahout the Lookout line. So fer as the surveyors have gone, they consider it to he just about on the Lookout line. I ses every structural evidence that the origin of this opening, or hollow in the rock, was hy a fissurs. I hslieve thet the ascending currents of minerelized hot weter from which this thing emanated, in passing upward throngh these fissures, owing to the soluhility—the ready soluhility of the limestone, has hers and there often very grsatly enlarged the original fissure, opening the great cavern which has bsen suhsequently filled hy ors. The whols history of the

Study of Mineral Deposits

Approaching this at all in charecter, show that they have proceeded from a deep-seated lahoratory. The minsrels of which they are composed, the mineral continuations, the chemioal combinations in which they are formed, cannot have heen made sxcspt by the successive introduction of minsralizing liqnids and gesses. The preaencs of gold, ths prssence of arsenic, the presence of eulphydric acid, which has mineralized the galena, taken together, indioate the regular succeaaion of chemical ohengee which have gone on eccording to the hest authoritiee in chemico-geology in all veins. The peculiarities, I contend of this particular deposit, are wholly to be accounted for hy the special condition of the conntry rock. Veins in general, that is I mean

True Veins,

Mey he said to he the result of the forces of fissuring from a deep source, and, eecond, of the emanation of chemical materiale from that deep and heated source. They differ from each other widely ae to appearancee, widely as to chemical hietory, and widely ae to ehape and form. Those veins which ere in the solid granite, and in a large family of gneiee and cuptalline echist rocks, preaent the phenomena of an ordinery tabuler vein. Those veins, on the contrary, owing their origin to similar forces, but created in different conntry rock—thoee that are found in the volcenic rocks, the porphyries of Mexico, the porphylite of Hungary, and the porphyries of Washoe, are immese irregular veins, owing to peculiaritiea of the texture of the rock, and the tendency to conchoidal fracturea, forming elliptical chambers which those volcanic rocks posseas. There is a third claas of veins, thoae where the identical forces have acted on eoft, sugary rocke, rocks which from their mineralogical and lithological structure, have a tendency when met hy a given force to ahatter in every direction. That clase of stones are the limestonee and the dolomites of this world, and the eame forces have acted on these dolomites and limeatones in their metamorphic conditiona. The reaults have heen immenee irregular fractures of very great diversity of form, and a coneequent irregularity and difficulty of following the ore depoeit itself. I contend that the sole difference hetween the three classes of veine is, that of the country rock upon which the fisauring force has acted, and through which the deep-seated chemistry has done its work. I also lay down this proposition: that given the deep-seated fissure, and given the deep-eeated chemical action, the form has nothing to do with its nature as a vein, and that the amplitude or irregularity of chambere is in no way—in no way militatee against the theory of its heing a vein. I pronounce this to he a vein.

Mr. Wren—Q. Where is the top or apex of that lode? A. The apex of anything is ite top, and the apex, as I nnderstand it, of a mineral vein, ie its outcrop, if it has one, and if it has not, the highest point on any given section to which the vein matter rises. In thia case, having a very definite outcrop, I should say that unqueetionably the apex of the hody was there.

PROFANITY never did any man the least good. No man is the richer, or happier, or wiser for it. It commends no one to any society. It is disgnsting to the refined, abominable to the good, insulting to those with whom you associate, degrading to the mind, unprofitable, needless, and injurious to society.

NONE are so seldom found alone, and are so soon tired of their company, as those coxoombs who are on the best terms with themselves.—*Lacon*

The San Francisco Mint.

The annnal "olean-up" of the Mint in this city was completed June 30th. The Mint haa hesn closed for several wseka past for this purpose. The Coiner's statsment is as follows for the fiscal year :

	Ouncee.	Value.
Gold Bullion worked.....	1,547,938.61	$30,659,322.97
Legal Waetage on eame...	2,042.48	37,664.84
Actual Waetage.....	48.58	903.35
Silver Bulion worked.....	183,265.94	213,436.73
Legal Waetage on eame....	284.54	331.00
Actual Waetage.....	1.41	1.64

Ths following teble shows the legal waetage allowsd on bullion manipulated hy the coiner, as well as the actual wastage during the past four fiscal years:

GOLD BULLION.

Fiecal. Year.	Legal Waetage. Ouncee.	Value.	Actual Waetage. Ouncee.	Value.
1869-70.....	2,731.91	$50,826.25	19,26	$358.45
1870-71.....	2,682.28	49,902 88	47.02	874.79
1871-72.....	2,601.14	48,393.30	51.43	956.83
1872-73.....	2,024.48	37,664.84	48,58	903.35

SILVER BULLION.

1869-70.....	1,707.55	$1,986.96	44.39	$51.67
1870-71.....	2,414.03	3,017.53	52.94	78,66
1871-72.....	3,246.15	4,057.69	173.34	216.68
1872-73.....	284.54	331,00	1.41	1.64

In speaking of the efficiency of the Coiner, Mr. Harmstead, the *Bulletin* says: If we take the eight previoua annual ssttlements, and divide them into two parts, and compere the aggregate of these two periods of four ysara eech, with ths opsrations of the outgoing Coiner, we have the following sxhibit:

GOLD MANIPULATED.

Three Settlements ending with	Gold Bullion. Worked.	Legal. Wastage.	Actual. Waetage.
June 30, 1866, ounce..	7,507,611.95	11,261.38	615.04
August 14, 1869.....	5,970,112.60	8,355.14	1,207.14
June 30, 1873.....	5,991,498.92	10,039.81	165.29

SILVER MANIPULLATED.

Three Settlements ending with	Silver Bullion. Worked.	Legal Wastage.	Actual. Waetage.
June 30, 1866, ounces..	2,898,725.47	5,777.49	302.25
August 14, 1869.....	3,133,890.08	6,267.75	352,38
June 30, 1873.....	3,867,126.89	7,652 27	282.08

The first column shows the quantitiss of hullion which heve passed through the handa of the respective coinere; the eecond oolumn gives the amount of waetage ellowed hy the Government in the manipuletion of thie bullion into coin, while the dast column shows how much wes neceeeeerily lost in the procese. While all the coiners heve come largely within the legel limits, the officer in charge for the last four years haa made decidedly the best record in thie reepect. The value of his legal wastage on gold bullion ie $186,787, while the value of his actuel waetage is only $3,093. On silver hullion, the value of the legal wastage allowed him ie $9,393, and his actual wastage is leas than $349.

The atetement of J. P. Cochran, Smelter and Refiner of the Mint for the fiscal year, ending June 30th, 1873, is as follows:

GOLD MELTED.

Gold Bullion operated on during the year, in standard ouncee.....	2,058,679.59
Value of the Gold worked.....	$38,301,015.29
Legal limit of Waetage, etandard ouncee	3,582.95
Actual Wastage.....	232,43
Value of Legal Waetage.....	$56,659.53
Value of Actual Waetage.....	$4,324.37

SILVER MELTED.

Silver Bullion operated on during the year, in standard ounces.....	286,900,99
Value of Silver worked.....	$333,848.42
Legal limit of Waetage, etandard ounces	524.71
Value of Legal Wastage.....	$610.57
Excess of Silver delivered in settlement above am't ch'g'd limit, etandard oze.	1,214 .50
Value of excee.....	$1,554.56

RECAPITULATION.

Value of Legal Waetage on Gold.....	$66,659.53
Value of Legal Wastage on Silver.....	610.57
Total value of Wastage.....	$67,270.10
Value of actual Waetage on Gold $4,324.37	
From this deduct value of Silver excess..... 1,554.56	
And we have as the actual loee to Government.....	$2,769.81
Showing within the Legal loee the eum of	$64,500.29

The Mint opened on the 1st inst. under the charge of O. H. Lagrange, Superintendent; J. M. Eckfeldt, Melter and Refiner; and J. T. Bahcock, Coiner.

The following report of the San Francisco Assaying and Refining Works for June haa been published:

Unparted Gold Bullion received in exchange from the Mint of the United States by San Francisco Aeeaying and Refining Worke during June, 1873:

	Ounces.	Value.
Gold.....	11,019.44	$205,057.23

Refined Gold and Silver deposited in United States Mint during June, 1873, by San Francisco Assaying and Refining Worke:

	Ounces.	Value.
Gold.....	98,793.29	$2,026,028.06
Silver.....	32,575.10	$41,054.75
Gold deposited in Mine.....	98,793.29	$2,026,028.06
Gold eold in market.....	6,999.90	143,760.41
Total Product of Refinery.....	105,793.19	$2,169,788.47

Of the above fine eilver $40,000 wae deposited for Trade Nollare. As compared with June last year the result ie ae follows eent to Mint:

	Gold. Ounces.	Value.	Silver Ouncee.	Value.
1872.....	85,680.04	$1,756,840.77	1,580.15	$2,116.25
1873.....	98,793.29	2,026,028.06	32,575.10	41,054.75

TO ENLARGE.—Pending the result of the hig Cerro Gordo mining euit are the proposed enlargement and exteneive improvemente of the Belshaw & Beaudry furnaces. For some time they have heen preparing to more than double their producing capacity, hy means of more powerful blowers and cupolas of three timee the eize of those now in use. It ia to be hoped that the euit will not long delay these operations.—*Inyo Independent.*

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For Processes, frequently no model or drawings are necessary. In such case, the applicant has only to send us an exact description, and what is desirable to claim.

For designs no models are necessary. Duplicate drawings are required, and the specification and other papers should be made up with care and accuracy. In some instances for design patents two photographs, with the negative, answer well instead of drawings.

For further information, send a stamp for our illustrated circular, containing a digest of PATENT LAWS, 112 illustrated mechanical movements, and HINTS and INSTRUCTIONS regarding the RIGHTS and PRIVILEGES of inventors and patentees, which will be furnished post paid. Also a copy of NEW PATENT LAW of 1870.

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COMMENCING

Sunday, June 29th, 1873,

And until further notice, Trains and Boats will

LEAVE SAN FRANCISCO.

7.00 A. M. (Daily). Atlantic Express Train (via Oakland) for Sacramento, Marysville, Redding, and Portland, O., Colfax, Reno, Ogden and Omaha

7.30 A. M. (Daily). Cal P. R. R. Steamer (from Broadway Wharf)—Connecting at Vallejo with Trains for Calistoga, Knight's Landing and Sacramento; making close connection at Napa with stages for Sonoma.

12.00 M. (Sundays excepted). Stockton Steamer (from Broadway Wharf), touching at Vallejo, Benicia, and Landings on the San Joaquin river.

3.00 P. M. (Daily). San Jose Passenger Train (via Oakland), stopping at all way Stations.

4.00 P. M. (Sundays excepted). Passenger Train (via Oakland) for Lathrop, Merced, Visalia, Tipton, and Los Angeles, Stockton and Sacramento.

4.00 P. M. (Sundays excepted). Cal. P. R. R. Steamer (from Broadway Wharf) connecting at Vallejo with Trains for Calistoga, Knight's Landing and Sacramento.

4.00 P. M. (Sundays excepted). Sacramento Steamer (from Broadway Wharf), touching at Benicia, and Landings on the Sacramento river.

6.30 P. M. (Daily). Overland Emigrant Train (via Oakland)—Through Freight and Accommodation.

OAKLAND BRANCH.—LEAVE SAN FRANCISCO, 7 00, 8 10, 9 20, 10 10 and 11 20 a. m., 12 10, 1 50, 3 00, 4 00, 5 15, 6 30, 8 15 9.20 and *11 30 p. m. (9 20, 11 20 and 3 00 to Oakland only).
LEAVE BROOKLYN (for San Francisco), *5 30, 6 40, 7 50, 9 00 and 11 00 a. m., 1 30, 2 40, 4 55, 6 10, 7 55 and 10 10 p. m.
LEAVE OAKLAND, *5 40, 6 50, 8 00, 9 10, 10 00, and 11 10 a. m., 12 00, 1 40, 2 50, 3 50, 5 05, 6 20, 8.05 and 10 20 p. m.
ALAMEDA BRANCH.—LEAVE SAN FRANCISCO, 7 20, 9 00 and 11 15 a. m., 1 30, 4 00, 5 30, and 7 00 p. m. (7 20, 11 15 and 5 30 to Fruit Vale only).
LEAVE HAYWARDS (for San Francisco), *4 30, 7 00 and 10 45 a. m., and 3 30 p. m.
LEAVE FRUIT VALE, *5 25, 7 35, 9 00 and 11 20 a. m., 1 30 4 05 and 5 30 p. m. *Except Sundays.

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Geologist and Mining Engineer.
San Francisco, June 17, 1873. jn21-4t

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21v26-tf

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It is Cheaper, Handsomer, more Durable and Elastic than the best of any other Paint.

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15v28-3meowhp HEALY & JEWELL, Agents.

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Incorporated in Geneva, Switzerland, January 20th, 1873.

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SUCCESSORS TO MESSRS. HENTSCH & BERTON,
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Directors:

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Is annexed to the Bank. Assays of gold, silver, quartz, ores and sulphurets. Returns in coin or bars, at the option of the depositor. Advances made on bullion and ores.

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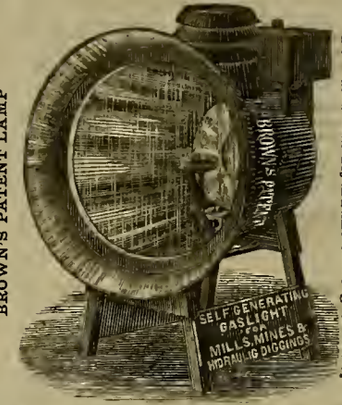
BROWN'S PATENT LAMP



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MR. C. B. BROWN—SIR: Your Patent Lamp for lighting hydraulic mines, which you sold to me in December last, has given entire satisfaction, and far exceeds my expectations, and I think it the best and cheapest light ever used to light mining claims by night, and am satisfied that I have saved three hundred dollars by the use of it in the last mining season over pitch or any other light of the same brilliancy; and I will also say that if I could not get another lamp, five hundred dollars would not buy it. Yours,

W. D. APLIN.

Little York, Nov. 5, 1872.

For further particulars, address,
fe22-tf C. B. BROWN, Placerville, Cal.

P. J. PHILLIPS & CO., No. 608 Clay street, near Montgomery, San Francisco, are agents for Brown's Lamp, where it may be seen.

The California Powder Works

No. 314 CALIFORNIA STREET,
SAN FRANCISCO.

Manufacturers and have constantly on hand

SPORTING,
MINING,
And BLASTING
POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosives now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

JUST PUBLISHED.

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MAP OF UTAH.

SIZE, 40 BY 56 INCHES; SCALE, 8 MILES TO AN INCH.

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PURCHASERS please say advertised in Scientific Press.

Directory.

Menzo Spring---Manufacturer of the Dr. Bly Artificial Limbs, has removed from 101 Jessie street to 166 Tehama street, near northeast corner of Third and Tehama, and between Howard and Folsom streets. Address Menzo Spring, 166 Tehama st., San Francisco, Cal.

DR. AIKIN, 501 Kearny st., N. E. cor. California st., S.F., cures Catarrh, Deafness, Ear Discharges, Deformities, and all Eye, Ear, Lung, Liver, Kidney, Blood, Nerve, Chronic, Special and Men's Diseases. Friendly advice; skillful treatment for all invalids. Medicines supplied. Hours, 10 to 4 and 6 to 8. Call or write. Ladies, married or single, speedily cured of any ill health. 23v26

H. C. BENNETT,
STATISTICIAN.
Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

RICHARD H. STRETCH, Civil Engineer,
City and County Surveyor.
Office—Room 16, City Hall. 11v24-3m

GILES H. GRAY. JAMES M. HAVEN.
GRAY & HAVEN,
ATTORNEYS AND COUNSELORS AT LAW,
In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,
SAN FRANCISCO.

JOHN ROACH, Optician,
429 Montgomery Street,
S. W. corner Sacramento.
Sole Agent for Instruments made, repaired and adjusted
22v17-3m

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SEAL ENGRAVER,
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Brass and Steel Stamps and Dies, 608 Sacramento street, San Francisco. Orders by express promptly attended to.

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry).
N. W. corner Natoma and Fremont streets, S. F. Entrance on Natoma street. 6v23-3m

San Francisco Cordage Company.
Established 1856.
We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manilla Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.
TUBBS & CO.,
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Capital, One Million Dollars.
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No. 415 California street, San Francisco.
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DR. ABORN,
Physician and Operating Surgeon
FOR CHRONIC DISEASES,
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Diseases of a chronic and obstinate character, especially such cases as have for years, or a lifetime, resisted the ordinary modes of treatment, are the class of maladies in the treatment of which Dr. Aborn has become pre-eminent on the Pacific Coast, as well as throughout the Union, and by his success has achieved for himself an enviable reputation. 23v25-1y

JOSEPH GILLOTT'S
STEEL PENS.
Sold by all Dealers throughout the World.
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Sampler and Crusher of Ores,
NO. 11 DRUMM STREET,
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PATRICK GIBBONS,
Sole Proprietor for the Pacific States and Territories, of
VAN PAPPELENDAM'S PATENT
Metallic Roofing and Wall Tiles,
(Patented June 13th, 1871.)
SAN FRANCISCO OFFICE—At Messrs. TRANOR & KNOX, 513 California street.
RESIDENCE—308 Tenth street, Oakland, Cal. jn21-3m

(Continued from Page 21.)

1300-ft level, and the station is opened for a drift north into the level.

ARIZONA AND UTAH.—The main shaft of the Arizona and Utah is down 350 ft. and an incline is being sunk on the ledge in the main east tunnel, which is passing through quartz, with occasional spots of good ore.

GLOBE.—Arrangements have been made to prospect the Globe mine through the Arizona and Utah.

NEVADA.—The new shaft of the Nevada mine is progressing well, 6 ft. being added to its depth last week. The rock is hard, but works well.

BALTIC CONS.—The tunnel of the Baltic Cons. is going ahead well, and yesterday some pieces of ore were found assaying from $18 to $25 per ton. Another shift of men will be put to work next Monday.

TYLER.—The Tyler shaft, 150 ft. deep, is having the water pumped out of it, and next Monday sinking will be resumed for the ledge.

CROWN POINT EX.—The sinking of the large new working shafts of the Crown Point Extension and the Lower Comstock progresses at a very energetic and satisfactory rate.

LADY WASHINGTON.—The hoisting works of the Lady Washington are nearly completed, building and all. The same may be said of the Daney.

GREEN.—The old shaft of the Green mine is cleared out and retimbered down to the incline, which shows signs of having caved to some little extent. As soon as this can be cleared out and retimbered, drifting for the ledge will be commenced at once.

PICTOU.—The main tunnel of the Pictou is being driven ahead with characteristic energy.

JACOB LITTLE.—Good ore in the second crosscut, which assays from $50 to $350 per ton.

YELLOW JACKET.—Drifting both north and south at the 1400-ft., and 1500-ft. levels, develops only excellent indications as yet.

FRANKLIN.—Are making about 5 ft. per day in the main drift, and are thought to be very near the ledge.

VULTURE.—The main shaft is down 30 ft. The whole shaft is now quartz, in which occur frequent bunches of ore of a very high grade. The general prospect for soon striking a body of solid ore is extremely encouraging. Sinking is progressing rapidly.

ALADDIN.—Now down 134 ft., and still sinking. There is no change to note at this time. The prospects continue good.

PORTLAND.—The connection between the new shaft and the old works, perfected some two weeks ago at a depth of 200 ft. having ventilated the mine thoroughly, work is now progressing rapidly. Working 17 men, and much larger amounts of ore from the stopes than ever before.

THE WASHINGTON AND CREOLE MINE.—Shipped last Monday, $5,955.97, and will ship the coming week about $7,500. The bullion produced for the last three weeks has been steadily increasing, and from present indications the percentage of increase seems likely to continue. The results of two hars melted and assayed yielded respectively 1300 and 1399 ozs., of which $448.10 was gold—a percentage of over 12½ of gold in the bullion product. &c.

Arizona.

YAVAPAI COUNTY.

Arizona *Miner*, June 21: Prospecting in Walnut Grove District is being carried on with very promising results, and indications show that this will soon become a very extensive mining district. There is always an abundance of water.

WAR EAGLE.—Jackson & Co. have got down to within 5 ft. of good pay ore in this mine, and their reduction-works are grinding out and saving considerable gold.

CORNUCOPIA.—The developments in this mine how as large deposit of very rich decomposed ore.

Idaho.

RED WARRIOR.—Idaho *Statesman*, June 28: On Tuesday last, Hon. John McNally concluded the crushing of some thirty tons of ore, which yielded about $963. Yesterday he made a clean-up, from 22 7-2000 tons of Wide West ore, with the following result: 128 4-16 ounces of gold; coin value, $1,775.50, which would be at the rate of $81.50 in coin per ton. He has about 100 tons more of ore to crush for himself and others, at Red Warrior, which he will keep pounding away at until it is reduced, that is very rich, and is estimated will yield from $6,000 to $10,000, and there is plenty more of the same kind to be had.

The Pittsburgh and Idaho G. M. Co. have about surmounted all the obstacles in the way of their hoisting works, and will now soon be taking out ore from their mine, the Ida Ellmore. Hon. A. E. Huffaker has been appointed foreman of this mine.

Capt. G. F. Settle & Co. made their first clean-up yesterday, of some 90 tons of ore from the Vishun. It is believed they will have between $4.000 and $5,000, and that there is $10,000.

W. P. Callahan, Esq., in connection with his brother, and Mr. Stephen William, have commenced to crush on some 40 or 50 tons of ore, taken from the Eureka, that is very rich and will pay over $100 to the ton.

Montana.

NOTES.—Deer Lodge City *Independent*, June 21st, says: The old Harris mine, in Jefferson gulch is being worked with plenty water and will clean up a large amount of dust during the season.

Claims in California gulch are paying $20 per day to the hand, with plenty of ore ahead.

American gulch is being worked by McConnell & Co., and are making large clean-ups.

Seaton & Co., at the mouth of Washington gulch have 7 ft. of pay gravel, and all the water they can use; ground pays well and plenty of it to work. Farther up the gulch, Brown & Co. and Buggin & Co. are doing well. Joe Parmantel, next above, is ground-sluicing; pay on bed rock is unusually good.

Highland gulch is being worked by 3 companies with flumes with good prospects of success.

Oregon.

THE OCHOCO MINES.—State *Journal*, June 28: The latest and most reliable information we have from this new mining camp is not very encouraging. Mr. George Milligan, well known in this county, writes to his friends not to be in a hurry in starting for the mines. He has been to the new camp, and thinks the prospect is not very flattering.

Utah.

CITY CREEK MINES.—Salt Lake *Journal*, June 28: The late discoveries made in City Creek Canon are extending further than was at first anticipated. A new discovery, and one of importance is that made by Messrs Houtz and Sirine, two days ago near the mouth of North Mill Creek Canon. He is now in town purchasing provisions and material to send up to the new location, and work will be commenced upon it right away. The same character of ore as that found in the City Creek mines—galena—is found to exist in abundance at the mouth of North Mill Creek Canon, and a rush of miners to that section is now taking place.

The iron mine, near the site of Modoc city, owned by N. P. Woods, is being worked steadily, and yesterday ton tons of ore were taken out and placed on the dump. The last assay showed 66 per cent. of iron, but the ore now being taken out is much better, and will show a much greater percentage of iron.

Mr. Reamer has located another claim within 150 ft. of the mine above mentioned, and its development will commence immediately. The indications show a vein of rich galena.

Prospecting in this camp is attended with more trouble than elsewhere, owing to the thick brush through which prospectors have to sometimes cut their way, and the search for claims has to be conducted with much difficulty. Still the work goes on, and prospectors from the city are daily reinforcing those already in the canon.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Angels Quartz Mining Company---Principal place of business, 408 California street, San Francisco. Location of works: Angels Mining District, Calaveras County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 35), levied March 4th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

T D Matbewson	3	300	$450 00
T D Mathewson	4	314	471 00
T D Mathewson	5	500	750 00
T D Mathewson	17	25	37 50
T D Mathewson (not issued)		325 5-7	488 57
J H Fish, Trustee (not issued)		342 5-7	574 29
J H Fish, Trustee	20	50	75 00
J H Fish, Trustee	21	50	75 00
J H Fish, Trustee	22	50	75 00
J H Fish, Trustee	23	50	75 00
Mrs E B Fish	9	1000	1500 00
R M Anthony	18	100	150 00
R M Anthony (not issued)		45 5-7	68 57
R M Anthony	19	50	90 00
E H Sawyer	11	800	1200 00
E H Sawyer (not issued)		228 4-7	342 85
Geo. Osgood	12	400	600 00
Geo. Osgood (not issued)		114 2-7	171 43

And in accordance with law and an order made by the Board of Directors, on the 4th day of March, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on Monday, April 21st, 1873, at 2 o'clock P. M., of such day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. GEORGE CONGDON, Secretary.

Office, Room No. 1, 408 California Street, San Francisco, California (up stairs). a5-3t

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed for thirty days, at the same hour and place.

ap19 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is horeby postponed until Wednesday. June 18, 1873, at the same hour and place.

mi7 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, July 16, 1873, at the same hour and place.

jl4 GEORGE CONGDON, Secretary.

Beckwith Mining Company---Location of works, Ely Mining District, Lincoln county. State of Nevada. Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1th day of July, 1873, an assessment of fifteen (15) cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on Monday, the 11th day of August, 1873, will be deemed delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 2d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors. WM. H. WATSON, Secretary.

Office, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, California. jy5-td

Bunker Hill Quartz Mining Company—Location of works: Amador, Amador County, California. Principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock on account of assessment, (No. 10) levied June 5th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Wales L Palmer	113	20	$200 00
Wales L Palmer	120	20	200 00
Wales L Palmer	121	20	200 00
Wales L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmer	125	20	200 00

And in accordance with law and an order of the Board of Directors, made June 5th, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the company, No. 19 First street, San Francisco, Cal., on Monday, July 28th, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office—No. 19 First St., San Francisco, Cal. jy19

The California Beet Sugar Co.—Location of principal place of business, San Francisco, California. Location of Works: Alvarado, Alameda County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Name.	No. Certificate.	No. Shares.	Amount.
W. T. Garratt	2	125	$1250
W. T. Garratt	40	63	630
Ephraim Dyer	6	63	630
Ephraim Dyer	39	62	620
H. G. Rollins	9	63	630
H. G. Rollins	35	25	250
H. G. Rollins	35	12	120
Wm. B. Carr	23	250	2500
Wm. B. Carr	62	38	380
E. H. Dyer	27	5	50
E. H. Dyer	71	245	2450
Austin D. Moore	50	50	500
T. G. Phelps	58	53	530

And in accordance with law and an order of the Board of Directors made on the 26th day of May, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction at the office of the company, No. 314 California street, San Francisco, California, on Tuesday the 22d day of July, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS FRANCONI, Secretary.

Office, No. 314 California street, San Francisco, Cal.

The Central Land Company—Location of office and principal place of business, No. 333 Montgomery street, Room 5, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of Assessment levied on the ninth day of June, 1873, the several amounts set opposite the names of the repective shareholders as follows.

Names.	No. Certificate.	No. Shares.	Amount.
P L Weaver (Executor,	37	150	$187 50
Edward McLean, and F Warner.	35	100	125 00
F B Haswell	35	100	125 00
F B Haswell	34	100	125 00
F B Haswell	33	100	125 00
F B Haswell	30	50	62 50
F B Haswell	29	50	62 50
Edward McLean	12	50	62 50
Edward McLean	11	50	62 50
Edward McLean	10	50	62 50

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by the Secretary, at the said Room 5, 338 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

F. B. HASWELL, Secretary.

Office, No. 338 California street, Room 5, San Francisco, Cal. jy12

Dutch Flat Blue Gravel Mining Company. Place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 13th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Booth, L A	13	2000	$1000
Booth, L A	14	1000	500
Booth, L A	15	1000	500
Cope, G W, Trustee	57	100	50
Cope, G W, Trustee	58	100	50
Cope, G W, Trustee	59	100	50
Cope, G W, Trustee	70	100	50
Dorsey, E B	37	500	250
Dorsey, E B	42	200	100
Dorsey, E B	43	100	50
Dorsey, E B	44	100	50
Dorsey, E B	45	100	50
Dorsey, E B	46	100	50
Dorsey, E B	47	100	50
Fry, J D	17	500	250
Forbes, Alex, Trustee	52	2000	1000
Gashwiler, J W	35	800	400
Heydenfeldt, S	16	2000	1000
Haggin, J B	5	1000	500
Haggin, J B	6	1000	500
Roberts, G D	18	500	250
Roberts, G D	20	1000	500
Roberts, G D	21	1000	500
Roberts, G D	22	1000	500
Roberts, G D	25	1000	500
Roberts, G D	26	1000	500
Roberts, G D	27	1000	500
Roberts, G D	28	1000	500
Roberts, G D	29	1000	500
Raymond, W H	3	1000	500
Raymond, W H	4	1000	500
Richardson, E A, Trustee.	32	1000	500
Richardson, E A, Trustee.	33	1000	500
Richardson, E A, Trustee.	34	1000	500
Richardson, E A, Trustee.	35	1000	500
Richardson, E A, Trustee.	49	500	250
Richardson, E A, Trustee.	50	200	100
Richardson, E A, Trustee.	51	100	50
Richardson, E A, Trustee.	54	1000	500
Richardson, E A, Trustee.	55	1000	500
Richardson, E A, Trustee.	56	1000	500
Taylor, H W	50	180	90
Taylor, H W	51	20	10
Taylor, H W	64	500	250
Whitcomb, C A	53	100	50

And in accordance with law and an order of the Board of Trustees, made on the 13th day of May, 1873, so many shares of each parcel of said stock as may be necessary will be sold at the office of the company, room 11, 401 California street, San Francisco, Cal., on Monday, the 14th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. W. M. HELMAN, Secretary.

Office—Room 11, No. 401 California street, San Francisco, Cal. jn28

Equitable Tunnel and Mining Company, Location of works, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fifth day of May, 1873, an assessment (No. 2) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 35 New Merchants' Exchange. Any stock upon which this assessment shall remain unpaid on the tenth day of June, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the thirtieth day of June, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. CHARLES S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco Cal.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, July 2d, 1873, and the sale thereof until Tuesday, the 22d day of July, 1873. By order of the Board of Directors. CHAS. S. HEALY, Secretary.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Thursday, July 17, 1873, and the sale theref until Friday, August 8th, 1873. By order of the Board of Directors. CHAS. S. HEALY, Secretary.

Frear Stone Company of California---Location of works and principal place of business, City and County of San Francisco, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment, No. 5, levied on the 27th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bootb, Lucius A	11	405	$810
Booth, Lucius A	12	45	90
Coleman, John W	54	400	800
Cornell, M E	110	20	40
Dam, G W	99	10	20
Dam, G W	107	5	10
Emery, J S	34	450	900
Spaulding, N W	15	405	810
Spaulding, N W	15	45	90
Spaulding, N W	10	405	810
Spaulding, N W	20	45	90
Syer, Robert	95	50	100
Tripp, E	41	8	15
Wegener, R, Trustee	55	5	10
Wegener, R, Trustee	72	11	22
Wegener, R, Trustee	73	34	68
Wegener, R, Trustee	76	50	100
Wegener, R, Trustee	90	250	500

And in accordance with law, and an order of the Board of Directors, made on the 27th day of May, 1873, so many shares of each parcel of said Stock as may be necessary, will be sold at public auction at the office of he C mpany, No. 414 California street, San Francisco, California, on Monday the 21st day of July, 1873, at the hour of one o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco, California.

Great Blue Gravel Range---Location of Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 12th day of June, 1873, an assessment (No. 3) of ten (10) cents per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States, to the Secretary at his office, Room 5 and 5, No. 302 Montgomery street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on Monday, the 14th day of July, 1873, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the 5th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors. WM. H. WATSON, Secretary.

Office, Room 5 and 6, No. 302 Montgomery street, San Francisco, Cal. jl1-d&s

Globe Mining Company — Location of works, Gold Hill, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment (No. 3) of seventy-five cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 26 Hayward's Building, No. 419 California street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 4th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

JOSEPH MAGUIRE, Secretary.

Office, Room 26, Hayward's Building, No. 419 California street, San Francisco, Cal. jy5

Hasloe Mill and Mining Company—Principal place of business, No. 408 California street, San Francisco. Location of works: Mariposa County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 14th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
G B Dieforrari	3	10	$ 5 00
W m D Higgins	74	50	25 00
T V Julian	71	10	5 00
W m H F Minnie	25	50	25 00
Margaret Ragsdale	44	50 bal	2 50
Margaret Ragsdale	45	25	2 50
C Irving Smith	52	10	5 00
C Irving Smith	53	10	5 00
C H Roberts	57	25	12 50
C H Roberts	58	25	12 50
G W Woods	47	20	10 00
W H Thomas	10	1	5 00
W H Thomas	24	15	7 50

And in accordance with law, and an order of the Board of Directors, made on the 14th day of May, 1873, so many shares of each parcel of such stock as may be necessary, will ha sold at public auction, at the office of tha company, No. 408 California street, San Francisco, California, on Monday, the 21st day of July, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

J. W. TRIPP, Secretary.

Office—408 California street, up stairs, San Francisco Califoruia. jy-5

Heckerdorn Gold and Silver Mining Company. Principal place of business, San Francisco, California. Location of works, Blue Mountain District, Calaveras County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 9th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Louis Reiff	174	400	$100 00
Frank Lyon	158	40	10 00
Isidore Lyon	138	20	5 00
Berson	161	100	25 00
Monin	157	100	25 00
A Mayer	151	100	25 00
Hanson	119	60	15 00
Savveyeur	93, 107, 156, 840		210 00
Hoag	149, 145,	1000	200 00
Louis, N Y	201	800	200 00
Louis, N Y	209	100	25 00
Louis, N Y	167	400	100 00
Louis, N Y	168	400	100 00
Saintat	169	20	5 00
Saintat	94	20	5 00
Saintat	95	20	5 00
Saintat	96	20	5 00
Saintat	97	20	5 00
Caterine, N Y	135	100	25 00

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, No. 734 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS TERME, Secretary.

Office, 734 Montgomery street, San Francisco California. jy12

Lady Esten Tunnel and Mining Company. Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location, of works, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of June, 1873, an assessment (No. 3) of five cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 17th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 6th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. CHAS. S. HEALY, Secretary.

Office, 35 New Merchants' Exchange, California street, San Francisco, California. jl4

Lady Franklin Gold and Silver Mining Co. Principal place of business, City and County of San Francisco, State of California. Location of works, Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of July, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office—507 Montgomery street, San Francisco, California. jy19

Manhattan Marble Company of California—Principal place of business, San Francisco. Location of works, Oakland, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 23d day of June, 1873, an assessment of one dollar per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francisco.

Any stock upon which this assessment shall remain unpaid on the 24th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 11th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office, 319 Pine St., S. F., Cal.

Orient Silver Mining Company-- Location of principal place of business, San Francisco, California. Location of works, Ely Mining District, Lincoln County, Nevada.

Notice is hereby given, that at a meeting of the Directors, held on the 14th day of June, 1873, an assessment (No. 2) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 25, Hayward's Building, No. 418 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 19th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 11th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

JOSEPH MAGUIRE, Secretary.

Office, Room No. 26, Hayward's Building, No. 419 California street, San Francisco, California. jl6

Newton Booth Consolidated Mining Company.

Location of principal place of business, San Francisco, California. Location of works, Ely Mining District, Lincoln county, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the seventh day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares	Amount.
T Campbell, Trustee	14	100	$50 00
T Campbell, Trustee	15	100	50 00
T Campbell, Trustee	16	100	50 00
T Campbell, Trustee	17	100	50 00
T Campbell, Trustee	18	100	50 00
T Campbell, Trustee	19	100	50 00
T Campbell, Trustee	20	100	50 00
T Campbell, Trustee	21	100	50 00
T Campbell, Trustee	22	100	50 00
T Campbell, Trustee	23	100	50 00
T Campbell, Trustee	24	100	50 00
T Campbell, Trustee	25	100	50 00
T Campbell, Trustee	26	100	50 00
T Campbell, Trustee	34	100	50 00
T Campbell, Trustee	35	100	50 00
T Campbell, Trustee	37	100	50 00
T Campbell, Trustee	38	100	50 00
T Campbell, Trustee	39	100	50 00
T Campbell, Trustee	40	100	50 00
J T Babcox	41	50	25 00
J T Babcox	42	25	12 50
J T Babcox	43	25	12 50
T Campbell	45	50	25 00
T Campbell	46	50	25 00
T Campbell	47	50	25 00
T Campbell	48	50	25 00
T Campbell	49	50	25 00
T Campbell	50	50	25 00
T Campbell	51	50	25 00
T Campbell	52	50	25 00
T Campbell	53	50	25 00
T Campbell	57	25	12 50
T Campbell	58	25	12 50
T Campbell	59	50	25 00
T Campbell	60	100	50 00
T Campbell	61	100	50 00
T Campbell	62	100	50 00
T Campbell	63	100	50 00
T Campbell	64	100	50 00
T Campbell	65	100	50 00
T Campbell	66	100	50 00
T Campbell	67	100	50 00
T Campbell	68	100	50 00
T Campbell	69	100	50 00
T Campbell	70	100	50 00
T Campbell	71	100	50 00
T Campbell	72	100	50 00
T Campbell	73	100	50 00
T Campbell	74	100	50 00
T Campbell	75	100	50 00
T Campbell	76	100	50 00
T Campbell	77	100	50 00
T Campbell	78	100	50 00
T Campbell	79	50	25 00
T Campbell	80	50	25 00
T Campbell	81	50	25 00
T Campbell	82	50	25 00
T Campbell	83	50	25 00
T Campbell	84	50	25 00
T Campbell	85	50	25 00
T Campbell	86	50	25 00
T Campbell	87	50	25 00
T Campbell	88	50	25 00
T Campbell	89	50	25 00
T Campbell	90	50	25 00
T Campbell	91	50	25 00
T Campbell	92	50	25 00
T Campbell	93	50	25 00
T Campbell	94	50	25 00
T Campbell	95	50	25 00
T Campbell	96	50	25 00
T Campbell	97	50	25 00
T Campbell	98	50	25 00
T Campbell	99	100	50 00
T Campbell	100	100	50 00
T Campbell	101	100	50 00
T Campbell	102	100	50 00
T Campbell	103	100	50 00
T Campbell	104	100	50 00
T Campbell	105	100	50 00
T Campbell	106	100	50 00
T Campbell	107	100	50 00
T Campbell	108	100	50 00
J G Cullen	113	44	22 00
O H Lagrango	114	434	217 00
C T Hutchinson	116	434	217 00
N Hamilton	117	217	108 50
A H Rutherford	119	650	325 00
C T Hutchinson, Trustee	121	500	250 00
C T Hutchinson, Trustee	122	500	250 00
C T Hutchinson, Trustee	123	50	25 00
J T Babcox	124	50	25 00
James L DuBois	125	100	50 00
Mrs T W Scott	126	100	50 00
R Frank Clarke	127	50	25 00
S J Raymond	128	25	12 50
T W Scott	129	50	25 00
S F Elliott	131	100	50 00
W P Voso	132	50	25 00
T Campbell	132	60	30 00
M Winants	135	100	50 00
T Campbell, Trustee	137	100	50 00
A H Miller	138	600	300 00
T Campbell, Trustee	139	200	100 00
O C Miller	140	109	54 50
Roh't F Scott, Trustee	141	1500	750 00
T Campbell	142	144	72 00
C I Hutchinson	144	500	250 00
James W Wright	145	100	50 00
James W Wright	146	100	50 00
James W Wright	147	100	50 00
James W Wright	148	100	50 00
James W Wright	149	100	50 00
James W Wright	150	100	50 00
James W Wright	151	100	50 00
James W Wright	152	100	50 00
James W Wright	153	100	50 00
James W Wright	154	100	50 00
James W Wright	155	100	50 00
James W Wright	156	100	50 00
James W Wright	157	100	50 00
James W Wright	158	100	50 00
James W Wright	159	100	50 00
T Campbell	150	135	67 50
T Campbell	151	210	105 00
W H Henderson	164	1000	500 00
B Herringhi	166	100	50 00
B Herringhi	167	100	50 00
B Herringhi	108	100	50 00
B Herringhi, Trustee	169	350	175 00
B F Sherwood & Co., Trustees	170	500	250 00
B F Sherwood & Co., Trustees	171	500	250 00
B F Sherwood & Co., Trustees	172	500	250 00
B F Sherwood & Co., Trustees	173	500	250 00
B F Sherwood & Co., Trustees	174	100	50 00
B F Sherwood & Co., Trustees	175	100	50 00
B F Sherwood & Co., Trustees	176	100	50 00
B F Sherwood & Co., Trustees	177	100	50 00
B F Sherwood & Co., Trustees	178	200	100 00
B F Sherwood & Co., Trustees	179	100	50 00
B F Sherwood & Co., Trustees	180	100	50 00
B F Sherwood & Co., Trustees	181	78	39 00
James W Wright	182	383	191 50
R F Scott, Trustee	183	234	167 00
R F Scott, Trustee	184	100	50 00
R F Scott, Trustee	185	100	50 00
T Campbell, Trustee	186	50	25 00
T Campbell, Trustee	187	50	25 00
T Campbell, Trustee	188	50	25 00
T Campbell, Trustee	189	50	25 00
B F Sides	190	100	50 00
B F Sides	191	100	50 00
B F Sides	192	100	50 00
B F Sides	193	100	50 00
B F Sides	194	100	50 00
W H Henderson	195	100	50 00
W H Henderson	196	100	50 00
W H Henderson	197	100	50 00
W H Henderson	198	100	50 00
W H Henderson	199	100	50 00
B F Sides	200	831	415 50
W H Henderson	201	1287	643 50
T Campbell	203	192	96 00
G Smith, Trustee	204	100	50 00
Myron Angel	205	100	50 00
W E Lamb	207	50	25 00
B F Sides	209	5618	2,809 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of May, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the company, No. 314 California street, San Francisco, California, on the 12th day of July, 1873, at the hour of 1 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. LOUIS FRANCONI, Secretary.

Office, No. 314 California street, San Francisco, California. jun14

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the fifth day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expense of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d4e

Placer Gold Mining and Canal Company.

Location of principal place of business, San Francisco, California. Location of works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Directors of said company, held on the eighth (8th) day of July, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 411 California street, San Francisco, California, on the

Any stock upon which this assessment shall remain unpaid on Monday, the eleventh (11th) day of August, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Saturday, the thirtieth (30th) day of August, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expense of sale.

GEO. W. R. KING, Secretary.

Office—411 California street, San Francisco, California. jy19

Regent Consolidated Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Little Cottonwood District, Salt Lake County, Utah Territory.

NOTICE.—There are delinquent upon the following described Stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, James M	46	10	$1 00
Allen, James M	48	10	1 00
Allen, James M	50	10	1 00
Allen, James M	51	10	1 00
Allen, James M	53	10	1 00
Allen, James M	54	10	1 00
Allen, James M	55	25	2 50
Allen, James M	56	25	2 50
Allen, James M	57	25	2 50
Allen, James M	58	25	2 50
Allen, James M	59	50	5 00
Allen, James M	60	50	5 00
Allen, James M	61	50	5 00
Allen, James M	62	50	5 00
Allen, James M	65	50	5 00
Allen, James M	67	50	5 00
Allen, James M	68	50	5 00
Allen, James M	69	1000	100 00
Allen, James M	73	50	5 00
Allen, James M	74	50	5 00
Allen, James M	75	100	10 00
Allen, James M	77	50	5 00
Allen, James M	182	250	25 00
Allen, James M	183	250	25 00
Allen, James M	185	250	25 00
Allen, James M	187	250	25 00
Allen, James M	190	250	25 00
Allen, James M	212	10	1 00
Allen, James M	213	10	1 00
Allen, James M	214	10	1 00
Allen, James M	215	10	1 00
Allen, James M	217	10	1 00
Allen, James M	219	10	1 00
Allen, James M	220	10	1 00
Allen, James M	222	100	10 00
Allen, James M	223	100	10 00
Allen, James M	224	100	10 00
Allen, James M	225	100	10 00
Allen, James M	226	100	10 00
Allen, James M	227	100	10 00
Allen, James M	229	100	10 00
Allen, James M	230	100	10 00
Allen, James M	235	20	2 00
Allen, James M	236	20	2 00
Allen, James M	237	20	2 00
Allen, James M	238	20	2 00
Allen, James M	239	20	2 00
Allen, James M	240	20	2 00
Allen, James M	241	20	2 00
Allen, James M	242	20	2 00
Allen, James M	243	20	2 00
Allen, James M	244	20	2 00
Allen, James M	245	20	2 00
Allen, James M	246	20	2 00
Allen, James M	247	20	2 00
Allen, James M	248	20	2 00
Allen, James M	250	20	2 00
Allen, James M	251	20	2 00
Allen, James M	252	50	5 00
Allen, James M	253	50	5 00
Allen, James M	254	50	5 00
Allen, James M	255	50	5 00
Allen, James M	256	50	5 00
Allen, James M	257	50	5 00
Allen, James M	258	50	5 00
Allen, James M	259	50	5 00
Allen, James M	260	50	5 00
Allen, James M	261	50	5 00
Allen, James M	262	50	5 00
Bessie, M D	254	50	5 00
Chase, Dudley	322	250	25 50
Fortune, H W	327	150	15 00
Gates, Mrs L	265	50	5 00
Gates, George	266	25	2 50
Gates, George	267	25	2 50
Gates, George	268	25	2 50
Gates, George	269	25	2 50
Gates, George	270	25	2 50
Gates, George	271	25	2 50
Hinckley, George E	154	50	5 00
Hinckley, George E	155	50	5 00
Hinckley, George E	156	50	5 00
Hinckley, George E	157	50	5 00
Hinckley, George E	165	50	5 00
Hinckley, George E	167	50	5 00
Hinckley, George E	321	100	10 00
Hinckley, George E	323	50	5 00
Hinckley, George E	324	50	5 00
Hinckley, George E	325	50	5 00
Higgins, W W	162	50	5 00
Higgins, W W	272	25	2 50
Higgins, W W	273	25	2 50
Higgins, W W	274	25	2 50
Higgins, W W	275	25	2 50
Higgins, W W	276	50	5 00
Higgins, W W	277	50	5 00
Higgins, W W	278	50	5 00
Higgins, W W	279	50	5 00
Higgins, W W	282	50	5 00
Higgins, W W	283	50	5 00
High, W H	326	100	10 00
Shannon, Luke	307	50	5 00
Shannon, Mrs C A	308	40	4 00
Thompson, R M	306	10	1 00
Verdon, T J, Trustee	127	50	5 00
Verdon, T J, Trustee	128	50	5 00
Verdon, T J, Trustee	129	50	5 00
Verdon, T J, Trustee	130	50	5 00
Wallace, J A, Trustee	310	50	5 00
Wallace, J A, Trustee	311	100	10 00
Wallace, J A, Trustee	314	100	10 00
Wallace, J A, Trustee	316	100	10 00
Wallace, J A, Trustee	319	50	5 00
Wallace, J A, Trustee	320	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 26th day of May, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, Cal., on Tuesday, the 22d day of July, 1873, at the hour of 12 o'clock, M., of said day, to pay delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. L. USTICK, Secretary.

Office, 438 California street, San Francisco, California. jy5

Spring Mountain Tunnel Company—Principal

place of business, No. 37 New Merchants' Exchange, California street, San Francisco, Cal. Location of works, Ely Mining District, Lincoln County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of June, 1873, an assessment (No. 6) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, 37 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 18th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. J. M. BUFFINGTON, Secretary.

Office—37 New Merchants' Exchange, California street, San Francisco, Cal. jn28

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 26th day of June, 1873, an assessment (No. 5) of fifteen (15) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary of said Company, at his office, in San Francisco.

Any stock upon which said assessment shall remain unpaid on the 19th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 4th day of August, 1873, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office, 113 Leidesdorff street, San Francisco, Cal.

Silver Sprout Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Kearsarge Mining District, Inyo County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 3d day of June, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company in San Francisco. Any stock upon which this assessment shall remain unpaid on the 15th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 12th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 317 Montgomery street, San Francisco, California. j4

State of Maine Mill and Mining Company

—Principal places of business, San Francisco, California. Location of works: Amador County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 3) levied on the 23d day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amounts.
Jas M Allen, Trustee	77	200	$ 10 00
Jas M Allen, Trustee	78	100	5 00
Jas M Allen, Trustee	79	100	5 00
J M Buffington	20	1000	50 00
J M Buffington	6	600	30 00
J M Buffington	35	55	3 30
J M Buffington, Trustee	84	250	13 00
Platt Burr, Trustee	41	1000	50 00
Platt Burr, Trustee	49	20	1 00
Platt Burr, Trustee	50	20	1 00
Platt Burr, Trustee	51	20	1 00
Platt Burr, Trustee	56	50	2 50
Platt Burr, Trustee	57	50	2 50
Chas Borthwick	72	50	2 50
H B Congdon	35	20	1 00
H B Congdon, Trustee	36	100	5 00
H B Congdon	37	100	5 00
H B Congdon, Trustee	38	100	5 00
H B Congdon, Trustee	39	100	5 00
H B Congdon, Trustee	40	500	25 00
H B Congdon, Trustee	73	50	2 50
H B Congdon, Trustee	74	50	2 50
H B Congdon, Trustees	75	50	2 50
C P Dudley	75	500	25 00
John Fay	2	1000	50 00
John Fay	14	3000	150 00
Wm Faulkner	22	500	25 00
Mrs M G Faulkner	10	100	5 00
Mrs M G Faulkner	11	100	5 00
W H Higgins	4	1000	50 00
Jas L King	83	400	20 00
S L Marks	12	240	12 00
S L Marks	21	500	25 00
A C Morse, Trustee	42	500	25 00
A C Morse, Trustee	43	500	25 00
A C Morse, Trustee	44	100	5 00
A C Morse, Trustee	45	100	5 00
A C Morse, Trustee	46	100	5 00
A C Morse, Trustee	48	100	5 00
Mrs. E. E. Morse	80	100	5 00
H. H. Beach	3	1000	50 00
H. H. Beach	18	1000	50 00
Mrs. Ella Beach	23	400	20 00
Chas. B. Tilley	1	1634	81 70
W. J. Tilley	61	1000	50 00
L. N. Tower	28	100	5 00
J. H. Whitman	5	1000	50 00
J. H. Whitman	15	2600	130 00

And in accordance with law, and an order of the Board of Directors, made on tha 23d day of May, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, 306 Montgomery street, San Francisco, California, on the 21st day of July, 1873, at the hour of 12 o'clock M., of said day, to pay the said delinquent assessment thereon, together with costs of advertising and expenses of sale. H. B. CONGDON, Sec.

Office, 305 Montgomery street, San Francisco, Cal.

Stanislaus Water Company of California—

Principal place of business, 526 Kearny street, San Francisco. Location of works, near La Grange, Stanislaus County.

Notice is hereby given, that at a meeting of the Board of Directors held on the 2d day of July, 1873, an assessment (No. 2) of two cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, 526 Kearny st. Any stock upon which this assessment shall remain unpaid on the 10th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 26th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CLINTON C. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal. jy5

Yule Gravel Mining Company---Location

of works: Viola Claims, Township No. 8, Placer County, California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment, (No. 3) levied on the 5th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baker, Henry	353	20	$4 00
Bryant, A J	379	5	1 00
Cutter, S L	317	10	2 00
Conners, John	420	70	14 00
Dore, Benj, Trustee	95	50	10 00
Dore, Benj, Trustee	110	100	20 00
Dore, Benj, Trustee	114	50	10 00
Dore, Benj, Trustee	115	50	10 00
Dore, Benj, Trustee	117	50	10 00
Dore, Benj, Trustee	237	100	20 00
Gummer, W P	304	10	2 00
Hynemann, S, Trustee	382	20	4 00
Higgins and Green, Trustees	377	10	2 00
Higgins, W L, Trustee	398	20	4 00
Hill, John, Trustee	428	200	40 00
Hull, G W	400	100	20 00
Middleton, S P	433	100	20 00
McInerney, M J	406	155	31 00
Richardson, E A, Trustee	333	50	10 00
Richardson, E A, Trustee	390	10	2 00
Richardson, E A, Trustee	401	30	6 00
Romer, J L, & Co., Trustees	342	40	8 00
Romer, J L, & Co., Trustees	376	40	8 00
Schmidell, H, Trustee	307	25	5 00
Schmidell, H, Trustee	387	10	2 00
Sears, Wm H	319	25	5 00
Voight, Dr C	386	40	8 00
Watson, Wm H, Trustee	163	100	20 00
Watson, Wm H, Trustee	166	50	10 00
Watson, Wm H, Trustee	172	50	10 00
Watson, Wm H, Trustee	182	100	20 00
Watson, Wm H, Trustee	183	100	20 00
Watson, Wm H, Trustee	189	100	20 00
Watson, Wm H, Trustee	190	50	10 00
Watson, Wm H, Trustee	199	50	10 00
Watson, Wm H, Truetee	250	100	20 00
Watson, Wm H, Trustee	257	100	20 00
Watson, Wm H, Trustee	258	100	20 00
Watson, Wm H, Trustee	260	100	20 00
Lowenberg, S, Trustee	437	50	10 00
Lowenberg, S, Trustee	438	50	10 00
Logan and Edelen, Trustees	399	20	4 00

And in accordance with law, and an order of the Board of Directors, made on the 4th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the company, room 5 and 5, No. 302 Montgomery Street, San Francisco, California, on Tuesday, the 29th day of July, 1873, at the hour of 2 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. H. WATSON, Secretary.

Office—Room 5 and 6, No. 302 Montgomery St., San Francisco, Cal. jy12

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 9th day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at No. 402 Montgomery Street, room 23. Any stock upon which this assessment shall remain unpaid on the 16th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday the 8th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francisco. jy12

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Newburyport, Mass., June 25, 1873. jy12-4t

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Steam Engines and Boilers,

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Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

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18v20-3m GODDARD & CO.

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STEAM ENGINES,

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Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
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James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-oy

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GROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

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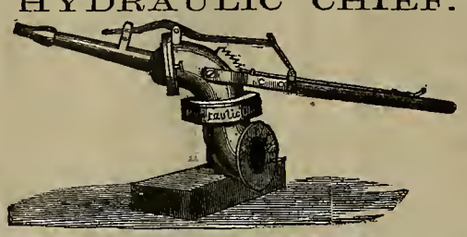

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The only reliable party in the Hydraulic business who protects his patrons.
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HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

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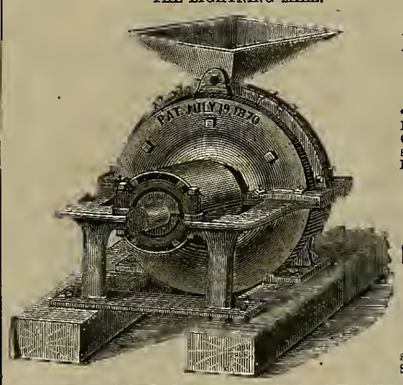

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For Pulverizing Quartz,

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No. 4	"	"	5½ lbs.	18	No. 20	"	6 lbs. 24
No. 5	"	"	6 lbs.	20	No. 21	Poll	4 lbs. 20
No. 6	"	"	6½ lbs.	22	No. 22	"	4½ lbs. 20
No. 7	"	"	7 lbs.	24	No. 23	"	6 lbs. 20
No. 8	Flat Eye	surface,	4 lbs.	18	No. 24	"	6½ lbs. 22
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No. 10	"	"	5 lbs.	18	No. 26	"	6½ lbs. 30
No. 11	"	"	5½ lbs.	20	No. 27	"	7 lbs. 30
No. 12	"	"	6 lbs.	22	No. 28	Coal	2 lbs. 14
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Washoe Mattocks and other Washoe goods cheap. Also, Pick Eyes ready for the steel, for Blacksmiths, which will be sold cheap. Prices from $12 to $16. 14v26-2am3m

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PATENT GRANTED.

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OVEN HOT IN TWO MINUTES.

Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment And the house unheated!

It has no rival in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it; a little Child can operate it, and

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Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows.

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

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WORKING TEST MADE BY ANY PROCESS —TESTING OF PROCESSES.

Plans furnished for the most suitable Process for Ores.

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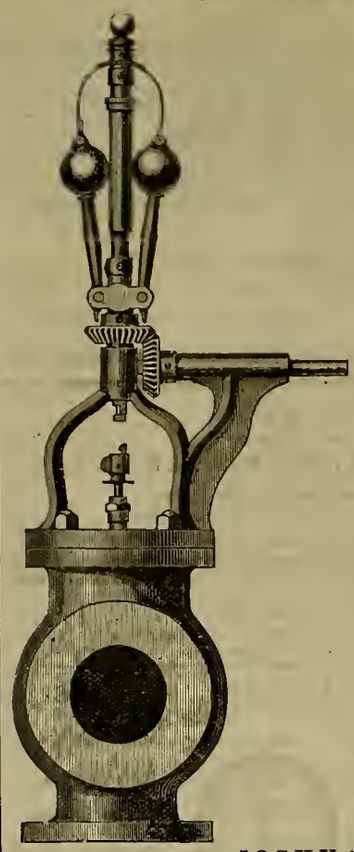
IMPROVED STEAM ENGINE REGULATOR.

OVER 400 HAVE BEEN PUT IN USE.



RECOMMENDATION.

St. Patrick Mill, Placer Co., Feb. 10, 1873.

JOSHUA HENDY, ESQ., San Francisco:

Dear Sir: We, the undersigned, take pleasure in giving you the following testimonial as to the merits of the Hendy Governor, which we ordered from you about four months ago. Though more than pleased with its workings at first, we deferred writing until we had tested it thoroughly.

Our engine is 12x36 (carrying 70 lbs. of steam), driving 15 stamps, 725 lbs. each; 1 Wheeler Pan, 1 Knox Pan, 6 Hendy Concentrators. The discarded Governor was the common "Arm and Ball Governor;" it giving but poor satisfaction, we decided to try the "HENDY," and are pleased to report in its favor for the following reasons:

1st. It Saves us Fuel. Previous to attaching your Governor we were burning 3¼ cords of wood per 24 hours. We now consume but 2½ cords doing the same work.

2d. For Safety. The "trip" saved us from an expensive smash up but a few days ago, during the temporary absence of our engineer. The Governor belt ran off the Pulleys. Your little automatic trip worked like a charm, and but one or two revolutions was the result, and no damage. Had we been using any other Governor, the probability is that we would not have had a whole cam in the mill.

3d. It is a Perfect Governor. We can turn off the Wheeler Pan and hang up one-third of our stamp, without any perceptible change in speed.

4th. The Adjustment for regulating the speed without increasing or reducing the size of our Governor pulley, is admirable, and as easily managed as setting a clock.

5th. It is Simple and not liable to get out of order, or requiring more than ordinary care.

Yours respectfully,

JAS. H. CROSSMAN, Supt.

GEO. H. BARNEY, Chief Eng'r.

REFERENCES:

Rhods Island Mill, Crown Point M. Co., Gold Hill, Nev.

Eureka M. Co., Overman M. Co., Virginia City, Nev.

Camp Floyd M. Co., Utah S. M. Co., Utah.

Falk & Miner, Eureka; J. M. Brown, Hollister; Gazos Mill, Pescadero, Cal.

Also, Bancroft & Co.; Yolo Mills; The Union, Golden Gate, Ætna and Fulton Iron Works, of this city.

All Governors Tested, the Number Revolutions Marked on the Cross-Head, and Warranted Perfectly Reliable.

JOSHUA HENDY,

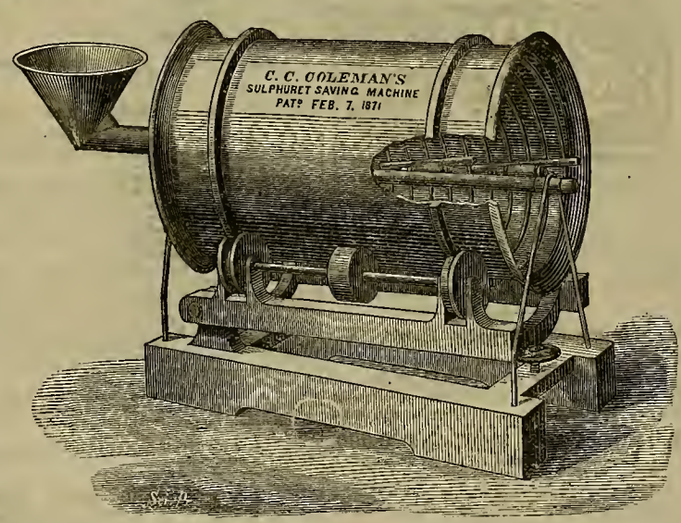
No. 32 Fremont Street.....SAN FRANCISCO.

PATENT ORE AMALGAMATORS AND CONCENTRATORS,

Circular Saw Mills. Steam Engine Governors.

Send for Descriptive Circular. feb22-1am-tf

Coleman's Patent Sulphuret Saving Machine.



ILLUSTRATED IN MINING AND SCIENTIFIC PRESS MAY 13, 1873

Send for Circulars Containing Description.

Address C. C. COLEMAN,

Nos. 18 and 20 Fremont street, San Francisco.; care of F. A. HUNTINGTON.

24v26 sow4t

Richardson & Co., Copper Ore Wharves, SWANSEA.

Richardson & Co. have been for thirty years established in Swansea as Agents for the preparation Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehousce and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 2v26 1y

NICKEL PLATING.

The San Francisco Nickel Plating Company

Are prepared to plate articles of all descriptions, of any metal. Cutlery, Liquor Flasks, Pistols, Guns, Swords, Bridle Bitts, Pole Crabs, Hub Bands, Dash Rails, and all articles of household hardware plated at short notice, and warranted. Nickel Plate never tarnishes or corrodes, always retaining its polish until the article is worn out. Office at the KIMBALL MANUFACTORY WORKS, Cor. Fourth and Bryant Streets. 12y26-3m

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MANUFACTURERS OF ALL KINDS OF

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Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

Purchasers please say advertised in Scientific Press.

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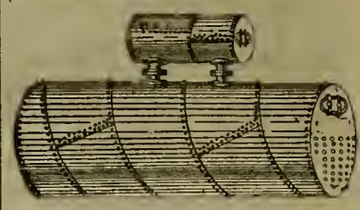

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Howard st., between Fremont and Beale, San Francisco.

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

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Manufacturers of Files of every Description,

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MILL SAW FILES A SPECIALTY.

18v25-1y

BURLEIGH

ROCK DRILLS

—AND—

Air Compressors.

The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Shafting, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

They are to be used on the St. Gothard Tunnel, Switzerland; Tunnel 13 miles long. We refer to the following gentlemen and works:

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Mess. Shanley.....Hoosac Tunnel, Mass.
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Col. Roehling .....East River Bridge Company, N. Y.

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AGENTS FOR

Thomas Firth & Sons' Cast Steel.

MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

13 and 15 Fremont street, near Market, San Francisco 10v14qr

Britton, Holbrook & Co., Importers of Stoves and Metals, Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 178 J St., Sacramento. mr.-1y

Meetings and Elections.

AUBURN GOLD MINING CO.—July 2d. Directors: Geo. W. Beaver, (President.) J. R. Nickersen, Peter Santer, Jas. Bee, L. M. Foulke, R. Wegener, (Sec'y,) John Manson, (Supt.)

PIONEERS ELECTION.—The annual election of the Society of California Pioneers came off on the 7th inst. Less than 300 votes were cast, resulting in the election of the entire regular ticket, as follows: President, Jas. Lick; Vice-Presidents—David J. Staples, Peter Dean, John H. Jewett, Benj. P. Kooser, J. Ross Browne; Secretary, Louis R. Lull; Treasurer, Howard Havens; Marshall, William Hucfner; Directors — Thomas Nelson, Emil B. Buffandeau, William C. Randolph, C.A.C. Duisinberg, Jacob Deeth, James Neal, Arch. Wason, Henry H. Ellis, Washington Bartlett.

NEWARK M. Co., July 8.—Trustees; S. Heydenfeldt. Jesse Wall, F. W. Clute, A. P. Minear and J. N. Vimont; C W. Watson, Superintendent, and D. T. Bagley, Secretary.

BANK OF CALIFORNIA.—At the monthly meeting of the Directors of the Bank of California, held on the 8th inst., W. C. Ralston was elected President, in place of D. O. Mills, resigned, and Thomas Brown, Cashier. Mr. Mills retains his seat as a member of the Board of Directors. The newly-elected officers are to assume their duties on the 15th inst. The usual monthly dividend of one per cent.—$50,000—was declared, payable on the 15th.

THE DIVIDEND of the Crown Point mine, this month, is $4 per share, amounting to $400,000; last month it was $10 per share, or $1,000,000.

ROCK ISLAND M. Co., July 9.—Trustees: A. K. P. Harmon, W. B. Thornburgh, Joseph Clark, J. E. de la Montague and John Skae.

EL DORADO SOUTH CONS. M. Co., July 9.—Trustees: A. H. Rutherford, J. A. Pritchard, A. J. Bryant, Henry Epstein, Edward Vollmer, Henry Mayers and A. Goldsmith. Since March, 1873, the mine has produced bullion valued at $212,000.

PRODUCE EXCHANGE.—President, Horace Davis; Vice President, E. G. Mathews; Treasurer, E. Ransom. Directors; D. Ballard, P. A. Campbell, T. H. Hammer, Adam Beetb, Wilford Page and H. C. Somers.

New Incorporations.

The following named company has filed its certificate of incorporation in the Secretary of State's office, Sacramento.

THE AUBURN, EL DORADO AND FOREST HILL TURNPIKE ROAD COMPANY, July 7. Object, the construction and maintenance of a toll road from Auburn Station, Placer County, to Engles toll road. Capital stock, $20,000. Trustees—Lenis Bulens, Q. D. Pratt, Robert Leslie, Michael Hohman, B. R. Wells, Sec'y.

HONOR TO THE VETERANS.—Honor also to the inventors whose genius has emancipated the race of women from the drudgery of the needle. Honor above all to a firm which, like the Wilson Sewing Machine Company, distributes its machines broadcast throughout the land, at prices that even the poor and humble can afford to pay. Salesroom, at 337 Kearny st., San Francisco, and in all other cities on the Pacific coast. The company want agents in country towns. *

IN TOWN.—L. P. McCarty, Esq., corresponding agent of the MINING AND SCIENTIFIC PRESS, and Dewey & Co.'s general traveling agent, paid us a visit on Friday last. This gentleman's reputation as a canvasser is first-class. We have never met with any one who understood the business better, and never expect to.—*Calaveras Citizen, San Andreas.*

Subscribers, Examine Your Accounts

On the printed label pasted upon your paper or its wrapper. If you are not credited, after paying your subscription, write to us at once. If you hold a receipt, and the agent fails to report your payment or the full term of your payment, it is important for us to know it without delay. The following abbreviations are used on some of our labels:

Jny jy	Apr ap	Jul jl	Oct oc	1873 73
Feb fb	May my	Aug au	Nov nv	1874 74
Mar mr	Jan jn	Sep sp	Dec dc	1875 75

Other figures denote the day of the month paid to. Subscribers will also oblige by notifying us of any mistakes, discrepancies and irregularities of agents or mailing clerks.

THE DAILY MINING PRESS.

This four-paged sheet is issued IMMEDIATELY after the session of the San Francisco Stock and Exchange Boards. It contains full LIST OF SALES made at the same. Also, a list of all ASSESSMENTS advertised in San Francisco up to the date of issue—giving the amount date, delinquent, name of Secretary, and location of office; MEETINGS; DIVIDENDS, etc. Latest by TELEGRAPH and by MAIL from the mines. ORIGINAL CORRESPONDENCE from Virginia City and other prominent mining districts appear daily or weekly. MINING NEWS SUMMARY specially collated. TABLES and STATISTICS prepared carefully for convenience and quick reference. Prices of Government, City, and other BONDS and STOCKS, GOLD, LEGAL TENDERS, etc., quoted up to within one hour of issue. Sample copies free. TAKE IT ON TRIAL. Subscription, 25 cents per week, by carrier By mail, $8 per annum. Address MINING AND SCIENTIFIC PRESS Office, San Francisco.

Free Samples.

We shall from time to time send samples free of this paper to parties whom we believe would be profited by subscribing. We only ask that such persons give it a fair consideration.

THE NEW U. S. MINING LAWS.

The new Laws of 1872, governing the location and purchase of Placer and Quartz Mines and Agricultural Lands in Mining Districts of the U. S., printed in circular sheet, for sale at this office. Single copies, 25 cts Usual discount to the trade.

THE NEW COAL LAND LAW AND REGULATIONS THEREUNDER.

A pamphlet under the above heading, containing the full text of the "Coal Land Bill," published and for sale at this office. Price 10 cts.

Try Dr. Evory's Diamond Catarrh Remedy. Only 50 Cents.

Says John to Nance, you look so bright,
Your eyes they sparkle, like a star.
Oh! yes, says Nance, Dr. Evory's remedy
Has cured that horrid, bad catarrh.

OUT OF THE FOG AT LAST.—Dr. Evory has discovered the only SURE cure for Catarrh and Colds. One bottle gives immediate relief, and a few bottles effect a cure. All we ask is a trial. If your druggist don't have it, send to Dr. A. F. Evory & Co., 9 Post street, S. F. It only costs 50 cts. 14v26-3m

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B. Roberts, 315 California street, San Francisco, is general agent for this Coast. Send to him for circulars and information of this reliable, first-class company.

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THE ASBESTOS ROOFING IS A SUBSTANTIAL AND RELIABLE MATERIAL,

Which can be Safely Used in Place of Tin, Slate, etc.,

ON STEEP OR FLAT ROOFS, IN ALL CLIMATES.

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PERINE & EDWARDS,

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2v6-bp4te

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Patented May 26, 1868.

THE ONLY SAFE BLASTING POWDER IN USE.

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For hard and wet Rock, Iron, Copper, etc., and Submarine Blasting.

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For medium and seamy Rock, Lime, Marble, Sulphur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, etc.

Its EXCLUSIVE use saves from 30 to 60 per cent. in expenses, besides doing the work in half the time required for black powder.

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20v22-3m16p

To Capitalists and Hydraulic Miners.

PATENT SELF-CLEANING SLUICE.

This new and useful invention is designed to collect all the gold as fast as it is set free from the dissolving earth, and conduct it into a receptacle of mercury or safety pocket, under lock and key, from whence it may be removed in a few moments, without either checking the flow of water or interfering in the least with the washing.

The invention, if properly placed in our rivers, will also collect the gold which is yearly traveling down their channels, thus affording an annual income with a trifling expense for attending.

For further particulars address

DR. J. B. BEERS,
2v27tf 230 Kearny street, San Francisco.

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IRON NERVE EDUCATION GOOD INSTRUCTION
OPEN TO ALL SEND FOR CIRCULARS

The object of this school is to impart a thorough education in business affairs. It is open to persons of both sexes and of all ages. There is an English Department for those not sufficiently advanced for the Business Course. Sessions continue day and evening throughout the year. Students can enter at any time. All wishing to be successful should secure a practical education at this College. Send for "Heald's College Journal," and learn full particulars. Sent free to all by addressing E. P. HEALD, Pres. Business College, San Francisco, Cal. 2v27-1y

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Successors to J. Seligman & Co.

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Authorized Capital Stock, $6,000,000,

Subscribed, $3,000,000. Paid in, $1,500,000.
Remainder subject to call.

DIRECTORS IN LONDON—Hon. Hugh McCulloch, Reuben D. Sassoon, William F. Schonfield, Isaac Seligman, Julius Lington.

MANAGERS:
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The Bank is now prepared to open accounts, receive deposits, make collections, buy and sell Exchange, and issue Letters of Credit available throughout the world, and to loan money on proper securities. 2v27-eowbp

SAN FRANCISCO SAVINGS UNION,

532 California street, corner of Webb.

For the half year ending with the 30th of June, 1873, a dividend has been declared at the rate of nine and six-tenths (9 6-10) per cent. per annum on Term deposits, and eight (8) per cent. per annum on Ordinary deposits, free of Federal tax, payable on and after July 14th, 1873. By order.

LOVELL WHITE Cashier.

DIVIDEND NOTICE.

SAVINGS AND LOAN SOCIETY,

No. 619 Clay Street.....San Francisco.

At a meeting of the Board of Directors, held this day, a dividend was declared for the six months ending June 30, 1873, of nine and six-tenths (9 6-10) per cent. per annum on all deposits, free of Federal Tax, and payable on and after the 15th inst.

CYRUS W. CARMANY, Cashier.
San Francisco, July 8, 1873. jy12-2t

Ashcroft's Patent Steam Gauges,

(Original—with Bourdon Spring).

Steam Gauges,
Vacuum Gauges,
Registering Gauges,
Test Gauges.

Low Water Alarms, Gauge Cocks, Glass Water Gauges, Cylinder Cups, Self-Oilers, Boiler Felting, Selden's, Tuck's, Hemp and Soapstone Packing, Stocks, Taps and Dies, Twist Drills, Drill, Lathe and Planer Chucks, Emery Wheels, Etc.

Every description of Engineers' and Machinists' supplies, for sale by

TREADWELL & CO., San Francisco.
2v26tf

Second-Hand Engines and Boilers

For Sale by McAFEE, SPIERS & CO., Boiler Makers, etc., 309 to 315 Howard St.

15-HORSE POWER PORTABLE THRESHING ENGINE—Nearly new made by Wood & Mann. Cylinder 9 inches diameter, 12-inch stroke. Boiler large and well proportioned, has all the mountings, is mounted on wheels, in first-rate condition, and will be sold cheap. This is the very thing for opening a new or working a small mine. Price, $1,350.

30-HORSE POWER LOCOMOTIVE OR FIRE BOX BOILER—made of the best S. H. No. 1 American iron, 5-16 inch thick. Furnace 4 feet long, shell 42 inches diameter, contains 46 tubes 3x12 inches, with grate bars, breeching and smoke stack, all in good condition. Price, $750.

THREE 35-HORSE POWER BOILERS, each 50 inches diameter, 15 feet long, containing 42 tubes 3½ inches diameter. These boilers have been entirely rebuilt, and are in thoroughly good condition. Will be sold together, or separately, at a low price.

15-HORSE POWER BOILER—32 inches diameter, 12 feet long, containing 32 tubes 2½ inches diameter, with steam drum, furnace front, grates and all fittings. Price, $300.

Build all kinds of Boilers, Water Pipe, Pump Column, Buckets, Tanks, etc. jy12-1m

The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is uncqualed for light and heavy work. Examine and compare it with the highest priced machine in the market.

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337 Kearny St., S. F.
PRICE, $50. 2v27eow-bp-1y

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MANUFACTURERS OF
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CASTINGS,
Church and Steamboat Bells,
TAVERN AND BELLS, GONGS,
FIRE ENGINES, FORCE AND LIFT PUMPS.

Steam, Liquor, Soda, Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder and Copper Rivets, etc. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles. HYDRAULIC PIPES AND NOZZLES for mining purposes. Iron Steam Pipe furnished with Fittings, etc. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

☞ Highest Market Price paid for OLD BELLS, COPPER and BRASS. 6-tf

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They have proved to be the most durable and economical Saws in the World.

Each Saw is Warranted in every respect.

Particular attention paid to construction of
Portable & Stationary Saw Mills.

MILLS FURNISHED AT SHORT NOTICE
At the lowest Market Prices.

HALLIDIE'S
Patent Endless Wire Ropeway.
Covered by Numerous U. S. Patents.

IMPORTANT TO
Mining Companies, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO.,
Little Cottonwood, Utah,
Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

Wire of all kinds and descriptions, furnished at lowest rates. A. S. HALLIDIE, 113 and 115 Pine St.

MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, JULY 19, 1873.

VOLUME XXVII. Number 3.

Concentrating Ores--The Utsch Automatic Jig.

In our issne of July 5th we made some remarks on the importance of the coucentration of ores, and gave an illustration of Wren's ore concentrator, a newly invented machine for accomplishing the object referred to. We now illustrate the Utsch Automatie Jig, a device highly spoken of where it has heen used. It was fully described in a paper read hefore the American Institute of Mining Engineers at Philadelphia, hy Henry Engelmaun, E. M., and subsequently published in the *Engineering and Mining Journal*, from which source we gather the facts ooncerning it.

Ths Utsch jig was inveuted aud first put iu operation in Germany, then simultaneously patented and introdnced in England and the Continental States, in Australia and America. It was first adopted in the United States hy the Matthiessen and Hegeler Zinc Co., at Lasalle, Ill. There it performed the work of sorti ng the peculiar ore of that locality into no less thau *five* distinct divisions of material, consisting mainly of: (*a*) gangne and non-metallic waste; (*b*) grains consisting of gangue, with calamine or blende attached, which are crushed finer; (c) zine-hlende and calamine for the zinc furnaces; (*d*) grains of zinc ore with particles of galena attachsd, which are crushed finer; (*e*) pure lead ore; working up from 20 tons of rich, to 55 tons of poor raw material for 10 hours work per jig.

The principle upon which the self-regulating discharge of this jig is founded, is that of mutually halanced columns of minerals of uniform specifio weight iu each colnmn, and different specific weights in the different columns. Each column discharges the surplns, whenever an aecnmulation of the material composing it increases its height. A column of galena of sp. gr. 7.5 and 3 inches high, exercises the same pressuro as a column of hlende, sp. gr. 4 and 5.62 inches high. They halauce each other. The height of the water in each partition, and other minor conditions, enter into calculation. The different minerals being confined to their respective compartments, by the constrnction of the machine, the discharge will he mathematically accurate, whether individual minerals he preseut in greater or lese qnantity, or even ahesnt altogether.

The distinctive character of the machine, it will he obssrved, rests on this automatic discharge arrangement, the jig proper differing in no essential from the common pluuger jig; and it is on thie that its value depende. Ae proved hy the actual working at Lasalle, the jig is capahle of separatiug materials varying in epecific gravity never eo slightly, into any required number of divisious; and this, too, without the intervention of skilled attentiou. With regard to this latter point, Mr. Engelmann saye:

"It performe a great amount of work entirely automatically, without the least intervention of mannal lahor, surveillance or regulating, requiring no attendance for weeks aud monthe, after having once been adjusted for an ore composed of a certain variety of minerals, although these may occur at different times, in ever eo varyiug relative proportions. It then works unremittingly, performing its task in the best possible manner, uever missing. When the motive power stops it rests also, and resumes work without the least dieturbance when the power ie again thrown in gear. The relative quantity of the differeut minerals in the ore may change ever so much, one or more of them may he almost wanting for days together, still the machine will work on as hefore, with equally good results, like an intelligent being. All that is necessary is to supply it with food, with crushed ore, and to take away the finished product whioh it has discharged in cars or hins. The machine thns enables the operator to dispense with all manual labor, with its expsnse and uncertainty. There is no need of watching inexperienced or nnreliahle laborers, no shirking, irregularitiea, negligence or strikes, no holidays or pay days."

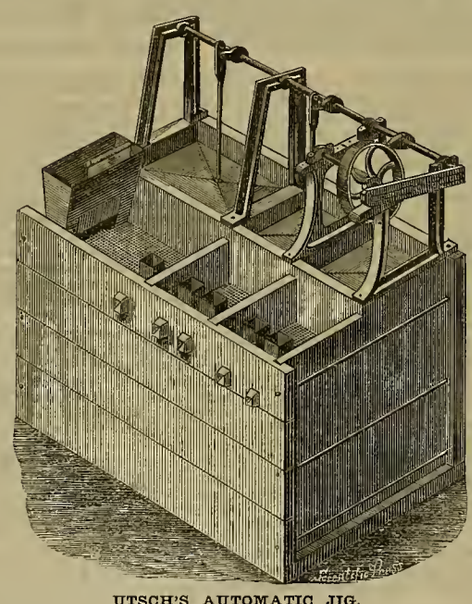
That his iudorsement ia well founded, is shown by the general adoption and ready appreciation the new invention has met with, in so short a time from its first iutroduetion. There are, however, only three of them in use on this coast, as far as we know, two iu Nevada, and one in Idaho.

A New Type-Setting Machine.

Type-setting machines are devices which overy newspaper proprietor and publisher is desirous of seeing perfected, and which every "typo" is not. A machine on a new principle has recently heen brought before the puhlic, etyled Wescott's Type-Making and Settiug Machine. It caete and sets its owu type at the same instant, taking it ae molten metal from a tank and leaving it a new and perfect type in the stick, as if placed there by a compositor. The type is not thrown back into the casee or distributed in any mannsr, and this expeuse is eaved. It is simply remelted. On one end of the machine is a tank heated by gas, containing molten type metal. Parallel with the tank are two rowe of steol frames, each containing the matrix of a letter. Running between these steel frames is a traveler. In front of the tank, containing the molten type metal, is a heavy mould. Connected with the steel framee containing the matrices, hy eimple levers, is a key hoard, precisely like that of a piano, with the names of each letter marked ou the keys. When the key, *A*, is touched, then the matrix, *A*, ie pushed three inches out of line, and the traveler then takes it to the monld in front of the tank containing the molten type metal.

The mould then closes on it, and at the same instant the pump in the tank throwe a jet of the molten type metal which strikee the matrix full in the face. The mould then opeus and the traveler retiros with tho matrix, *A*, ready for the next letter. While this is going on, the type passes hetween revolviug cutters and perfectly formed is pushed on the composing stick exactly as if it had been placed there by the fingers of a printer. This action is repeated with succeeding letters, according to copy, at the rate of 40 letters or more a minute, according to the expertuess of the operator.

The circular issued by the New York Type and Electrotype Company, 88 John street, New York, describing the invention, states that the machine saves the following items: The wbole cos t of new type; the whole cost of distributing type; two-thirds of cost of composition. The machine can he arranged simply for making type by throwing out one lever, when it hecomes self-acting, and will make any designated letter all day at the rate of 80 letters per minute. One great advantage in a machine of this kind is, that all old type and type metal can he used over and over again in making new type. The regular price of these machines, as etated in the circular, is $5,500 with a discount to purchasers of five machiues and upwards. If all that is claimed for this machine in the matter of time and economy provee correct, it will be very generally introduced, especially in country newspaper offices.



UTSCH'S AUTOMATIC JIG.

The Utah Silver Lead Co., paid all its expenses last month and deposited $2,000 in the hank besides. They expect to pay dividends within 60 days. Their sales of ore last mouth were 600 tons, with an average of 60 per cent. lead and $23 in silver and $5 in gold. They will soon commence concentrating and it is expected that the oree will then bring $40 on the epot, or about $25 per ton profit; they can easily sell 800 tons per month.

The North Star mine, Grass Valley, ie doing considerable "dead work," and only 366 tons of ore were reduced last month. It turned out $14,508, and the expenses were $26,500.

The Newark Mill will shortly resume operations; new machinery and an Aikin furnace will be added.

Elmore's Mill in Robinson District, Nevada, will shortly be in operation.

An Invention Wanted.

In our issue of Feh. 22d last, we puhlished an item under this head, stating that an appliance was badly wanted, by means of which a telegraphio operator can communicate with, or signal a train at any place on the route. We have had several letters on the subject, and a correspondent asks us this week what such signals would he used for, whether for the accommodatious of more trains npon a siugle track to prevent collisions, or to notify engineers of danger ahead while ruuning, when there is a train approaching from an opposite direction, etc. Our correspondent asks us to state the needs of railroad men in this matter, as far as we know.

Any system that would fulfill the requirements desired, would not only benefit railroad men, but the general pnblic. It has frequently occurred that two trains have left different stations abont the same time, rnnning towards each other on a single liue of track, without either knowing the other was coming. This was the case in the instance which elicited our remarks ou the subject some time since, for the fact that two trains were running towards each other was known at Elko before the collision occurred. A locomotive and wrecking-car were dispatched immediately, in anticipation of the accident. If any contrivance had heen in vogue which would have warned the engineer of one or hoth trains to slow np to avoid impending danger, the accident would not have occurred. The thing required is some system, which would operate cheaply and he constructed in such a mauner that a train may be signalled at any peint on the line of road. In such a case, if the trains should chance to be running towards each other, a mere danger-signal wbich would infallibly attract the notice of some specified person on the train, would suffice. Some one suggested to us not long since the project of laying a wire betweeu the tracks from station to station, and having an iron rod and a wire hrush on its lower end pass down from the rear car so that the hrnsh shonld pase over the wire continuouely. An instrument in the car would indicate any eignal sent by the telegraph operator at either end. The pereon suggesting thie device admitted, however, that it would be necessary to have the "lightning go after the brakeman with a club" to make it snccessful; moreover, the friction would wear ont the brush very rapidly aud the system would be expensive. The advantages of any mechanism which would cause an electric signal to give warning to a runniug train are plain to all, and eome of our ingenious inventore would make money hy overcoming the difficultiea.

The Water Supply of Virginia City is getting quite low. A two-horse wagon-load of over 450 gallons retails at $3. In Gold Hill teams are hauling it from American Flat, and it sells for $1 per harrel. It would be rough on the iuhabitants in warm weather to be short of water for domestic purposee. They don't drink much of it, up there, however; and it ie not so bad as if the beer supply was low. The *Enterprise* says the mining interests must euffer a little, as, owing to its foaming in the hoilers, the engineere are afraid to use lager-beer. The Carson river ie quite low, but the Eureka mill, the largest on the river, is yet rnnning to its full capacity. The water company will snpply the city with all it needs within a few weeks at farthest.

CORRESPONDENCE.

Notes of Travel in Eureka County, Nevada.

[By our Traveling Correspondent.]

Eureka.

Sincs my visit to this placs ons ysar ago, Eureka has become ths county ssat of a new county, bsaring the sams name as that cut off of Lander County by an act of the last Legislaturs. It is to-day one of the busisst mining camps of Eastern Nsvada. Ths district comprising Eureka contains abont four thoussnd sonls, and its location is about 85 milss south of Palisads, on the C. P. R. R., or about 658 milss east of San Francisco, and is situatsd at an elsvation of 6,651 fset abovs tids watsr. This place contains 5 hotels and some 35 msrcantile sstablishmsnts. Daily and tri-weekly linss of stagss ply bstwesn hsre and Hamilton, and Palisads, also to Elko and Austin. The fars from San Francisco to this place is $58 and the tims required to make ths trip is 48 hours. A little of ths sarly history of the place may not bs uninteresting at this time. Ths

Discovery of the District

Was some tims in Ssptembsr, 1864, whsn soms prospectors came in from Austiu, which is situatsd 70 miles west from hers. Thsy adoptsd laws to govsrn the district, and a Mr. Tannahill was elects ths first Miuing Recorder. These prospectors discovered some carbonats ores, and mads ssveral locations; hut in the "finds" thsre was nothing of a high grade sxcept some pockets, nsvsrtheless, thess humble miners succsedsd in intsresting a New York Company, and one small furnacs was putup, in ths summer of 1866, the remains of which are still visibls. They met with little succsss however, having not only a poor furnace to contend with at that tims, but being very distant from their base of supplies. This occurred before ths C. P. R. R. was completed. From this time on, until the ths great sxcitsment of

White Pine,

In the summsr of 1869, which brought the miners and prospectors again through ths district, but little is known.

In 1866, however, Alonzo Monros cams, and located some mines, on what is now known as "Mineral Hill." Finding some good ores, Mr. Monros wsnt ovsr to Austin in the summsr of 1868, and interested Mr. Stetefeldt, of that place, with him in ths ersction of ths first blast furnace ever built here. Iu March, 1869, the first run with this furnacs was made; it proved, however, a failure; for after running about 2,800 lbs of bullion, this pionesr furnace froze up. Attempts to run it proved unsuccessful, until Msjor McCoy cams over from Whits Pine, bringing with him two Cornishmen, named Jones and Williams. These gsntlemen remodeled Monroe & Stetefeldt's furnace, adding more tuyeres, and finally made the first successful run of a furnace in the district. About that time the

Champion & Buckeye

Mines, (which now constitute the "Eureka Con. M. Co.") were secured by the second pioneer who entered the district, Mr. David Buell, who bonded the said mines some time in Novembsr, 1869, and ssnt Mr. Isaac Bateman to England, to dispose of ths same. He interested some Euglish capitalists in the enterprise, and they sent out eugineers to look into it, who reported favorably. Those furnishing the capital, however, were not satisfied, but had some experts from California to make a report, which was adverse, and the sale fell through. As it subsequently proved, they lost a valuabls purchase. Mr. Buell, undauntsd by his failure, appealed to San Francisco capital, when the prssent "Eureka Con. M. Co." was incorporated, the history of which is too familiar to bear repetition—except the dsvelopment, which I propose to give you in a future communicatiou, together with notes on many other prominent mines in this district. I will however add a little of the early history of an adjoining district, known as the

Secret Canon,

Which is located about 7½ miles south-east of Eureka, and was discovered by H. A. Hogdon Esq, in August, 1869, and before Mr. Buell created any excitement at Eurska; Mr. Hogdon had extracted and shippsd (on mules, by psck train,) several tons of ore to different mills at Austin, in the Reese River district. and Shermantown in White Pine district. The mine from which he extracted this ore is named after himself and known as ths

Hogdon Mine,

The pioneer or discovery mine of ths district, and the one which created the first great excitement, which brought so many prospectors to Eureka district and vicinity in the fall of 1869. Quits an amount of ore of high grade was extracted near the surface of this mine, and, as above stated, worked at mills located in Austin and at Shermantown. There has beeu but little or uo work done on this mine for the last two ysars, until the preseut season. This miue was iucorporated iu December last as the Hogdon Mill and Mining Company, with Elliott J. Moore as Presidout, John M. Moore as Ssc'rstary, and H. A. Hogdon as Superintsndsnt.

The Present Development

Consists of a vertical shaft, 50 feet desp, from ths bottom of which an incline is run some forty feet deeper, exposing a mstaliferons stratum, with strsaks of ors of a high grade, indicating a body of ore close at hand. This corporation claims one thousand fset in thsir location, 300 feet of which are as fine croppings as I ever saw. I neglected to state that for ths first twenty fest in this company's shaft they found fine ors; but wishing to dsvelop it at a greater depth, they ars not sxtracting ors, but sinking, working night and day-shifts. A subsequent location, known as the Geddes & Bertrand, is about 500 feet south of ths Hogdon; and about one mils northerly ars located ths

Basey Mines,

Belonging to an English Company. They ars situated on a highsr range of hills; havs fine prospscts; and I lsarn that they will shortly stsrt a large force of msn to work them. Mors from Eurska District in my next. L. P. MO.

The Vienna Exposition.

[By our Special Correspondent—GUIDO KUSTEL.]

The American departmsnt in the Industrial Palacs, although not quite ready, was opsned to ths public on ths 10th of Juns. Entering the west portsl and turning to ths right, ons finds himself in ths American gallery, and is sure to hsar ths orgaus of the Mason & Hamlin Organ Company befors he has tims to sse anything. The first that attract the attention of ths visitor ars ths excellent

Photographic Pictures

In front and to the right, of Leon Van Loo, of Cincinnati; Schwind & Krueger, Nsw York; Kurtz, Nsw York; also chromo-lithographic picturss of Duval & Hunter, from Philadelphia, etc. Ssvsral cases of gold psns, especially that of Morton, of New York, are worth notics. Near these, on the wall, hangs a large, bsautiful gold frame, in which a very rich collection of bank-notes is tastefully arranged. Some show high amounts, up to $10,000. Among them, photographic portraits of Presidents and other celebrated Amsricans ars placed. The many differsntly-colored postage stamps, systsmatically placed by themselves, also make a nice picture. This very interesting piece is exhibited by ths "National Bank-Nots Company," Wall street, N. Y. Of

Musical Inslruments

Thsre are the celebrated organs of Mason, Hamlin & Co, and of Estey & Co., of Vermont. Ths only pianos are from Steck, N. Y., and one from Hinzen, Rosen & Co., Louisville, Ky. A few elegant zithers are also exhibited. In a glass cass, visibls from all sides, hangs a violin, the "Emperor violin," made by George Gemundcr, N. Y., prics $10,000. Ths ten thousand dollars ssem to create more attraction than the violin itsslf. Soms think it is a Yankee trick, but Mr. Gsmunder writes that the violin is constructed on a certain principle which gives clsarness to the tone, by which it is made equal to the bsst old Italian violins.

Frankliu, Uptou & Co., of Baltimore, exhibit first-rate leather, tanned by this vacuum procsss. The sams article is also exhibited by Shayer Brothers, Boston. Several cases show neatly-made gaitsrs, fit for a delicate lady's foot, not like the Euglish, with such unnaturally-high insteps that they look as if they were made for crippled feet. Also boots and shoes of Bostou maks, of fins quality, ars observed. Cabinet soaps, psrfumes, *eau de Mississippi*, drugs, candles and sugar-coated pills, tastsfully arranged, contribute to improve our exposition. Prsssrved fruits, vsgetables, mackerel and lobsters are also represented. J. Mathew's soda-water machines are evsrywhere—iron ones, of a monstrous size—others really elegant, suitabls for a parlor. Thsrs ars many exhibitors of

Wines

And sparkling wines from California; Busna Vista, Eberhart & Lachman, and Landsberger. Others ars from Cincinuati, St. Louis, Sandusky and New York. The Frsuch took thsir wines away from the Exposition *rayon* and it is said they intend to submit them to the jury entirsly independently of others. They don't like comparative judgmsnt. Eberhardt & Lachman's wines came here by way of Panama in perfect order, wines and California Champagne clear as crystal.

A nics assortment of natural and refined oils is exhibited by Peass; starch from Ohio, a nice case of gloves, N. Y., leather and wooden trunks, Hall's magic curtain fixtures, patent flexible shirts from New York; also shirts from Philadelphia, etc. Several beautiful assortmeuts of fancy cassimeres from New England and Massachusetts are exhibited. Mr. S. White, of Philadelphia, shows a grand display of deutists' articles; single teeth of all sorts and sets without number, splendid tools, a chair that admits of any required position, etc. Clocks of fine work from New York, globes, a model of a counterpoise gun-carriage ars also amongst the other articles. The Smith & Wesson, Remingtou, Colt, Sharp, Peabody and Springfield rifles aud rsvolvers are well represented.

Yosemite Valley Views,

Of large size, are plenty and very excellent; but, of the thousands of spectators, only a few know that it is in California, the majority know not whethsr it means Tahsiti or Hawaii. There is also a splendid photographic visw of ths interior of the Lick House, S. F. Thess two lettsrs ars so fine that ons hardly psrceives them, and then only ons out of tsn knows what thsy mean. The photographers probably think if they know whsre they tqok ths visw it is all right.

Mines and Minerals.

To ths left of the west portal is ths continuation of ths American exhibition. The first group is poorly reprssented, especially in silvsr minsrals. Thoss from Utah are ths most prominent, ths spscimens (copper ore included) are of a proper size, well arranged, sach provided with a printed label showing the value psr ton, ths mine and mining district. Thers is a case of rare minerals from Califoruia, Nevads and Arizona, and a small collection of Arizons gold and silvsr ores. That is all, in respect to gold and silver ores. From Pennsylvania, cobalt and nicksl orss, with bars of the relative mstals, alloys and some mstallic salts (as sulphate of nickel, etc.) are sxhibitsd, also some galena; then a fsw iron ors and coal collection. Ths Sutro Tunnsl Co. ssnt a very intsresting and instructive

Model of the Comstock Mine,

In connection with ths Tunnsl, in ssctions or cross-cuts, by which the intsrior of ths ledge and the direction of the Tunnel ars clearly sxplainsd.

In the middls of the gsllery is a nics structurs of balss of cotton, from Mobile, Ala.; on top of ths balss sugar cane, and on the sides all around, silk cocoons, silk, etc. Yestsrday, to my astonishmsnt, I found out that all thos cocoons and ths silk exposition do not bslong to Alabama, but to California, and were ssnt by I. Nswman This exposition was used without labsls to make a better show of the Alabama cotton bales. I will try to havs it changsd, or, at least, to attach Mr. Newman's printed labsls to all of his articles. Some modsls are also sxhibitsd hers, one repressnting a revolving roasting, or, perhaps, revolving puddling furnacs; whoever exposed it knows what it is. Another repressnts a patent deck suspension truss, of 245½ feet span, of a bridge over ths Ohio River at Louisville, Ky. Thers also are beautiful photographic viswa in this department. Abovs the Utah minerals are views of Salt Lake City, the large organ in ths Tabernacls and soms mining views. Th. Houssworth, of San Francisco, exhibits Yosemite Vallsy viswa, etc. Nsxt comss the departmsnt of

American "Means of Education,"

Which might be tsrmsd, just as well, a "school library." Besides books, thers are soms views and plans of school-houses; a nics large model of ths "Franklin school-houss;" a few sohool bsnches or ssats; writings and drawings of students, and so forth. But of physical instrumsnts, models of machinery, architecture, discriptive geometry; anatomical prsparations; collections of bestles, butterflies and other insects, injuring plants or being in close connection with branches of industry—nothing is exposed save a few physical instruments. As a "means of slsmentary sducation" this department is most intsresting. A day or two since, the "rural school house" was opened. Minister Jay was present. The school-room contains eight rows of chairs, six in each row. The walls are decoratsd with large maps, pictures of botany and zoölogy: on the cathedsr table and benches are exhibited the different primary books, geographical and others. Mr. Jackson Schultz delivered a short speech complimenting Mr. Jay for his servicss rsndered in behalf of the exposition, to which Mr. Jay responded. Professor Hoyt also delivered a longer speech, saying that he was prepared to give all possibls explanation that might be required, etc. In absence of little childrsn, the old childreu performed the "*obligato* singing" before and after ths opening ceremonies.

I remained a long while in the school-room for the purpose of listening to the remarks of the different visitors. The isolated seats and the very well planned geographies and other school-books exhibited on the tables have been much praised by visitors of all nations. Everything was closely examinsd, sven Hall's curtains; the ladies espscially took much interest in ths whole arrangement.

The covered yard adjoining the gallery is not yst rsady. Thers are quite a number of different sewing-machines, but in clossd partitions as yet. Several machines in the American department of the machinsry hall are in motion. From the 2d of June to the 8th, 178 cars came in with articles for the Exposition, ths most from Francs and Switzerland, but also from Hungary, England, Italy, Egypt and China.

The wsather of the beginning of Juns is not much better than it was in May, still, the attendance at the Exposion improved considerably. J. K..

Visnna, June 12, 1873.

CLEAN UP.—The Grass Valley *Union* says: The Idaho continues in its great prosperity. Last week a six days' run with thirty-five stamps gave a clean up of $26,000. This clean up was mads from ths amalgamators, the batteries not being touched. The month's run of ths mill will closs this week, and the first Monday in nsxt month declariug the usual dividend will be in order.

THE nsw hoisting works of ths Raymond & Ely mine ars nearly completed.

City Creek Mines.

The latest dsvelopment of minsrals in City Creek Cañon and the country contiguous to it, says ths *Tribune*, bids fair to create some excitement in mining circles; ths discoveriss so far all bsing within a radius of ten miles of Salt Laks City, and some of them, if ws ars to bslisve ths accounts brought to us, being of a character to produce more or less of a furore.

We undsrstand that up to the present writing ovsr twenty locations have been made of mines containing galsna and carbonats orss of averags richness. and we have hsard the opinion exprsssd that the character of ths formation is such as to justify the highest expectations of the richness, extsnt and psrmanency of the dsposits.

Ths existencs of galena and iron minss situated within ten milss of this city, and approachable at all seasons of the yaar, and to which, if necessary, a railroad can be built with but little trouble, is calculated to havs a wondsrful effect on ths business intersts of the city, and our hopo is that the fullest expsctations of those now sngaged in dsveloping this new rsgion may bs realized.

Having discovered several good ledges, and demonstratsd ths sxistence of galsna and carbonats orss, we trust that the work of prospscting will bs carried on vigorously during the summer months, so that whatever mines may bs discovsred can be thoroughly worked ths coming winter.

When so much of our prospsrity depends on increasing our ore products, thereby adding to our rsvsnue, discoveries like those announced on City Creek ought to be a source of gratification to svsry business man in ths city. Without bsing too enthusiastic ovsr the reports brought to us, thsrs is still snough to warrant the statsment that City Creek mines *may* bs our next sxcitemsnt.

The Sierra Madra Tunnel.

This work, rsosntly commencsd by an English Company, with an original capital of $5,000,000, says ths Colorado *Herald*, is being steadily pushed forward into the mountains by Col. Heaton, President and Superintendent. This scheme is csrtainly the grandest and most extensive private enterprise sver inaugurated in ths tunnel or perhaps any othsr lins, and seems almost too stupendous an undertaking for completion. The plan is to drivs a tunnel 20 fest wide by 12 high from a point on North Clsar Cresk nsarly two miles bslow Black Hawk, through the heart of the main Rocky Mountain Range into Middle Park, a distance of twelvs miles, cutting ths various mines that lis in its course, and to construct and opsrate a railroad in the sams. The tunnel will pass through Bob Tail and Gregory Hills, pass bsneath Central City, and through the Gunnel Hill. At the latter point a branch tunnel will divsrge and pass undsr Nevada aud Quartz Hills, while the main work will continue direct to Middle Park. The above hills and locations, with their numberless rich and exhaustless gold bsaring lodes, will be penetrated at a depth of from 1,200 to 2,400 fest below the surface. The mouth of the tunnel, where work is now going on, is some 7,000 feet above sea level, or nearly 2,000 feet above Denver, and the Middle Park sntrance of the work will bs nearly 8,000 fset above tide water. The main range through which this huge bore will pass, has an elevation of from 12,000 to 14,000 feet. Before ths preesnt capital of the Company is exhausted, which will not be for over two years, the Bob Tail, Gregory, and other neighboring mines will bs cut, after which time it is expected that the profits of the enterprise will be sufficient to ensure its completion. At all events, should the Company havs reasonable success, ws belisve they will drivs the work to points through Quartz and Gunnel Hills, which will include the best of the mining sections of the line projected as far as known.

IMMENSELY RICH GRAVEL.—We learn that ths old Mullins & Ryan tnnnsl, below the Junction, has finally been run through to gravel, and that nnprecedentedly large prospects are obtained. As ths channel has but just besn reachsd we are unabls to state its width. The gravel prospects as high as fifteen dollars to the pan. There is a little episods connected with the history of the mine that aptly illustrates the uucertainty of mining ventures: Mr. Mullins, one of the original locators of the claim, worked for years running the tunnel—which is about 800 feet in bedrock hard as adamant—but become involved and was obliged to give up the mine before reaching gravel. Broken down in health by the severe labor he had performsd, and driven by necessity to seek employment, Mullins went to work in ths tunnel for wages, ths new proprietor having concluded to run it ahead. He had been at work only about three weeks when he struck through into the channel, developing the rich gravel mentioned above. Who can imagine the feelings of Mullins, who, after laboring for years, was forced to relinquish work when a hard earned fortuns was within his grasp? Such outrageous fortune as that is enough to drive a mau to hard drink, but it is by no means an uucommou incident among those who woo the fickle goddess with the pick and drill.—*Calaveras Chronicle.*

THE first week's run of the St. John quicksilver mine, completed this week, resulted in the filling of fifty flasks of quicksilver, valued at $3,825. The furnace used is a nsw invention.

SCIENTIFIC PROGRESS.

Position of the Planets for July.

The Observatory of Vassar College furnishes the *Scientific American* with a monthly statement of the position of the planets. We condense the following for July:

MERCURY rises on the 1st of July at 6h. 18m. A. M., and sets at 9 P. M.

VENUS was at its greatest brilliancy on the 10th of June, at which time it was easily seen at noonday, and a glass of low power showed it as a beautiful crescent. In the first half of July, it will pass the meridian a little before nine in the morning, rising on the 1st at about 2 in the morning, and setting at near 4 P. M.

MARS rises on the 1st at 30 minutes after noon, and sets a little after 4 in the morning. On the 31st it rises at 1h. 10m. P. M., and sets at 11 P. M. Mars is easily known by its ruddy light, and can be seen in the southwest after twilight. But little can be seen of its peculiarities with a small telescope, although a powerful one will show very decided markings on its disk.

JUPITER is still conspicuous in the evening sky among the stars of Leo. On the 1st of July it rises at 8h. 39m., and sets at 10h. 12m. It is much less favorably situated for observation than in the winter, and very few of the phenomena of its satellites are visible in this locality for the whole month.

SATURN is more favorably situated for observation, but is so far south that it does not reach, when on the meridian, an altitude of much more than 27°. It will be best seen at midnight on the 22d of July, rising on the 1st at 8h. 48m. P. M., and setting at 6h. 14m. the next morning.

URANUS is still very unfavorably situated for observation, rising in the morning and setting at 9 P. M. on the 1st of July.

NEPTUNE rises between 12 and 1 A. M. on the 1st of July, and sets a little before 2 P. M.

METEORS AND SUN SPOTS.—Meteors were frequent on May 1st, but have thus far (June 18th) been rare in this month. It has also been a very remarkable period for the absence of sun spots. No spot could be found on the sun's surface (glass of low power being used) from June 13th to June 17th. On June 18th a very small one was perceived.

NEW PLANETS DISCOVERED IN 1872.—Since the beginning of last year, twelve small planets have been discovered, as follows:

Peitho, discovered at Bilk, by R. Luther, March 15.

A not yet named planet, discovered at Ann Arbor, Mich., by Watson, April 3.

Lachesis, discovered at Marseilles, by Borelly, April 10.

A not yet named planet, discovered at Ann Arbor, by Watson, May 12.

Gerda, *Brunhilda* and *Alcestis*, discovered at Clinton, N. Y., by C. H. F. Peters, the two first on July 31, and the last on August 23.

A not yet named planet, discovered at Paris, by Prosper Henry, September 11, and two others, at the same observatory, by Paul Henry, November 5.

A not yet known planet, at Ann Arbor, by Watson, November 25, and another at Clinton, N. Y., by C. H. F. Peters, on February 5, 1873.

PROPER COMBINATIONS IN SOAPS.—According to Mignot, a perfect soap is one in which the fatty matters and the alkaline have been so thoroughly combined as to leave no excess of either component; a desideratum which is very seldom reached, as the soap is either too alkaline, in which case it parches and dries up the skin, or it is too fat, and thus makes the skin greasy, so that the dust readily adheres to it. The former inconvenience is the more serious of the two, as it very soon leaves its impression upon the skin. For this reason soapmakers are in the habit of employing an excess of fat, notwithstanding the inconvenience mentioned. Mignot now informs us that silica introduced into the soap, in the form of infusorial earth, will tend to neutralize any excess of the alkaline elements of the soap, as it is soluble both in soda and in potash, and it will, at the same time, take up the surplus matter by absorbing it, and combining with it to a certain extent. Infusorial earth, as is well known, occurs in different parts of the world in great quantity, and immense deposits are known in various portions of the United States, especially in Idaho, Nevada and California. It is the same substance as that now so extensively employed as a polishing powder under the name of electro-silicon.

GOVERNMENT AID TO SCIENCE.—Government has wisely responded to the urgent solicitations of engineers and the engineering press throughout the country in appropriating $100,000 for the purpose of continuing the experimental investigations upon steam boiler explosions, commenced by the Franklin Institute in 1835, and very ably extended by Col. Stephens, in the highly instructive experimental explosions during the last year at Sandy Hook. The experiments authorized by this very liberal appropriation will be made in part at Sandy Hook, and in part at Pittsburg or Cincinnati—each being under the charge of a committee of five engineers. The information which may thus be obtained may prove of inestimable public benefit, and we shall look forward to the inauguration of the experiment with great interest.

Hardening of Dried Peas in Boiling.

While some peas become soft in boiling, others become horny and hard, and it has been a question whether this is due to the peas or to the water. Prof. Ritthausen examined two samples of peas, one said to become soft on boiling, and the other hard, and on boiling them in distilled water found these characters substantiated. The analysis of their ashes gave:

	Soft.		Hard.	
Phosphate of lime	10.77	18.91	10.41	26.96
Phosphate of magnesia	8.14		16.55	
Phosphate of potassa	59.74		37.43	
Sulphate of potassa	3.10		14.80	
Chloride of potassium	4.72		6.23	
Potash	....		11.47	
Phosphoric acid	4.43		....	

From this we see that the soft-boiling peas contain a considerably greater amount of phosphate of potassa, a smaller percentage of phosphatic earths, and more phosphoric acid than the other kind, which, for their part, are richer in the earth phosphates, poorer in other phosphoric compounds, and contain an excess of potash.

In the action of water on those peas poor in phosphoric acid, that hardened on boiling, the legumins, which is present in large quantity, although partially combined with the excess of potash, has also its function. It is decomposed, with the separation of a compound of lime or magnesia, which becomes horny on heating and brings about the hardening referred to. Cold water extracts from those peas that boil soft, 4.24 per cent of soluble legumins, while from the hard boiling kinds only 1.73 per cent can be derived. The difference in the amounts of nitrogen and sulphur was so slight, that the hardening could not be ascribed to a larger amount of albumen, or of sulphuric acid. Some kinds of peas, however, represented as hardening on boiling, softened when boiled in distilled water; and analysis of their ashes gave nearly the same results as with those of the other character.

AN INTERESTING CHEMICAL EXPERIMENT.—To prove that the inner, dark portion of an illuminating flame contains combustible gases, the general practice is to insert into that part of the flame a glass tube, so inclined that a portion of these gases shall rise into it, and thereupon igniting them at the farther extremity of the tube, or leading the contents of the tube by an aspirator into a convenient vessel, when its combustibility can then be directly tested. Mr. Heuman has communicated to the German Chemical Society another method, and a simpler one, of accomplishing the result, which seems worthy of notice.

He recommends taking advantage of the well-known fact that a mixture of about 4 parts of chlorate of potassa and 1 part of strontium nitrate, heated to fusion, will burn with a very intense flame in hydrogen or illuminating gas, when once the ignition of the oxygen liberated from this mixture is effected by contact with a flame.

To perform this very pretty experiment, the author states that it is only necessary to fuse a small quantity of the mixture in question in a little spoon at the apex of a luminous gas flame, and then to lower it into the dark portion, when a brilliant combustion will immediately ensue; while, when removed to the luminous portion of the flame, or taken altogether out of it, is is at once extinguished.

AGASSIZ ON DEVELOPMENT.—In the recent series of lectures on embryological development, Prof. Agassiz declared the development theory of Darwin a daring assumption. He maintained that many of the lower animals were introduced under more highly organized forms than they have ever shown since, and have dwindled afterward. The following is one of his more explicit declarations:

I believe that all these correspondences between the different aspects of animal life are the manifestations of mind acting consciously with intention toward one object from beginning to end. This view is in accordance with the working of our minds; it is an indistinctive recognition of a mental power, with which our own is akin, manifesting itself in nature. For this reason more than any other, perhaps, do I hold that this world of ours is not the result of the action of unconscious organic forces, but the work of an intelligent, conscious power.

MAKING HYDROFLUORIC ACID.—Hydrofluoric acid is produced by the action of sulphuric acid on fluor spar in a platinum or lead retort. One of the troubles connected with its production is an extremely hard residuum which is left in the retort, and which cannot be removed without great difficulty. Mr. A. P. Stuart, however, has obviated this disagreeable consequence by employing, instead of fluor spar, a mixture of equal parts of fluor opar and gypsum. The residue left behind in this process may readily be removed by the application of water.

EFFECT OF SUNLIGHT ON FLOUR.—It is maintained that the inferior quality of certain kinds of wheat and rye flour is frequently due to the action of sunlight on the flour; even when in bags or barrels the gluten experiences a change similar to that occasioned by heating in the mill. The tendency thus imparted to it, to become lumpy, and to form dough without toughness, is similar to that of flour from moist grain, or of flour when it is too fresh, or made from grain ground too early, or when adulterated with cheaper barley meal. Such flour can be improved by keeping for some weeks.

EFFECTS OF SULPHUR WATER ON IRON PIPES.—Dr. E. Priwoznik, in *Dingler's Journal*, says: It appears that, when the iron mains conveying the mineral water from a source near Hainburg, Austria, were taken up after having been for more than a dozen years underground, the iron thereof had been strongly acted upon, as exhibited by the diffusions on structures upon the fracture. On being analysed, the author found the interior layer to consist, in 100 parts, of: Hydrated oxide of iron, 81·08; free sulphur, 12·29; sulphuret of iron, 4·48; hygroscopic water, 0·57; nickel, cobalt, magnesia, silica, traces of carbon, and chlorides of ammonium and sodium, 1·58. The second layer was found to contain only 79· per cent of iron, but no sulphuret or excess of carbon was discovered; while the third outmost layer was almost pure cast iron.

EXHALATION OF CARBONIC ACID GAS.—The *Archiv fur Physiologie* contains an account of Aubert and Lange's interesting researches on the quantity of carbonic acid exhaled in a given time from the skin of a man. The experiments were carefully made in an air-tight chamber, in which the subject for experiment was seated, and through which a current of air, freed from carbonic acid, was steadily passing, while the proportion of carbonic acid in the air on leaving the chamber was estimated by transmission through bulbed tubes containing a solution of salt of barium. The results of these novel investigations leads to the general conclusion that sixty-two grains of carbonic acid—a considerable amount, certainly—are exhaled from the body of a full-grown man, through the skin, in the course of twenty-four hours.

REDUCING THE INTENSITY OF A NEGATIVE.—According to Lesalle, a negative can be diminished in intensity by first washing it and then covering it with a solution containing 15 grains of chloride of gold and .53 of a quart of water. The operation is to be repeated until the plate has obtained a proper tone. A quantity of nitric acid is then to be poured on one corner, enough to cover the whole plate, when the silver is immediately dissolved and almost instantly disappears. It is then to be re-enforced with sulphate of iron, and then reappears with a great degree of transparency. Pyrogallic acid may be made use of to bring it up both to the desired degree of intensity and to that of transparency. The image which remains after the application of the nitric acid, on account of its great transparency, is well adapted for taking large pictures.

MECHANICAL PROGRESS.

STEAM AS A FIRE-EXTINGUISHER.—Dr. Weidenbusch, of Wiesbaden highly recommends steam as a fire-extinguisher, and suggests experiments as to the best method of employing it, as well by the use of portable boilers (where the connecting pipes would produce the chief difficulty) as by pipes and boilers arranged for each building. As an illustration of its efficiency, he gives the case of a factory about 196 feet long and 33 feet wide, the garret of which was filled with rags, shavings, leather scraps, &c., in which, when the fire was detected, half the length of the roof was burning. The fire apparatus arrived about an hour afterward, and the extinguishing appliances of the building itself were so defective that the whole roof was in flames and had fallen in, and the lower story was on fire in different places. About 2½ hours after the outbreak of the fire a steam boiler, separated from the building, and not in use for some hours, was fired up with wood, and the cast-iron pipes were cut by a daring carpenter who entered the room of the burning building. The effect was instantaneous. The room, filled with the steam issuing under high pressure, (which, however, he does not consider essential), soon darkened, one portion after another ceased to burn; even the heaps of rags in the garret, with free access of air, were gradually extinguished, and after half an hour all danger was regarded as past. The effect was too marked to be ascribed to the fire-engines operating during the same time, and the firemen were more and more impressed with the fact that their labor was superfluous as the steam came into play.

NEW MECHANICAL MOVEMENTS.—Among the collateral benefits of the competition of the inventors with reference to improvements in canal navigation, is the discovery of two new mechanical movements. One of these is a wheel revolving upon a central universal joint; the other is a telescopic shaft surrounded by a sleeve vibrating upon trunnions. In the practical device, a shaft, driven by two small engines, each 2½ horse-power, with dead points at right angles to each other, extends from the deck of the canal boat to the shore, but being hinged near the engines, is capable of being raised or lowered, as occasion may require. The revolution of the shaft turns a cogged wheel, to whose centre it is attached by the universal joint. The cogs of the wheel fall into those of a permanent track laid on low supporters along the canal bank. The fixed leverage of a rail track is thus obtained without the need of a heavy weight, like that of a locomotive, to procure the necessary adhesion.

INCRUSTATION OF LOCOMOTIVE BOILERS from the use of impure water, even in ordinarily favorable localities, has become so serious and expensive a matter that it has been purposed to construct extensive reservoirs for the collection and storage of rain water, instead of employing wells. When the rainfall is 40 inches, and the passage of 20 locomotives a day is required to do the work of the road, a roof or collecting surface of five acres, would be required at intervals of every five miles; and yet the opinion was expressed, by a committee appointed for such investigation, at the last meeting of the Master Mechanics' Association at Baltimore, that the cost thus incurred would be less than that required for keeping boilers in repair from injury sustained from incrustation. The annual cost of repairs in a locomotive boiler, made necessary by the use of impure water is set down by the committee at $750.

The Committe has no faith in any of the patent devices which are advertised as sure preventatives to incrustation. The only effectual remedy is to use pure water. Some attempts have been made to purify water impregnated with mineral substances before it is allowed to enter the boiler, but the results have been indifferent. They believe that repairs are made necessary and boiler explosions are sometimes occasioned by the incrustations dropping from the over heated plates, and permitting the water to come suddenly in contact with the hot surface, thereby generating immense volumes of steam, which produce the concussion that ruptures the boiler.

MACHINE FOR TESTING THE VALUE OF LUBRICANTS.—Prof. R. H. Thurston, of the Stevens Technological Institute of Hoboken, N. J., has invented and patented a simple device for testing the comparative value of lubricants. It gives the amount of friction, pressure or bearing, and temperature of journal box at any time while in operation, and the readings of the same are to be taken at short intervals during the test. By the testing powers of this device, builders of various descriptions of machinery, may determine and select the peculiar kind of lubricant best suited to the different classes of machinery which they are offering to the public.

Thus sewing machine builders, who require a lubricant of long endurance and small frictional resistance and viscosity, can make a proper selection. So of locomotives, which require a lubricant that will bear high pressure for the greatest length of time without heating, etc. The relative power of lubricants for resisting high temperatures without decomposition, is another important point that may be tested.

The device promises to be one of much value to machine builders and others, in thus enabling them to decide upon the economy and fitness of this quite expensive and very important adjunct to the successful running of machinery. Master mechanics can obtain permission to construct and use the machine, on application to the inventor.

HOT-GILDING OF IRON.—The process of hot-gilding of iron, and similar metals, has been lately much simplified by Kirchmann, who produces gilt designs which are very uniform, and which bear polishing. This is done by rubbing the surface with soda-amalgam (which amalgamates it immediately, even if the surface be oxidized), and then quickly applying a concentrated solution of chloride of gold, and expelling the mercury by the heat of a lamp or furnace. Similar results may be obtained with platinum and silver salts.

NEW PLAN FOR REMOVING SAND BARS.—A method of removing sand bars from rivers, invented and patented by Alfred Garnham, of St. Louis, Mo., consists in anchoring a cable under water, and providing the cable with angular arms, so arranged that the force of the stream will actuate the arms, make them revolve and beat up the sand, which is swept away, as fast as loosened, by the current.

THE ST. GOTHARD TUNNEL.—Active progress is being made upon this important work, about 800 workmen being constantly employed. At the end of March last the tunnel had reached a distance of 806 feet. The work at that time was greatly retarded by the unusual amount of water, which found its way from every direction into the excavation, amounting to about 1,100 gallons per minute.

A STEAM wagon is to run from Nashville to Pulaski, Tenn., commencing regular trips in October next.

A TELESCOPIC COMET is now attracting the attention of astronomers. On the 7th inst. it appeared as a faint nebulous mass, its position being 4 hours 7 minutes right ascension, and 4° 34′ south declination. We are not told whether it will come near enough to be seen with the naked eye. It is to be hoped that the spectroscope may be so brought to bear upon it as to give us some new facts with regard to this singular class of heavenly bodies.

ASPHALTUM deposits abound in the southern portion of this State and the supply is practically inexhaustible. A very large deposit has lately been found near Rincon Point, in Ventura county, which is said to be from six to fifteen feet thick and covered with soil to the depth of eight or ten feet. It is in close proximity to the ocean.

Table of Fluctuations.

Showing Highest and Lowest "Regular" Sales of Mining Stocks on the Board List of the San Francisco Stock and Exchange Board, during the last Four Weeks, together with Number of Feet, Shares, Last Dividends and Assessments.

1873.

NAME OF COMPANY	SHARES IN MINE.	FEET IN MINE.	LAST DIVIDEND.	LAST ASSESMT.	WEEK ENDING WEDNESDAY June 25 High	June 25 Low	July 2 High	July 2 Low	July 9 High	July 9 Low	July 16 High	July 16 Low
WASHOE.												
Alamo Gold and Silver M. Co	300	6000		5, Mch. 1, '71	75c	75c	75c	75c				
Alpha Consolidated	3600				32	29	31	28	24	24	26	25½
Alta		30000		1, May 17, '73	8½	1½	6¾	4¾	4¾	3¾	5	3¼
American Flat	1900	18000		5, June 16, '73	2¾	2¼	2¾	1⅞	2⅞	1¼	1¾	⅞
Arizona & Utah							3	3	2	1½	2½	2
Bacon Mill and Mining Co	65	24000	27, July, '71						9	5		
Baltimore Consolidated		54000		3, June 3, '73	12⅛	8½	10	8⅝	8¾	7¼	9	5
Belcher	1040	10400	16, July, '73		97	88	103	92½	97	87½	87	81
Best & Belcher	224	22400		8, Feb. 7, '71	4¾	4¼	4¾	4⅜	4¾	4½	4	3½
Bowers	20	5000										
Buckeye		16900		7, Jan. 21, '73	1¾	1¼					1¼	1¼
Bullion	2500	25000		15, June 11, '73								
Caledonia Silver Mining Co	5000	20000		4, Feb. 5, '73	19	16½	15½	16½	16½	14	15¼	11
Central	150	10800									5	5
Central No. Two	2800	20000			5¾	5¾	6½	5¾	6	6	6	4¾
Chollar-Potosi	139	24960	6, May, '65	15, Mar. 13, '73	59½	57	57½	53	56	50	51	39½
Confidence Silver Mining Co	940	20000			7⅝	7	7	6¾	6¾	4¾	7	6½
Cons. Gold Hill Quartz	1160	23500			2	2			2	2	2½	1¾
Consolidated Virginia	2500	25000		15, June 11, '73	97	92	110	98	101½	96	99	96
Cook & Geyer	600	10000	12, July, '73	15, Aug. 5, '72	116	107	103½	100	103	99	100	94
Crown Point Gold and S. M	2000	24000	2, July, '63	6, May 28, '73	1	50c	1¼	1¼	1⅜	1⅜	1½	1⅜
Daney	1200	24000										
Dardanelles	70	25000			5	5½	6	6	5½	5	5½	
Eclipse	75	5000	21, May, '67	13, June 1, '73	3½	2	5	4½	4¾	4¼	5¼	4
Empire Mill and Mining Co	400	8000		9, June 26, '72	10¾	9½	9¾	9	9½	8	7¾	
Exchequer	3000	12000										
Flowery					2¾	2	2¾	2½	2¼	2¼	2¾	2
Franklin					1¼	1⅛	1⅜	1⅛	1⅛	1⅛	1⅛	⅞
Globe	1200	48000	26, Oct., '70	3, July 2, '73	1½	1⅛	13	11½	13½	11	12⅜	10
Gould & Curry Silver Mining	400	16000	26, April, '71	18, June 9, '73	12½	11	13	11½	13	12	12⅜	10
Hale & Norcross	184	100000	30, June, '68	40, July 1, '73	4½	40	45	40	43	35	37	29½
Imperial				16, Apr. 8, '73	6⅞	5⅝	6¼	5¾	6¼	5⅝	5¾	5¼
Indus							2	2				
Insurance	2000	30000		1, May 5, '73								
Julia Gold and Silver M. Co	2000	30000		14, June 9, '73	1¾	1½	1⅝	1½	1⅝	1¼	2¼	1¾
Justice	3000	21000		6, June 24, '73	8½	8	10¾	7½	11½	8¼	9¾	5¾
Kentuck	95	30000	22, Mch., '70	10, Apr. 25, '73	11¾	10¾	10¾	9¾	9½	9	9	8
Knickerbocker	1200	24000		5, Mch. 24, '73	4½	3¾	4	3¾	3¾	3⅜	3¾	2½
Lady Bryan												
McMeans	3600	36900										
Mint Gold and Silver Mining	1600	50000		1, May 6, '73	1¼	1	1	1	1½	1¼	1⅜	1¼
Nevada	3000	40000										
New York Consolidated	3600	36000		4, May 21, '73	1½	1	1½	1	1⅜	1	1⅜	⅞
Occidental	800	10000	1, Mch., '69	1, Feb. 8, '73	4½	4	4	4	4½	4¼	4	4
Ophir Silver Mining Co	1400	16800	22, Mch. '64	26, June 24, '73	34	29	34	30½	32	27	26½	29
Overman Silver Mining Co	1200	12500		26, June 4, '73	46	36	38½	31½	36	30	33½	29
Phil. Sheridan	1200	24000										
Pictou	2000	30000		3, June 19, '73	35c	20c	30c	30c			25c	15c
Rock Island		24000		1, June 20, '73			50c	37c	30c	30c	25c	25c
Savage	800	16000	52, June, '69	9, Apr. 5, '73	139	120	158	127	162½	127½	145	62½
Segregated Belcher	160	6400		14, July 20, '71	55¼	48½	55	50	54	46	52	46
Segregated Caledonia		10000										
Senator Silver Mining Co		24000		8, June 24, '73	1	1	75	50	62½	50c	62½	50c
Sierra Nevada		20000	11, Jan., '71	26, April 17, '71	11½	10½	10⅜	10	10¼	10	10	9
Silver Hill		54000		1, Dec. 24, '72	20	19	20	19½	20½	20	21	18
South Overman		24000									50c	50c
Succor Mill and Mining Co	1600	22800	2, Oct., '71	5, Nov. 26, '72	2¼	1¾	2¼	2⅛			2	1⅜
Sutro		24000										
Trench	20	50			5	5	5	4½				
Tyler	2200	33000			1¼	75c	1⅜	⅞	87½c	75c	75c	50c
Union Consolidated	803	20000		3, June 13, '73	75c	50c					50c	50c
Utah		20000		2, May 6, '73								
Woodville Gold and S. M	1400	28000		1, Mch. 12, '73	2⅞	2⅜	3½	2½	2⅜	2	2¼	1½
Yellow Jacket	1200	24000	25, Aug., '71	15, Jan. 4, '73	66	58	64	61	63	59	60½	50
NEVADA.												
Adams Hill		50000		3, Dec. 23, '72								
Alps Silver Mining Co	800	30000		4, May 6, '73	1½	1	2	1⅜	1⅜	1⅜	1⅜	1⅛
Amador Tunnel and Mining				1, June 4, '73							3	2⅞
American Flag Mill and M		30000		2, June 13, '73	6	4½	6	4½	6⅝	5⅝	6¼	5
Arkansas	300	30000		3, Jan. 18, '73								
Belmont					4	3½	3½	3	4	3½	3½	3
Bowery		30000		3, May 5, '73	1¾	75c	3	1¼	1½		1½	⅞
Chapman Mill and Mining		30000		3, Mch. 4, '73	75c	30c	35c	35c	25c	25c		
Charter Oak Silver Mining	1000	30000		1, Mch. 3, '73			10c	10c				
Chief of the Hill		30000		2, May 23, '73	2½	1¼	2½	2¼	2½	2¼	2⅜	2
Chief East Extension		36000		1, May 28, '73	15c	15c	40c	15c	40c	30c	35c	30c
Columbus Mill and Mining	10000	30000		2, April 26, '73								
Condor		20000		2, Sept. 12, '72								
Eureka Consolidated		50000	5, June, '73		14½	12½	12½	10½	12	11½	12	11½
Excelsior		12000		1, June 20, '72								
Harper Silver Mining Co		30000		1, Jan. 27, '73								
Hermes	1000	30000		4, May 10, '73	9½	8	12½	9	8	7	8	7½
Home Ticket												
Huhn & Hunt Silver Mining	3600	30000		6, May 12, '73	4	3½	3½	3¼	2⅜	2½	2½	1¾
Ingomar Silver Mining Co	1000	40000		4, Mch. 1, '73	75c	50c	87½c	62½c	75c	75c	75c	50c
Ivanhoe		50000		2, Dec. 12, '72								
Jackson		50000		3, June 25, '73	30c	25c	25c	5c	10c	10c	14	14
Juniata Consolidated	5000	50000		1, Jan. 17, '73	3¾	3¾						
Kentucky Gold and Silver	1000	30000		6, June 2, '73	2½	2½	2½	1	2¾	2½	2⅜	2½
Kinston	18000	30000		1, Aug. 26, '72							90c	90c
Lehigh	1000	30000										
Lillian Hall	1000	15000		2, Jan. 23, '73								
Louise	2400	30000		3, Sept. 15, '72			62½c	30c	40c	40c	25c	25c
McMahon	1000	30000		4, June 19, '73								
Marion		30000		1, Dec. 9, '72								
Meadow Valley	24025	60000	17, July, '73	1, May 30, '70	24¼	22½	23	20½	21¾	21½	22	15½
Mocking-Bird	1200	30000		1, Dec. 5, '72								
Monitor Belmont			2, Mch., '73									
Murphy	2000	50000										
Newark Silver Mining Co	800	20000		4, Apr. 10, '73	5	1¼	7	4½	7¼	5¾	6½	5
Pacific Tunnel and Mining												
Page & Panaca Silver Mining	2400	40000		3, Feb. 3, '73	1⅝	1	1⅜	1¼	1¼	1	1⅜	1
Peavine	1000	30000		4, May 12, '73	40c	25c	50c	30c	45c	35c	42½c	30c
Phœnix		50000		11, May 28, '73	35c	25c	50c	20c	50c	45c	40c	40c
Pioche Silver Mining Co	1000	20000	3, Aug., '72	3, Feb. 21, '73	9½	8½	9¼	8½	9	8	8¾	8¼
Pioche West Extension		35000		4, May 16, '73	1¼	1¼	1	1	1	1		
Ploche-Phœnix		40000		3, May 6, '73	4	3½	4½	3¾	3½	3¾	3½	3
Portland				11, May 6, '73								
Raymond & Ely	5000	30000	22, Feb., '73	2, April 3, '73	65	61	66	60	62	60	63	55
Silver Peak		30000		2, April 3, '73	1¾	1½	1¾	1½	1⅝	1½	1¾	1⅝
Silver West Consolidated				4, June 10, '73							42½c	30c
Standard Mill and Mining				1, May 16, '73	2	2	2	2			2½	2
Star Consolidated	18000	50000		3, June 19, '73							90c	90c
Starlight	6800	25000										
Sterling		30000		1, July 15, '72								
Spring Mount		35000		2, Jan. 15, '73			1	75c				
Spring Mountain Tunnel		20000		6, June 20, '73								
Ward Beecher												
Washington and Creole	200	30000		8, April 25, '73	2½	2⅜	2⅝	2½	2⅜	2¼	2⅛	2¼
Yellowstone												
CALIFORNIA.												
Alpine	1200	12000		4, May 13, '73								
Bellevue	8000	20000		6, April 14, '73								
Calaveras Gold Mining Co	3200	20000		3, Feb. 12, '73								
Cederberg Gold Mining Co		24000	4, Feb., '73		4½	4½	4½	4	4	4	3	3
Consolidated Amador			5, April, '70									
Cottonwood Creek		20000										
Dunderberg Mill and Mining												
El Dorado Gold Mining Co												
Eureka Gold Mining Co	1650	20000	9, July, '73								21	21
Gillis		24000		1, July 20, '72								
Independent Gold Mining	1900	25000		3, Apr. 2, '73							1¼	1
Keystone Quartz		10000	1, July, '72									
Mt. Jefferson	1500	25000		4, Dec. 18, '72								
Oakville Quartz Mining Co												
Rye Patch												
St. Lawrence Mill and M. Co				1, Mch. 11, '73								
St. Patrick	1650	20000		6, Oct. 21, '72	8½	6	10	7½	9	8	9	6½
Tecumseh	3000	30000		20, May 25, '73								
Yule Gravel	400	10000	9, April, '72	3, June 4, '73								
IDAHO.												
Empire		25000		3, April 10, '73					50c	50c	½	½
Golden Chariot	750	10000	9, Mch., '71	9, May 26, '73	15	11	18	14	18½	18½	20	10½
Ida Ellmore	1300	10000	6, Feb., '70	9, Mch. 25, '73	5	4½	5½	4¾	4½	4½	4¾	4½
Mahogany G. and S. Mining	720	10000	1, Aug., '72	9, June 11, '73	10¾	8¾	8	7	7	7	11½	7½
Minnesota Gold and Silver	1070	20000		6, May 21, '73	10½	8½	11	10½	15	12	17½	15
Red Jacket					4	3½	4	3½	5	4	6	4¾
South Chariot	660	20000		6, May 23, '73	3	2	2¾	2¼	3	2¼	3½	2½
War Eagle	1000	10000		1, Nov. 4, '72							25c	25c
WHITE PINE.												
General Lee	1000	20000		6, Jan. 9, '73								
Mammoth Silver Mining Co	1800	36000		12, Mch. 3, '73	50c	45c	45c	40c			35c	35c
Noonday	1000	20000		14, May 21, '73	30c	25c						
Original Hidden Treasure	800	21333	1, June, '70	5, Oct. 9, '72	7	7	7	6	6½	6	5½	5½
Silver Wave					40c	40c						
Ward Beecher		24000		1, Nov. 21, '72								
UTAH.												
Deseret Consolidated	2400	30000		1, Sept. 16, '72								
Wellington		50000		1, Nov. 12, '72								
OREGON.												
Virtue	2308	20000										

Buy IN EVERY FRIDAY'S ISSUE of the DAILY MINING PRESS we publish, in connection with this table, the highest and lowest rates of sales during each of the past twelve months.

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary. Place of Business.
Amador Tunnel M. Co.	Ely District	1	1 00	June 4	July 10	July 30	L. Kaplan, Merchants' Ex.
American Flag M. & M. Co.,	Ely Dist.	2	1 50	June 3	July 9	Aug. 4	Geo. R. Spinney, 320 California st.
Arizona & Utah		5	1 00	June 16	July 21	Aug 12	Joseph Maguire, 419 California st.
Baltimore Con. M. Co.	Washoe.	3	75	June 3	July 8	July 31	D. F. Bagley, 401 California st.
Bellevue M. Co.	Placer Co., Cal.	3	50	April 14	May 19	July 30	T. F. Cronise. 438 California st.
Buckeye G. & S. M. Co.	Washoe.	8	1 00	July 14	Aug 19	Sept 8	J. Maguire, 419 California st.
Caledonia S. M. Co	Nevada.	5	2 00	July 11	Aug 21	Sept 11	R Wegener, 414 California st.
Chief of the Hill M. Co.	Ely District.	2	50	May 23	July 1	July 21	C. S. Neal. 419 California st.
Consolidated Virginia M. Co.	Washoe.	15	3 00	June 11	July 16	Aug. 7	D. T. Bagley, 401 California st.
Chief East Extension M. Co.		1	20	May 28	July 2	July 30	R. Wegener, 414 California st.
Daney G. & S. Co,		6	50	May 28	July 1	July 25	Geo. R. Sneeney, 320 California st
El Dorado Quartz M. Co.	Cal.		10	July 3	Aug 11	Aug 28	G. W. R King, 411 California st.
Empire M. & M. Co.	Washoe.	13	1 00	June 10	July 14	Aug. 6	Geo. R. Spinney. 320 California st
Globe M. Co.	Nevada.	3	25	July 2	Aug. 3	Aug. 25	Joseph Maguire. 419 California st
Gould & Curry S. M. Co.	Nevada.	18	1 00	June 9	July 14	Aug. 4	A. K Du how, room 22, Merch's Ex
Golden Chariot M. Co.	Idaho.	40	2 00	May 26	June 30	July 21	L. Kaplain, Merchants' Exchange
Hale & Norcross S. M. Co.	Washoe.		5 00	July 1	Aug 2	Aug 22	J. F. Lightner, 428 California st
Julia G. & S. M. Co.	Nevada.	14	50	June 9	July 12	July 31	A. Noel, Room 20, 419 California st.
Justice M. Co.	Nevada.	6	1 00	June 24	July 29	Aug 19	R. Wegener, 414 California st.
Jackson M. Co.	Nevada.	6	10	June 25	July 29	Aug 18	H. C. Kibbe, 419 California st.
Kentucky G. & S. M. Co.	Ely Dist.	6	1 50	June 2	July 21	Aug 11	J. P. Cavallier. 509 Montgomery st
Kentucky G. M. Co.	Cal.	4	20	June 23	July 24	Aug 8	Geo. Fletcher, Grass Valley
Lady Franklin G. & S. M. Co	Cal.		50	June 21	July 25	Sept 15	C. S. Lester's office, 507 Montgom'y st.
Mahogany G & S. M. Co.	Idaho.	9	2 00	June 11	July 19	Aug 4	E. McFaddin, Express Bldg
McMahon S. M. Co.	Nevada.	4	25	June 19	July 25	Aug. 19	Geo R. Spinney. 320 California st.
Minnesota M. Co.		6	1 00	May 21	June 27	July 21	Wm. Willis, 416 California st
New York Cons. M. Co.	Washoe.	4	50	May 31	July 1	July 21	H. C. Kibbe, 419 California st
Noonday M. Co.		14	25	May 21	June 27	July 21	J. Maguire. 419 California st
Ophir M. Co.	Washoe.	26	5 00	June 24	July 29	Aug 18	J. Marks, Merchant's Ex
Overman S. M. Co.	Washoe	26	4 00	June 4	July 8	July 28	W. W. Stetson, 414 California st.
Phenix S. M. Co	Nevada.	11	25	May 28	July 3	July 23	Joseph Magnire, 419 California st
Pictou M. Co.	Nevada.	3	20	June 19	July 21	Aug. 8	S. Phillips. 408 California st
Pioche Phenix M. Co.	Ely District.	3	1 00	May 6	June 19	July 31	C. E. Elliott. 419 California st
Pioche West Ex.	Ely District.	4	50	May 16	June 24	July 22	T. W. Colburn. 414 California st
Rock Island G. M. Co.	Washoe.	1	50	June 20	July 20	Aug. 12	W. E Dean. 419 California st
Senator S. M. Co.	American Flat.	8	50	June 24	July 29	Aug 18	Henry Bayle, Stevenson's Bldg
Silver West Con. M. Co.	[Nevada.	4	25	June 10	July 17	Aug 12	F. R. Bunker, 36 Montgomery st.
South Chariot M. Co.	Idaho.	6	50	May 23	June 30	July 21	J. L. King, 411 California st.
Spring Mountain Tunnel Co.	Nev.	6	20	June 20	July 29	Aug 18	J. M. Buffington, 37 N. M. Exchange
Star Con. M. Co.	Nevada.	3	10	June 19	July 24	Aug. 18	Geo. R. Spinney. 320 California st
Tecumseh G & S. M. Co.		20	25	May 28	July 1	July 19	T. J. Herrmann, A Noel, 419 California st
Woodville G. & S. M. Co.	Washoe.	2	75	July 16	Aug 19	Sept 6	W. H. Watson, 302 Montgomery st
Yule Gravel M. Co.	Placer Co., Cal.	3	20	June 4	July 9	July 29	G. W. Hopkins, Go'd Hill
Yellow Jacket M. Co.	Washoe.	16	5 00	July 10	Aug 15	Sept 15	

Other Companies (not on the Lists of the Boards.)

Atlantic & Pacific Con. M. Co.		6	June 20	July 24	Aug. 12	A. Noel. 419 California st
Beckwith M. Co.	Ely District.	15	July 7	Aug 11	Sept 2	W. H. Watson, 302 Montgomery st
Brown's Valley Cons. M. Co.		50	June 27	Aug 2	Aug 25	R. B. Noyes. 411½ California st
Buena Vista Vinicultural Society,	Cal.	5	00	June 12	July 15	Aug. 4	H. Selmer. 409 Battery st.
Bunker Hill M. Co.	Cal.	10	10 00	June 5	July 7	July 28	C. H. Cox, First st.
Caroline M. Co.	Cal.	1	20	June 30	Aug 8	Sept 4	C. E. Elliot, 419 California st
Central Land Co.	Cal.		1 25	June 9	July 10	July 28	B. F. Haswell, 339 Montgomery st.
California Beet Sugar Co.	Cal.		10 00	May 26	June 30	July 22	Louis Franconi, 314 California st.
Cederberg Firs'n Ext. G. & S. M. Co.	Cal.	3	20	May 27	June 28	Aug 18	J. N. Webster, 568 Mission st.
Central Coal M. Co.	Cal.	20	20 00	June 10	July 15	Aug. 5	W. Hillerglass, 457 8th st. Oakland.
Central Polynesia Land Co. Navigators Is			5 00	May 14	June 17	Aug 5	J. J. Mcalburn, 319 California st.
Commercial Coal M. Co.	Cal.		50	July 9	Aug. 16	Sept. 3	S. B. Hanson. 402 Montg'y st
Dutch Flat Blue Gravel M. Co.		2	50	June 12	July 29	Aug 14	W. M Kelman 401 California st
Fairs' Hill G. M. Co.	Grass Valley.	6	50	June 12	July 15	Aug. 2	H. Silvester. Grass Valley.
East Idaho M. Co.	Cal.	1	5	June 18	July 28	Aug 16	P. H. Paynter, Grass Valley
Eclipse & Lee G. M. Co.	Cal.	1	25	June 13	July 19	Aug. 11	A. Treadwell, 411½ California st
Emerald Hill M. Co.	Utah.		25	June 24	Aug 1	Aug 26	F. Madge, Merchants' Ex
Empire Mine Gravel M. Co.	Grass Valley.	21	4 00	June 11	July 10	Aug 1	M. McDonough, Grass Valley
Eureka M. & Smelting Co,	Eureka Nev.	1	20	June 4	July 9	Aug. 1	T. P. Beach, 217 Sansome st.
Eliza M. & M. Co.	Siskiyou Co., Cal.	2	1 00	May 1	June 9	July 30	T. F. Cronise. 438 California st
Equitable Tunnel & M. Co.		2	10	May 5	July 17	Aug 8	C. S. Healy. Merchants' Ex
Bryan Stone Co.	Cal.	6	2 50	June 30	July 21	Aug 11	R. W Wagner, 414 California st
Greenhorn G. M. Co.	Cal.	1	50	July 11	Aug 18	Sept 10	Joel F. Tigbtner, 438 California st
Granite Tunnel M. Co.	Cal.		10	June 27	Aug 4	Aug 22	W. G. Holme, Cor. Wash. & Battery
Grace M. Co.	Schell Creek.	1	10	June 20	July 26	Aug 20	W. H. Knight, 331 Mont. st
Great Blue Gravel Range.	Cal.	3	10	June 12	July 14	Aug. 5	Wm. H. Watson, 302 Montgomery st.
Greenville M. Co.	Plumas Co., Cal.	4	1 00	June 11	July 16	Aug. 4	H. C. Kibbe, 419 California st.
Heckerdorn G. & S. M. Co.	Cal.		25	June 9	July 10	July 28	L. Terme, 734 Montgomery st.
Hasloe M. & M. Co.	Mariposa Co.	1	50	May 14	June 28	July 21	4 W Tripp, 408 California st
Hermiguera Mining Co.	Lower Cal.	7	3 00	May 6	July 2	Aug. 18	J. H. Applegate. 729 Montgomery st
Lady Esten Tunnel & M. Co.	Utah.	3	5	June 11	July 17	Aug. 3	C. S. Healy, Merchants' Ex
La Paz M. Co.	Ely District.		50	June 16	July 21	Aug. 15	W. W. Hopkins, 411½ California st
Lady Emma M. Co.	Cal.	3	30	June 25	July 26	Aug 18	A. D. Carpenter, 605 Clay st
Mendha S. M. Co.	Nevada.	1	1 00	June 9	July 15	Aug. 11	Geo. R. Spinney, 320 California st.
Manhattan Marble Co.			1 00	June 23	July 24	Aug 11	D. M. Bokee, 319 Pine st
Omega Table Mountain M. Co.	Cal.	2	5	June 4	July 8	July 28	David Wilder, Merchants' Ex.
Orient S. M. Co.	Nevada.	2	10	June 14	July 19	Aug. 11	Joseph Maguire, 419 California st
Placer G. M. & Canal Co.	Cal.		10	July 8	Aug 11	Aug 30	Geo. W. R. King, 411 California st
Potrero Land Investment Co.			70 00	June 11	July 14	Aug 4	B. B. Minor, 411½ California st
Phenix Tunnel & M. Co.	Utah.		10	July 2	Aug. 6	Aug. 15	C. S. Neal, 419 California st
Pioneer Cons. M. Co.	Nevada.	1	10	June 19	July 25	Aug 13	C. S. Neal, 419 California st
Potrero Land Investment Co	Cal.		70 00	June 11	July 14	Aug 4	B. B. Minor, 411½ California st
Plymouth Rock M. Co.	Utah.	1	5	June 11	July 18	Aug 18	Jas. Mason, 422 California st.
Prospect M. Co.	Grass Valley.	4	5	June 11	July 7	July 21	J. Jackson, Grass Valley.
Regent Cons. M. Co.	Utah.	—	—	May 26	June 28	July 22	W. L. Ustick, 438 California st
Rising Star M. Co.	Cal.	5	6	July 11	Aug 13	Aug 30	J. M. Buffington, 37 Merchants' Ex
Sanderson G. M. Co.	Cal.	5	15	June 20	July 19	Aug 4	Wm. Stuart, 113 Liedesdorff st
Schuylkill Quartz M. Co.	Cal.	19	10	June 7	July 10	July 28	W. E. Reed, Grass Valley.
Stanislaus Water Co.	Cal.	2	2	June 2	Aug 2	Aug 21	C. C. Tripp, 726 Kearny st.
Stanislaus Water Co.	Cal.	1	2	June 3	July 7	July 28	C. C. Tripp, 526 Kearny st.
Starr King M. Co.	Nevada.	3	50	June 10	July 14	Aug. 4	L. Kaplan, Merchants' Ex.
South Emma M. Co.	Utah.	1	25	June 11	July 21	Aug 15	Henry Boyle, Stevenson's Bldg
Silver Spoon M. Co.	Inyo Co., Cal.	3	50	June 11	July 15	Aug 12	T. Winegard, 318 California st
Stickle Quartz M. Co.	Cal.		50	June 11	July 17	Aug. 30	E. Wheaton, 401 Montgomery st
Schell Creek M. Co.	Schell Creek.		10	April 10	June 27	July 21	P. W. Van Winkle. 304 California st
Spring Mount M. Co.	Ely District.		50	May 14	June 21	July 12	T. W. Colburn, 419 California st
State of Maine M. & M. Co.	Cal.	3	5	May 23	July 2	July 21	H. B. Congdon, 306 Montgomery st
Stevens Pacific Smelting & P		1	20	June 4	May 24	July 21	J. M. Knight, 320 Montgomery st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 31	L. Franconi, 314 California st
The City Gardens,	S. F.		66⅔	June 27	Aug 7	Aug 25	G. S. Ladd, 522 California st
Victoria and Imperial T. & M. Co.	Utah.		20	July 1	Aug 5	Aug 27	W. H. Watson, 302 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
American Flat M. Co.	Nevada.	L. Hermann,	Virginia City.	Annual	July 28
California Pacific R. R. Co.	Cal.	E. H. Miller, Jr.		Annual	Aug 11
Cederburg G. M. Co.	Cal.	D. M. Bokee,	319 Pine st	Annual	July 31
Cons. Gold Hill Quartz M. & M. Co.

Our Weekly Stock Review.

THURSDAY EVE, July 17, 1873.

Our stock market has been in a deplorable condition most of the past week, the feature, however, being the break in Savage. It was reported that the 1,700-ft. level cross-cuts of that mine were failures, and the Virginia stocks broke with the news, creating a panic, which carried other stocks down also. Savage has been going up since the first of April, but after the books closed, the election was virtually decided and the defeated parties threw their stock on the market.

Dividends this month were as follows:

	Per Share	Amount
Belcher	$ 8	$832,000
Crown Point	4	400,000
Black Bear	50c	15,000
Eureka	1	20,000
Eureka Con	1	20,000
Keystone Con	1	10,000
K. K. Con	25c	12,500
Meadow Valley	1	60,000

On Friday the market evinced no extraordinary activity, and was weaker than on the previous day. On Saturday there was no more animation, and the fluctuations in prices were of no moment.

On Monday it was still weak under the heavy break in Savage. Tuesday Savage again fell heavily, carrying other stocks with it. The market rallied a little in the afternoon, and Baltimore Con. rose $2; Belcher, $3; Hale & Norcross, $2; Ophir $1; Raymond & Ely, $2; Belcher fell $1.50 lower and Crown Point, $2.

On Wednesday a slight advance in prices was apparent, but the fluctuations were small.

The Raymond & Ely passed its dividend again this month, much to the disgust of stockholders. The Crown Point surplus this month is $509,096. The Raymond & Ely dispatch of the 14th says the total shipment up to 14th, for July, amounted to $93,008. The Idaho mine, of Grass Valley, paid a dividend of $77,500 —$25 per share—produce of June run. The Belcher telegram of the 11th says: "South drift, 1,300-ft. level, still in splendid ore, and looks very favorable. South cross-cut, 305 feet south, 1,200-foot level is in twenty feet, and shows fine ore. Our samples, $104." Thus it appears, the 1,200-foot level is also 305 feet in the Belcher and 390 feet in the Crown Point. The *Alta* says:

In the descent of 400 feet from the 9th level the ore has lengthened from 70 to 670 feet, and has widened from a few feet to 120 feet. The 1,400-feet level is now draining in the Crown Point, and three winzes are sinking on it in $100 ore. This level may prove still richer than the others where a portion of the ore has been taken out. The pyramidal shape of the ore seems to continue, and the Jacket mine, on the north, is feeling for it with good indications. The striking it there will at once determine its entire occupation of the Crown Point ground, as well as that of the Kentuck and a portion of the Jacket. It may, on the south, cross the Belcher to the Seg. Belcher, and the present aspect of the works justifies such anticipations. The mines possess the most perfect machinery; but the removal of such quantities of ore requires very careful proceeding in filling in. It is sometimes not prudent to move ore until the substitute for it is quite ready to take its place, and therefore the outturn is occasionally retarded.

There are apprehensions of trouble between the Crown Point and Belcher Companies about some ground. An accurate survey shows that the Belcher Company has worked on the Crown Point ground 3¼ ft. at the 1,000-ft. level; 6 feet at the 1100-ft.; 14 ft. at the 1200-ft. and 18 ft. at the 1300-ft. level. Several thoroughly-competent engineers will act for both companies on a certaining exactly the amount of ground worked over. A suit for reclamation of ore may be instituted, unless amicable arrengements are made. The value of the ground is thought to be worth upwards of half a million dollars. Work upon the ground has been stopped until the matter is decided.

To-day stocks were weak and irregular and a decline is apparent in several descriptions.

AN IMPROVED COOKING RANGE.—A cooking range was patented through the SCIENTIFIC PRESS Patent Agency recently, by James H. Mitchell of this city, which shows some new and important points in construction. The front plate of the stove or range is removable, and the oven are secured to it so that by taking away the front plate, the ovens will also be removed, so that they can be repaired when necessary, without resorting to the present plan of tearing down the range to get at the oven. The top of the range is made in sections, and when one of the sections becomes cracked or broken, it can readily be removed at little expense, whereas as formerly constructed, in a single piece, the whole top has to be renewed when it is cracked in any portion. Mr. Mitchell also claims an arrangement for protecting the water pipe, which is usually carried around inside of the range to furnish hot water. The range also is provided with a permanent shelf arrangement conveniently situated to receive and keep hot, dishes and viands which have been prepared. This range appears to be just the thing for hotels and restaurants, and we learn that the inventor has put up quite a number already, and has orders for many more. Messrs. Locke & Montagne, of this city, have made arrangements with the inventor to manufacture and sell these ranges upon the Pacific Coast.

STEAMBOAT CREEK mines, Douglas County, Oregon, are again being worked. The owners are now busily engaged, making ditches and flumes, and have hopeful prospects.

DANIEL WELLINGTON, of Virginia City, Nevada, is requested to communicate immediately with this office.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned:

California.

CALAVERAS COUNTY.

RAILROAD FLAT DISTRICT.—Calaveras *Chronicle*, July 12: The Superintendent of the Sanderson is anxiously awaiting the arrival of a new Cornish pump. Ore in bottom of shaft looks and prospects splendidly. A few hands are stoping above the lower north level, extracting ore worth $50 per ton.

Some work is being done on the Prussian Hill with a view to giving certain parties a fair opportunity to investigate its merits.

W. Gambol & Co. are reopening their old mine on the South Fork ridge, some two miles north of Railroad Flat. The mine paid well previously.

WEST POINT DISTRICT.—All late developments in the Lone Star enhance the value of the property.

The shaft of the Atlantic is 75 ft. deep; running levels; ore will probably average 18 inches in thickness, shows gold freely.

Zacatero struck a 20 inch vein in south level; the ore shows gold pretty lively.

The transverse drift of the Ohio has tapped the east vein, 4 ft. thick of fair milling ore. The drift has evidently cut the north end of an extensive and valuable chimney. As the south level of the west vein progresses with its usual width the ore gains in gold.

RICH STRIKE.—Calaveras *Citizen*, July 12: During the week there has been one of the richest quartz discoveries near San Andreas ever made in this county. Francisco Ochoa, a young man who has been living at West Point, came here last week for the purpose of prospecting for quartz in the vicinity of San Andreas. After several days' work he found a small ledge about one mile from town, from which he has taken rock of astonishing richness. He has done no work on it as yet; but it is calculated that some 10 or 15 pounds of rock which he found on the top will yield $800. The ledge is about 1 ft. wide. The proprietors of this treasure are Francis Ochoa, Dr. Oviatt and George ft. Chick.

RICH GRAVEL CLAIM.—Lloyd's claim is now paying better than ever, the last clean-up having exceeded their utmost expectations. The Co. now employ 12 men, and the arastra is kept constantly running. The proprietors sunk considerable money in prospecting the claim, and are now receiving it back with interest. We hope their good luck will continue, and the prospects are very favorable for its doing so.

INYO COUNTY.

Inyo *Independent*, July 12: 'PANAMINT MINES.—We are permitted to extract from a private letter the following items concerning the Panamint district, the mines of which are now creating some little excitement in the southern portion of our county. The district was discovered in January last, by R. C. Jacobs, W. L. Kenneyand R. S. Stewart, the enterprise being projected by Jacobs and Kennedy, when afterwards Stewart went with the party. The number of locations recorded amount to 80 or 90. The class of ore is copper silver glance, or grey copper ore heavily charged with silver bearing sulphurets and chloride. About June 1st galena lodes were discovered by Churen and Wilson; some of them are large, 10, 12 and 15 ft. wide, and some running on the surface for a mile or more. The mines are situated immediately south of Telescope Peak, the Recorder's office being in Surprise Valley, where the principal mines are situated. The rock assays all the way up to $3,000 per ton, but the probable average of metal bearing ore is $125 per ton. Nothing except the Sierra Nevada can beat the location for timber and water. Altitude of mines about 8,000 ft. Country rock, lime.

The silver ore is properly milling rock, but if lead is found in abundance it will be smelted. Distance from Lagunite Post Office (Little Lake), 55 miles; from Los Angeles, 210 miles. The principal lodes found are the Wide West, the Gold Hill, No. 1 and 2, Wonder, Wyoming, Marvel, Pinoe Altos, Surprise, Challenge, Beauty, Chief, Canon, Venus, King of Kayoret, Esperanza, Silver Ridge, Garry Owen, Balloon, Panamint, Mina Verde, Bell Belle, Sunset, Pine Tree and many others. Surprise Canon runs about 50 inches of water under four inch pressure. The mines are all in Inyo county, and distant 100 miles from Independence.

NEVADA COUNTY.

NORTH STAR MINE.—G. V. *Union* July 11: During the past month, the North Star mill reduced 366 tons of quartz taken from the mine. This yielded 2,495 ounces of amalgam, or 820 ounces of gold. This gold is valued at $14,508. The expenses of the mine for the same time amount to about $26,500. It must be remembered, however, that the North Star is doing an immense amount of dead work, which will result, eventually, in causing the balance to go to the other side of the account.

MINING NEAR ALLISON RANCH.—Grass Valley *Union* July 15: The Atlantic Co., consisting of Mr. Colbert and others, are starting work on the Atlantic claims, situated south of Allison Ranch, in Vail's ranch.

The Omaha, near the Ranch, has a ledge which is about two feet in thickness, and shows well in free gold. There are many ledges in the vicinity of Allison Ranch, the most of them located, which will pay for working.

YUBA COUNTY.

SMARTSVILLE MINING CO.—Grass Valley *Union*, July 15: The Enterprise Co., operating at Smartsville, will soon have the great tunnel and flume completed, and be ready for washing rich gravel. The flume is a mile and a quarter long, the greater portion of it being in the tunnel. It is 4 ft. wide and 30 inches deep. It will be paved with stone. The tunnel is 8 ft. high and 7 ft. wide at the bottom. The tunnel has cost something like $100,000. In its construction about $12,000 worth of Giant Powder was used. The work has been in progress about 3 years. When the flume is completed it will require $10,000 worth of quicksilver with which to charge it. The Co. has a great body of gravel, which prospects well from surface to bedrock.

Nevada.

STAR DISTRICT.

DE SOTO MINE.—*Silver State*, June 28: This mine, we are informed, is worked more extensively than any other in the district. It is located on the south side of the canon, in a siliceous limestone formation known as the "Sheba belt," and is traceable on the surface about 3 miles. Two ledges, known as the east and west veins, running parallel with each other, and 100 ft. apart, have been developed in the works. The east vein, at a depth of 300 ft., is from 11 to 14 ft. wide, and in a 50-ft. stope, which is now being worked on the lower level, carries considerable shipping ore, worth at San Francisco $600 per ton. The west lode, which is not being worked at present, is from 1½ to 5 ft. wide, and not so rich as the larger vein. The Co. has let a contract to run the lower level on the east ledge 100 ft. further south.

STAR DISTRICT.—Pioche *Record*, July 11: Mr. Wesley Williams, Star District, Utah, gives us the following items about that locality: The principal ledge in the district is the Hickory. On this ledge a shaft has been sunk to the depth of 135 ft. So far as prospected, the lode shows a body of ore from 4 to 9 ft. wide, of good milling quality, and rich in silver. A ten-stamp mill is now on the way from Chicago, belonging to the company who own the Hickory mine. The Hickory is situated in what is known as North Star—Star district being subdivided into North, South and Middle Star, and West Camp. South Star was the first portion of the district discovered, and contains a great many ledges more or less developed. The ore is generally very rich. In North Star there are also a great number of locations some of them of a very promising character, but the main mine of that section is undoubtedly the Hickory. In Middle and West camp the veins appear to be larger and better defined than elsewhere, and it is not impossible that further developments will prove them to be the main mines of the camp. Lincoln District, five miles from Mineralville, about which there was considerable excitement two years ago, is now untenanted by a solitary miner, though there is no doubt that there are some very valuable mines in the district. Litigation, that curse of mining camps, has had much to do with producing this state of affairs. Mineralville holds its own, and is quite a thriving place.

WASHOE.

KOSSUTH MINE.—*Enterprise*, July 8: The shaft is now down 69 ft. and is in tolerably hard and dry rock. It is divided into three compartments and is being very neatly and substantially timbered. The engine and hoisting machinery is all on the ground and the pit for the engine foundation is dug. It has been excavated in the solid rock and the foundation will therefore be firm. The new shaft is situated about 300 ft. east of the old one, which was sunk to the depth of over 300 ft. The ground from the old shaft down to the new one is literally covered with quartz and quartz boulders. The lead is of immense size. The main lead crops out just west of the old shaft, while a large branch of it comes to the surface west of the new shaft. While the main ledge dips to the east, the large spur we have mentioned appears to stand in a vertical position. The ore found in the ledge prospects exceedingly well, and now that machinery is being erected and preparations made to properly work it, we have no doubt an excellent mine will be developed.

PHELPS' CONSOLIDATED.—This property embraces a lead lying to the east ward of and running parallel with the Kossuth lode, and south of and about in range with the Buckeye and Lewiston mines. The lead was first found and opened upon while the work of constructing one of the tailing reservoirs was in progress, but has since been opened in several other places. It assays well in both silver and gold, and, if properly developed, would prove a valuable claim.

BUCKEYE MINE.—We yesterday called at the Buckeye mine, while on a visit to the various mines now coming into notice about Silver City. Work is being steadily prosecuted, 30 men being employed at the works. They are taking out 25 tons of good milling ore per day, which is reduced at the Hope Mill. They are now down 400 ft., and are taking out ore from 4 different levels. The principal yield of the ore is gold. During our stay at the mine, James Kellen, foreman, took a hornful of dirt from the car and washed it out. The dirt came from the 200-ft. level, and judging from the prospect obtained from that washed, would pay $17 or $18 per ton. The gold is very fine—almost as fine as flour. A good deal of water is coming in at the bottom of the mine, and the pump is kept constantly running.

LEWISTON MINE.—This mine, located and principally owned by Mr. McLaughlin, is situated south of and on a line with the Buckeye and in Long Ravine. Two shafts have been sunk on it. The upper one, or that nearest the Buckeye, is down a depth of 50 ft., all the way on the ledge, which is very well defined, and is here four ft. in width. The ore yields well in both silver and gold. We were shown assays made of ore taken from the vein, which run all the way from $53.66 to over $300 per ton. There is no machinery on the mine, and so much water in the shaft that it is impossible to sink it deeper with a common windlass. The lower shaft is about 30 ft. in depth, and in sinking it the same difficulty with water was experienced.

CROWN POINT.—Gold Hill *News*, July 12th: Owing to the breaking of one of the spur-wheels of the hoisting-engine, during the first of the week, the usual yield of ore has been greatly lessened, comparatively few men being employed in extracting ore. The main south drift on the 1400-ft. level is still driven energetically ahead toward the Belcher line, with no change of interest since our last report. The east crosscut from this drift, to tap and drain the heavy body of water between the 1300-ft. and 1400-ft. levels, is in 68 ft., four drill-holes being in drift and one in the cross-cut, which is easily handled by the pump. As fast as the pressure of the water decreases, another drill-hole is started, so as to keep the supply of water up to the full capacity of the pump. As soon as the water began to disappear from the 1300 foot level, three different winzes were started on that level, one near the north line, another near the center and the other near the Belcher line. The north and middle winze are each down 6 or 10 ft., the entire distance in rich ore. The machinery is again repaired, and the ore-yield will be increased during the coming week to 450 tons of ore per per day.

BELCHER.—Daily yield 450 tons per day, from the ore-producing levels, all of which are still looking finely. The south drift in 289 ft. from the Crown Point line, with the face still in fine ore. The main incline is down 191 ft. below the 1200-ft. level, and the 1300-ft. level station will be opened as soon as the Surveyor gives the proper points to start from. The dividend of $8 per share, declared on the 5th inst., and disbursed day before yesterday, aggregated $832,000.

BALTIMORE CONSOLIDATED.—The heavy body of water at the upper level in the ore-vein shows no sign of decreasing, which may be considered a fair indication that the lower level drift has not yet reached that ore vein, as it would doubtless tap the water. The north drift is still following the ore vein, which shows continued improvement as farther drifted upon. At the lower level the drift west is in clay and quartz, with increase of water. The indications are such as to justify the belief that the ore vein is close by.

CONSOLIDATED VIRGINIA.—Sinking the shaft is making steady, though not quite as good headway as at our last report, owing to the striking of a belt of porphyry of a much harder quality than that heretofore penetrated. The main north drift on the 1,167-ft. level from the Gould & Curry shaft has made no progress during the week on account of the heavy and continuous flow of water from the face, which is all that the new pumps of the Gould & Curry can handle.

JULIA.—The main east drift on the 800-ft level is still driven vigorously ahead, with no change to note. The south drift from the main west crosscut on the 1,000-ft. level tapped a heavy body of water on Thursday last, which has stopped all work in the face at present. The water rose in the shaft a distance of 20 ft., but not so as interfere with the work. The hoisting tanks are now able to drain the supply with ease.

CHOLLAR-POTOSI.—Daily yield 100 tons of ore, the assay value of which is $30 per ton. The ore breaste in the Belvidere, Blue Wing, and other portions of the old workings in the upper mine, are not looking quite so favorable. The east cross-cut from the main northwest drift at the fourth station is in 60 ft., the face in quartz carrying some metal, but showing no rich development as yet. Annual meeting next Monday.

NEW YORK CONSOLIDATED.—Shaft down 260 ft. and making good progress. The pump keeps the shaft entirely clear of water, allowing of the most perfect facility in sinking. From two to two and a half feet per day is the average downward progress made. Mr. Thomas Brooks, the Superintendent, is conducting operations to the very best and most effective advantage.

AMERICAN FLAT.—The drift from the Baltimore shaft, at the 450-ft. level, has crossed within 40 feet of the American Flat line, and is in clay and quartz, with the water increasing. The winze is in porphyry and clay, looking very favorable.

PIOTOU.—The main tunnel is still being energetically driven ahead, with favorable indications coming in at the face.

CROWN POINT EXTENSION.—The large new working shaft of this company is making most excellent progress downward, and will soon require steam hoisting works, the foundations for which are already being graded and prepared. It is a three-compartment shaft, intended to work this mine a great depth, and being located on the north side of the canon just below the Jones residence, it will anticipate the regular eastward dip of the great lode, which it is expected to cut at the depth of 1,000 feet. The location being covered by United States patent, and immediately adjoining the Crown Point and Belcher, is one of considerable importance.

LOWER COMSTOCK.—The sinking of the new working shaft of the mine is being most energetically conducted with excellent progress, the rock working well. As soon as required adequate hoisting works will be erected to carry the shaft to a depth of 1,000 feet or more. The ledge, however, will be cut at a depth of 800 feet. Lying as it does on the branch of the great lode which passes down Gold Canon, between the Silver Hill and Dayton mines, the Lower Comstock is a most valuable mine and will so prove to be one of these days.

OVERMAN.—Good progress is being made westward with the main drift, and branches at the 1,000-ft. level. The machinery and everything works well. The Overman Company are deserving of the most triumphant ultimate success for the great perseverance and energy they have displayed thus far in developing that particular section of the old Comstock.

MINT.—The first cross-cut, seventy-five feet from the shaft in the main southeast drift at the first level, has penetrated the ledge, which, at that point, is ten feet in width, showing some ore of an excellent quality. The second cross-cut, on the same level, is through the vein, which, at that point, is eight feet in width, and of a very promising character.

OCCIDENTAL.—The mill was started up on ore from the mine last Wednesday. A supply of 600 tons of ore is already delivered at the mill ready for reduction. From 30 to 36 tons per day are being extracted, with thousands of tons in sight, which can be extracted as fast as the mill can crush it. The mine never showed better or looked more prosperous than at the present time.

OPHIR.—The main shaft from the 1,475-ft. level, after passing through a hard belt of rock into a soft stratum is now in hard rock again. The north drift at the 1,300-ft. level is also in hard, unfavorable rock. The south drift at that level is in excellent working ground and favorable indications. No change elsewhere.

SAVAGE.—The main south drift on the 1,700-ft. level is still driven energetically ahead to connect with the north drift on the same level, from the Hale & Norcross, with no new developments. Prospecting the other levels still continues, with no change of interest to chronicle.

GOULD & CURRY.—Prospecting the 1,500 and 1,600-ft. levels continues with unabating vigor, and no favorable developments to report. About 10 tons of ore per day are being extracted from the old upper workings. The new pumping machinery works to perfection.

CALEDONIA.—Daily yield 50 tons of ore from the 400 ft. level, keeping the Sapphire mill steadily running. Both the north and south drifts on the ledge, from the main west tunnel on the 500-ft. level, are showing more favorable indications of ore developments than heretofore.

HALE & NORCROSS.—The north winze on the 1,700-ft. level is down 120 ft. in good sinking ground, and no material change of interest to report. Nothing new to report of the other levels of the mine. Sinking the incline for a new level will be resumed in a few days.

SILVER HILL.—The first station continues to yield 60 tons of ore per day, keeping the Bacon mill running steadily. The main north drift at the second station is still driven ahead parallel with the ledge and no change of interest to report.

FRANKLIN.—The main west drift has been cleaned out and repaired to the ledge, and is now in very favorable looking vein matter. It is expected to reach the ore body, known to exist, in a very short time, when some good developments may be looked for.

JACOB LITTLE.—The ore in the lower tunnel continues to show finely as further developed. Some very rich assays are obtained from it. From the second cross-cut, drifting in the ledge shows good ore, assaying well in both gold and silver.

DANEY.—The hoisting works are completed and in full operation, and the sinking of the new shaft is being prosecuted with great energy. From what is known of the ledge at this point, some good paying ore is sure to be developed by this shaft.

YELLOW JACKET.—Drifting as usual, both north and south, at the 1,400 and 1,500-foot levels, with no new developments to report. An assessment of $5 per share is levied.

SIERRA NEVADA.—Daily yield, 50 tons of ore, keeping the mill steadily running. The ore bresats continue to look and yield well the further the vein is followed back into the mountain.

UTAH.—The water was drained, and sinking the shaft resumed on Monday last. The sinking is making excellent progress, the rock in the bottom blasting finely, and the machinery working to perfection.

ARGONAUT AND UTAH.—Sinking the shaft is progressing at the rate of 2 feet per day. The winze in the main east drift on the 250-foot level is down 70 feet, the face still in ore of an excellent quality.

WOODVILLE.—The north ore sections show still further improvement this week. Superintendent Curtis has got the mine in excellent working shape, and is developing it for all it is worth.

KNICKERBOCKER.—The southwest cross-cut from the main west tunnel on the 400-foot level is in 36 feet, the face in quartz, and showing some very favorable and encouraging indications.

GLOBE.—No further work can be done to advantage, by reason of the great heat and bad air, till an engine and blower are put in operation.

BUCKEYE.—Daily yield, 20 tons. The ore-producing sections look well, showing little or no change for better or worse.

Colorado.

ITEMS.—*Herald*, July 2. The liveliest mining district of Gilpin county at present, is between Mountain City and the Bob Tail hill. The Briggs Brothers are raising large quantities of rich ore from the Gregory and Briggs mine. Rogers is mining on the Bobtail through the 1,150 ft. tunnel, recently completed. The Fiske is mined by George Mahee through this same tunnel. Bela Buel is still mining extensively on the Leavitt at Mountain City, and is putting in a sixty-stamp mill. Work has again been resumed on the Bates and Hunter and on the Gregory Second lodes.

Above Central, George Barrett is working the Winnebago and Castro mines, under lease from the Co. The ore pays well.

The lower portion of the Prize lode is being worked by Gilbert. On Quartz hill less mining is being done than at any previous period for several years. Roberts & Co., who pumped the water from the shafts of the Ophir Co.'s property on the Burroughs, one of which is 600 ft. deep, are now working about 40 men, and are raising large quantities of rich ore. J. B. Tomlinson is working number six on the Kent County with profit. Kimber, Fullerton & Mackey are working the Pocahontas near the Illinois. Sparks & Fagan are extensively working the Waterman on the Kansas lode. The quality of ore now raised is not very rich, but prospects are fair for a better condition. The Shanstrom Brothers are raising considerable ore of fair quality from the American Flag. On the hill north of Nevada Topping, Hosse & Co. are working the Hubert successfully.

(Continued on Page 44.)

The Great Valleys of California.

How Shall they be Irrigated?

No country on tbe globe possesses more fruitful or extensive valleys, available for cultivation only by irrigation, than the State of California. The experience of the three or four years past, has showu that a generslˌ liberal and comprehensive system of irrigation is essential to a proper development of these extensive tracts of land—thst by such a system, tbey may soon be fitted to contain, and fnrnish remunerative employment for, a population of two or three millions of people. Without such improvements they will continue for ever tbe ssme arid wastes wbich tbey now present.

The measure of tleir growth and development will depend upon the plan and policy, which may be adopted for tbeir irrigation. If a broad and liberal policy is adopted, fostered, guarded and protected by the State, they will soon teem with millions of happy, thriving people, sufficient in numbers and intelligence to furnisb bread, sugar and textiles for almost the entire Union; and their anuual products may be counted by hundreds of millions of dollars in value, to which the yield of the mines of the entire Pacific Coast will be but a mere bagatelle.

On the other hsnd, if the waters which exist in ample sufficiency for all purposes of irrigation, are placed under tbe control of a few unscrupulous capitalists, they will be doled out at the hightest price which tbe land owners can possible pay and live, by wbich policy a shabby, ill-directed system of cultivation will be introduced, which will lsrgely diminish the numbers that will people these valleys, and greatly reduce their moral, social and physical status.

Which of these two policies shall we adopt? Which will most benefit tbe great masses of the State at large? These questions will probably receive a practical and fiual answer next Winter, at Washington and at Sscramento, and every person in the State is more or less directly interested in securing au issue which sball benefit tbe masses rather than a few apeculators.

The people can briug about such a result only by a determined unity of effort to send to the next Legislature and to Congress men of enlarged and liberal views—men who will have the interest of tbe people at heart, and men who have shown themselves incorruptable. There is probably no question that will come before the next Legislature, or before Congress, in which this State will have so grest an interest as the scttlement of this matter of irrigation. And who doubts that a Legislature, the majority of which shall be made up as our two or three last ones have been, will hesitate to sell itself to the moneyed influence that will present itself for special privileges?

California is at this time a prolific field for speculators. It seems as if men had gone mad over the idea of acquiring lsrge and speedy wesltb, and any measure, however corrupt, which bids fsir to aid in such acquirement seems to find ready supporters.

We have a grand scheme of irrigation for the San Joaquin valley alresdy under way, without any definite plan or purpose of action. They are looking to Congress and our Legislature for aid and encouragment, and they should receive it under proper restrictions and regulstions. There are other similar enterprises on foot for the Sacramento and other valleys throughout tbe interior. No doubt tbere are many, and, perhaps a majority of well meaning, honest men engaged in these various schemes for improvement; but in view of the general spirit of speculation, and the corrnp legislation wbich everywhere ahounds at this time, none can doubt that so prolific and promising a scheme as is here presented will fail to be improved by scheming and designing men, who are already, or may hereafter, become interested in tbese projects. Tbere can be no question as to such an event, unless the people elect men who will refuse to become parties to such conspiracies against the good of the State.

Diversion of Butte Creek to Concow Valley.—The Butte *Record* of yesterday says: The Cberokee and Spring Valley Consolidated Mining Company, on the 5th, commenced to divert the water from Butte Creek, tskiug it to Concow Valley through the discharging arm of the Dogtown pipe. The work just completed was one of great magnitude. Tbe water is piped scross Little Butte below Dogtown, thence along the ridge and over the west branch of Feather river into Concow Valley, thence by a ditch leading along the ridge to a point opposite Cherokee Flat; and thence it is taken in another pipe and conveyed back across the west branch to Cberokee Flat with a pressure of 900 feet. There were used in the work 6,500 feet of 30-inch pipe, and there are eight miles of canal eight feet in width. The capitsl employed iu the constructiou of the stupendous work is about half a million of dollars. It is believed that nesrly all the water of Butte Creek will thus be diverted from its natural channel, and that as a consequence, the stream in the valley will be dry in the summer. The farmers along its course are uneasy at the prospect, and fear that they will be seriously injured. Indeed, we learn that steps will be taken to test the right of tbe Company to divert tbe waters of the creek: the farmers claim tbat they have rigbts in the premises which must be respected. Tbe probability is thst the matter will be in litigation for some time to come, and that there will at least be a feast of fst things growing out of it for lawyers.

The Chinese Temple.

It seems hardly worth while for the Chinese to erect a temple for worship in this city, because almost every Cbinamen puts up a little god on his own hook in his private apartments. Nevertheless there are such things as "Joss Houses" in San Franciseo, and a representation of the interior of one is herewith given, from a drawing by Eastman. It is situated in the Chinese quarter of the city, and presents nothing peculiar in its exterior appearance, with the exception of the tinsel ornaments and Chinese inscriptions at the door. In this temple there are four rooms containing idols; the drawing, however, shows only the main room, wbich has four alcoves and six gods. In the central alcove there are three gods, and hideous looking objects they are, not at all calculated to inspire either confidence or fear in the observer.

CHINESE JOSS HOUSE, SAN FRANCISCO, CAL.

The middle one of these three is *Fun Ten Tin*, the "God of tbe Sombre Heavens," who controls water, and is worshipped to prevent the fires so much dreaded by Chinese in their crowded, wooden buildings. Their deity is a vegetarian, and only vegetables are used as offerings. On the left band is *Kwan Tai*, the "God of War," corresponding to the Mars of the ancients, and possessed of an appropriately red face. This personage is worshipped by the Chinese in this country more than any of their gods, and in temples where there is only one image, it is invariably his. He is also regarded as a god of wealth, and is besought for general benefits, receiving almost universal worship. From this it will be seen that there is "method in their madness," and their action will strike a sympathetic chord in many hearts which worship the same idea in another form. The head on a twenty dollar piece is perhaps handsomer to look upon than that upon a Chinese god, but tastes differ. This god is found more frequently than any other in Chinese shops, stores, and dwellings. He is a great arbiter of disputes and quarrels, and to invoke or threaten his aid is as effective in settling accounts as to begin a law suit. On the right band of *Kwan Tai* is *Nam Hoi Hung Shing Tai*, the "God of the Southern Seas," or local god of Canton, who controls fire. He receives his worship, and offerings of wine, tea, meats and vegetables, from those wbose effects be has preserved from the flames.

The alcoves, or cabinets, in which the gods are enthroned, are made of wood, profusely, but not elegantly, carved, and lavishly gilded. The general darkness of the room is removed by the rich gilding and the gaudy robes of the gods, and an abundance of tinsel, peacock feathers, etc., on the top and at the base of the alcove; and on the fantastically embroidered vestments of the idols may be traced the sinuosities of the dragon, which is itself idolized. Before tbis main cabinet an oil-fed lantern is kept burning, not by "vestal virgins," but by a very unprepossessing Chinese priest. Should the flame expire, they think as did the "College of Virgins," that it betokens dire calamity. In the cabinet on the left is *Wah Taw*, the "God of Medicine," who appropriately holds in one hand a large golden pill; arguing method again, needing no explanation to be appreciated. Before his altar is a table covered with sand, in front of which a priest sometimes stands, after repeating his incantations, till he reaches a clairvoyant state, and then he writes with a stick, under dictation of the Spirit, what is intelligible to no one else, but what he never fails to read and interpret.

The priest or attendant has the care of eleven tin or bamboo canisters, about a foot high and three inches in diameter. These contain bamboo slips, each numbered to correspond with slips of paper containing the answer of the god. After the worshipper bows once or twice, he kneels and shakes the slips till one falls to the floor. This is placed on the censer of incense, where the god can see it, and his approval is sought. If not approved, the process must be repeated until a favorable answer is received. This approval is gained by means of the divining-sticks, the general method of consulting the gods. If the deity is not supposed to know the circumstances of the case, he may know them by the burning of paper, upon which is written the necessary information. On the floor, in front of the images, are vessels to receive the libations. Cooked food is placed before them while the act of worship is going on, but is then carried home and eaten by the judicious worshippers; cups of tea can always be seen before some of the images. The worshipper prostrates himself, either bowing or kneeling three times, and then lets the divining-sticks fall to the floor. These are pieces of wood six or eight inches long and shaped like the half of a split bean If the flat surface of one rests on the ground and that of the other is uppermost, the answer is affirmative and the inquiry ceases. But if both flat surfaces are on the ground the answer is unpropitious, and is repeated to see the result of twice out of three times. With unfavorable continuation, it may be necessary to continue to three times three, or even longer. Should both flat surfaces be upward, the answer is indifferent. When tbe oracle is consulted by the bamboo slips, and the lot is approved in this way, the priest always makes a charge for the slip of paper, thus adding to his support; and this final answer is often as indifferent, equivocal or ambiguous as were those of Dodona or Delphi.

Between the two alcoves already spoken of is a tall stand containing red flags, each having a letter or character upon it. These are the symbols of authority for messengers. Corresponding to this, on the opposite side of the main cabinet, but hidden from view by the large metallic vases and candlesticks on the tables in the middle of the room, is a box with the seals of office. The vases contain artificial flowers and the candles are of Chinese vegetable tallow, sometimes highly colored. The god in the cabinet on the right is *Tsoi Pak Shing Kwun*, the "God of Wealth." He holds in his left hand a bar of bullion, emblematic of his power, which is singularly appropriate on this coast. (Query—If in the Eastern States, would he hold a greenback?) He is the special patron of merchants and all receivers of money, and is worshipped by those desiring aid in their enterprises. In front of all the altars or cabinets, are incense-jars filled with ashes, in which are placed upright pieces of lighted incense, sticks of punk or other material. The worshipper often holds a small bunch of these lighted sticks while he bows or prostrates himself before the god. The bell shown to the left of the engraving is used in arousing the god when he is asleep. It was cast in Cbina.

There are a number of other images in this temple, distinguished by no particular feature but unpronouncable names. Christians are always permitted to visit the temple to whom the attendants are uniformly courteous and polite.

Useful Information.

Insect Life -- Something to Think About.

It is often said by persons when speaking of animals, insects, etc., that they are poor brainless things; yet do they not often display greater sagacity or what is called witchcraft, than man would show by his reason under like circumstances?

"Long ago, it was ascertained by naturalists that worms and insects are without a brain, and yet they pursue a course of activity which bears much upon the domain of reason; so we are accustomed to say that they act from instinct, which is no explanation at all of the phenomena in the higher orders of organic life which have their origin in the brain. If that organ is severely injured, so that its normal functions are no longer performed, consciousness and orderly manifestations of its influence are interrupted or suspended. But the insect world swarms with beings of the most delicate construction, without hearts and without brains, whose movements and habits, independently of thousands of contingencies to which they are exposed, prove in the most satisfactory manner that their acts are a near approach to the elements of a reasoning faculty, if they do not indicate reason itself. When, by accident, a thread of a spider's web is broken, the little weaver examines the misfortune with extreme care, and by taking different positions, surveys the damage, and then proceeds artistically to repair it by splicing or inserting an entire new cord. Again, when a wandering fly becomes entangled in the net, the cautious approach of the owner of the trap, lying patiently near by for game, indicates calculation in regard to the character and strength of the victim. Does it not strangely resemble reason when all its movements, under such an aspect of affairs, show beyond a doubt the spider considers the matter in all its relations before venturing to seize the prey? And yet spiders are without a brain."

Eyes.

There is a wonderful diversity among animals in respect to the number of their eyes. In mammals, birds, reptiles and fishes, they are limited to two, and are always placed on the head. The greater part of the surface of the head of the house-fly is covered by an aggregation of about 10,000 eyes; and in the dragon-fly they number about 50,000, and may be easily seen by the use of a magnifying lens even of very small power.

They are not always confined to the head alone. In spiders and scorpions there are generally eight or ten of them in one or more clusters, on the dorsal aspect of that part of the body which is formed by the union of the head and thorax.

The star-fish or five-fingers, familiar to every one who has spent any time on our sea-coast, has an eye on the tip of each ray or arm. In the sea-urchin, which is homologically nothing but a star fish with the ends of its rays drawn close together, the five eyes are gathered in a circle around what is considered the hinder portion of the body.

The scallop has numerous eyes on the edge of his mantle, extending from one end of the animal to the other, and forming a semi-circle. Some marine worms have them in clusters, not only on the head, but also along each side of the body, even to the tip of the tail, and they are connected individually and directly with the medium nervous cord. If we descend to the lowest forms, we find many infusoria which have neither eyes nor nerves, and yet it is easy to see that they are sensitive to light, for they either seek or avoid it.—*Hours at Home.*

Hearing by the Teeth.—A correspondent of the New York *Observer*, after reading an article on the "Conveyance of Sound," stating, as a fact not generally known, that sound may be transmitted by the teeth, when the ears are closed, almost as distinctly as by the ears when they were open, and wishing to test its accuracy, experimented and wrote to that journal as follows:—"I took the end of a long wooden pole (22 feet long) between my teeth, and requested another person to scratch with a pen-knife at the opposite end, when I distinctly heard the sound of the scratching, though when my teeth were removed from contact with the pole it was quite inaudible.

This, in connection with the following incident, a few years ago, suggested to me the inquiry whether contact with the teeth, or interior of the mouth, as a medium for the communication of sound, might not be resorted to in some cases with advantage in the education of the deaf and dumb. The incident I alluded to is this:

In 1860 I became acquainted with a very sweet deaf and dumb girl, about fifteen years old, who was a great favorite with my daughter, (of nearly the same age), as indeed she was with all who knew her. One day my daughter, her dumb friend and several other young girls, accompanied by the parents of some of the latter, visited Fairmount Water Works, in Philadelphia, and while stopping in the parlor of the hotel there to rest, a gentleman who was with them—the father of one of the girls—called for sherry cobblers for the party, which were served, each tumbler being provided with a glass tube by which to draw the liquid into the mouth. When the tumblers were nearly empty the air, entering with water into the tubes, produced a gurgling sound, when the deaf and dumb girl became greatly excited, laughed vociferously, and springing to her feet, and calling by gesture the attention of her companions, pointed first to her tumbler and then into her ears, and then laughed again, and as soon as she was sufficiently composed, told the other girls in the manual language of the deaf and dumb that she distinctly heard, when finishing her sherry cobbler, the noise of the water passing through the glass tube from the tumbler to her mouth—the first sound that she had ever heard in her life."

Cultivation of Fish in Ditches and Ponds.—Experience proves that fish are much more easily cultivated than has been supposed. Much attention is now being paid in Germany to their cultivation in ponds and ditches, and it has been found, contrary to the generally received opinion in reference to such localities, that they are more favorable for the purpose than other large bodies of water, apparently fresh and pure in their character. This is doubtless owing to the great abundance of animal life, as well as to the more decided concentration of vegetable substances in the form of living plants of different kinds, including the algæ. This produces a constant evolution of oxygen, needed for the respiration of the fish, and allows a larger mass of life to be crowded together in a given space. The reproduction of the species is also unusually rapid, and the young grow very quickly.

Good Health.

Sensations Produced by the Inhalation of Nitrous Oxide Gas.

Many of our readers may possibly feel some interest in learning what are the sensations experienced during the inhalation of nitrous oxide gas, which has come to be extensively used as an anæsthetic. Doubtless, the sensations experienced by any individual will be quite different from those which will be felt by others in the same circumstances, so that the record of one experience would be but little guide. Yet the following description, from the *British Journal of Dental Science*, is so well written, that it may serve to gratify reasonable curiosity of the fortunate people who have never yet been obliged to resort to any of the modern means of allevisting suffering attendant upon severe surgical operations:

I had to undergo a painful operation. I wished to take the nitrous oxide gas. I had administered it a great number of times, and, in hearing the incoherent way in which patients expressed themselves as to the sensations whilst passsing into an anæsthetic state, I hoped I might be able to define, somewhat, the effects of the gas. I say I hoped to be able, for, of course, it is impossible to say what may be the effect of such an action upon any individual, until we have experienced it, as I have no doubt different persons are differently affected, and the gas is so interesting and important to us that everything concerning it is worthy of notice. I was well attended. Two Fellows of the Royal College of Surgeons and the anæsthetist were standing behind me so that I could only see the face of the anæsthetist, as he leaned over my shoulder with the mouthpiece; the other two were quite hidden from me. I am quite sure of that; I was perfectly composed, and as soon as the pipe was put to my face I formed a resolution steadily to take in the gas. My eyes were open and I looked at the distant wall. I heard them say "He takes in the gas freely," which were the last words I heard distinctly; then I felt my eyes droop and close. Now I seemed to be in a different atmosphere, just as we feel in passing into a tropical house at Kew Gardens—different, but not an unpleasant atmosphere. As to choking, we hear so much about, or suffocation, I felt not even the least repugnance. The only effect was, I remember, thinking to myself this is another atmosphere; it seemed sweet and sooty; at the same time, my ears were filled with a hurring sound, such as I suppose is felt in descending in the diving-hell, but not so violent. Immediately there danced before me a violent light the size of a large candle, and with a strange, unearthly motion, and a confused, burring sound, it rose higher and higher, and I seemed to be strangely upborne with it. Up, up we went to a very high altitude; at last the light stood still, the burring ceased, and my attention was simply fixed on the light. It seemed an immense height we had come. To this stage I seemed to be a nonentity; all my care had been devoted to the sound in my ears and the movement of the light; all the unpleasantness of atmosphere had passed away.

Now, however, a change came over me; I became a person—a some one—I felt as though I could see from every part of me—a sort of cataleptic state; and, just as in looking over a cliff at Beechy Head, on a calm day, you hear conversation on the sea below, though you cannot discern the men in the skiff, so now, in a strange, muttering undertone, I heard a voice as though explaining something about *me* to others. I was sure there were others present, and though explaining something, I did not know a single word of what was said, and, gradually, there crept over me the conviction that I was bound helplessly, and that they were doing something to me. There was a dead calm, the mutter ceased; I could see them looking intently, with heads inclined. Simultaneously they raised their heads, and the voice again spoke, but I had no pain, nor had I any pain or feeling when the gash was made; indeed (though I was cut in two places,) not even the slightest prick; still, I knew when the tumor was punctured. Although it was awfully tender to the slightest touch in my normal state, I had not the slightest pain until the tumor was violently pressed, to force all the blood out; then I was conscious of painful sensation, and I groaned, as I thought, on account of the severity of the pain from squeezing. I felt whatever they were doing to me was now done, and done successfully, and I wanted to express my thankfulness, but I found myself unable to move or speak. Now the hurring commenced, and the light which had hung all the time shining over my head, began to descend, and I with it, and, gradually, the talking became nearer and more audible, the light went out, and the burring sound died away in the distance, and my eyes opened, and with a heart full of gratitude I stretched out my hand to the gentlemen and cried out lustily, "Thank God! thank God!" To which they replied, "It is all right; it is nicely done." I rejoined, "I know it is; I know all about it."

I asked if I had made any groaning when the pressure was applied, and I was surprised to hear that I was not only silent, but also motionless all the time. I took four gallons of gas, and from putting on the face-piece to my regaining consciousness, was seventy seconds.

I was not conscious of any sensation of nausea or giddiness, but a decided consciousness of disturbance, sensation of pricking about the region of the heart, and a great pain about the main artery in the upper portion of the leg, like a severe rheumatic pain, which increased, and though in bed, it settled into a dead coldness and want of circulation, which were not removed till I took two stiff glasses of stimulants; since that I have had no inconvenience.

Expanding the Chest.

Take a strong rope, and fasten it to a beam overhead; to the lower end of the rope attach a stick three feet long, convenient to grasp with the hands. The rope should be fastened to the center of the stick, which should hang six or eight inches above the head. Let a person grasp this stick with the hands two or three feet apart, and swing very moderately at first—perhaps only hear the weight if very weak—and gradually increase, as the muscles gain strength from the exercise, until it may be used from three to five times daily. The connection of the arms with the body, with the exception of the clavicle with the breast bone, being a muscular attachment to the ribs, the effect of this exercise is to elevate the ribs and enlarge the chest; and as Nature allows no vacuum, the lungs expand to fill the cavity, increasing the volume of air, the natural purifier of blood, and preventing the congestion or the deposit of tuberculous matter. We have prescribed the above for all cases of hemorrhage of the lungs, and threatened consumption, for thirty-five years; and have been able to increase the measure of the chest from two to four inches within a few months, and with good results. But especially as a preventive we would recommend this exercise. Let those who love to live cultivate a well-formed, capacious chest. The student, the merchant, the sedentary, the young of both sexes—aye, all—should have a swing on which to stretch themselves daily. We are certain that if this were to be practiced by the rising generation in a dress allowing a free and full development of the body, many would be saved from consumption. Independently of its beneficial results, the exercise is an exceedingly pleasant one, and as the apparatus costs very little, there need be no difficulty about any one enjoying it who wishes to.—*Dio Lewis.*

Nasal Catarrh.—A medical writer says: "I will give a remedy for nasal catarrh which I think of some value. Many cases of catarrh are caused by inability of the liver to perform its functions properly. In such cases there is often a too alkaline condition of the blood. When this is the case, the liver does not take out as much of the carbon and other substances as it should, and the mucus membrane of the nose becomes a dumping ground for the foul matter. If persons thus affected will squeeze the juice of a good sized lemon into half a tumbler of water, and drink it without sugar just before dinner, they will, if they live hygienically, be surprised to see how soon the catarrhal difficulty will diminish. When it fails to do so, it may be considered as due to other causes."

A Ribbon Round the Throat.—The same writer says:—Dr. Ellis gave me a simple receipt for throat and lung affections with which I propose to close this article. Upon my remarking on my tendency to such affection, he said "Now Doctor, you may go home and thank God for having seen me, for I will give you a simple remedy that will be the means of prolonging your life many years. Get a silk ribbon an inch or more wide, tie it about your neck and wear until worn out and then replace it, and continue to do so." I confess I was a little surprised to find a man of Dr. Ellis's intelligence relying with so much confidence on such a remedy, and I asked an explanation of its virtues, but this he was not prepared to give. If any reader tries this or the foregoing remedy, I should be pleased to know the result."

Domestic Economy.

Grapes and Their Use.

The following, from the *Pomologist and Gardener*, is not entirely out of place even in this chosen home of the grape, and especially at this commencement of the grape season:—

A correspondent of the *Pomologist and Gardener* says:—I have often been surprised that so few people know of any other use for grapes than to eat them from hand or to make them into wine. Why, they are good to *cook!* Yes, strange as it may appear, they are most excellent stewed for sauce, make a very rich tart or pie, the nicest of jellies, no fruit better canned. Can be dried with less trouble than most any other fruit. But the seeds, the great rough seeds, what do you do with them? We rough country folks care nothing for the seeds, we eat 'em. But if *you* do not wish to eat them, all you will have to do is to procure a brass wire sieve (they are on sale made expressly for the purpose) with the meshes between the wires just coarse enough so that the seeds will not pass through, squeeze the pulp and seeds from the skins, throw the skins into one vessel, and then rub the pulp through the sieve into another; but when well cooked, if stirred a little, the seeds will mostly settle to the bottom, and he out of the way. To dry them, out the canes with the fruit and all the leaves on them, and hang them in the sunshine. They will dry in a few days, and can then be packed away for winter use, when they will be found better, when properly cooked, than most any other dried fruit.

And the best thing about the whole grape business is that the coaser, easiest grown and most unpalatable of our grapes are the best for cooking purposes. And I have no doubt but that there is now, and will be produced, a line of grapes too pulpy and austere to be eaten raw at all, but will be very fine for cooking, like some pears. I have now a large, beautiful and productive white grape that will keep fresh and sound through the winter, and though entirely unfit to eat, I have no doubt but that it will prove splendid when stewed.

Secrets of Tea-Making.

Chemists tell us that theine is the peculiar principle which constitutes the virtue of tea. Without this element it would be valueless as a beverage. It may interest tea-drinkers who think tea is all right because it comes from China. In California we have some security for the purity of home wines. Grape-juice is cheaper than any material which can be got to adulterate wine; but around the tea-shipping ports of China, millions of pounds of all sorts of leaves are yearly gathered and made into spurious tea, as one-third the cost of the genuine. These are mixed in varying proportions with genuine tea. They are known to the trade as "cheap Canton teas." They are rendered deleterious not so much by the substituted leaf as by the unwholesome chemistry used to disguise the imposition. But last year a new article made its appearance in quantity in the London Tea Exchange. It came from Shanghae, and it was found to be made of willow leaves so perfectly resembling tea as to be detected only by experts. Half a million pounds of this sham tea were made at Shanghae, in 1870. The leaves are gathered in Spring-time and treated exactly as tea leaves in the manufacture. It is all mixed with green teas, in varying proportions of 20 to 40 per cent., according to conscience. The former figure satisfies the Chinese factor, while the conscience of the Christian trader is said to have much greater elasticity. It should be known to tea-drinkers that, instead of theine, the active principle of willow leaves is salacene, which has properties nearly the same as quinine. This is much more sleep-banishing than theine, and its habitual use will generate fatal congestions of the internal organs. Till we raise our own tea, the almost universal adulterations should tend to made us sparing in the use of low-priced teas.

Why Some are Poor.—Cream is allowed to mould and spoil. Silver spoons are used to scrape kettles. The scrubbing-brush is left in the water. White-handled knives are thrown into hot water. Brooms are never hung up and are soon spoiled. Dish-cloths are hung where mice can destroy. Tubs are left in the sun to dry and fall apart. Clothes are left on the line to whip to pieces in the wind. The pie-crust is allowed to sour, instead of making a few tarts for tea. Dried fruit is not taken care of in season and becomes wormy. Vegetables are thrown away that would do warm for breakfast. The cork is left out of the sugar jar, and the flies take possession. Bits of meat are thrown out that would make hashed meat or hash. Coffee, tea, pepper and spices are left to stand open and lose their strength. Pork spoils for the want of salt, and beef because the brine wants scalding.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, July 19, 1873.

Legal Tender Rates.—S. F., Thurs., July 17.—buying 86½; selling 86¾.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Utsch's Automatic Jig; A New Type-Setting Machine; Water Supply; An Invention Wanted, 33. The Great Valleys of California, 38. American Locomotives on British Railways; Diamonds in Hydraulic Washings; The Emma Scandal, 40. Commencement Exercises of University of California; Parshall's Continuous Lubricator; A Pomological Curiosity; Report of Chollar Potosi Mining Company, 41.

ILLUSTRATIONS.—Utsch's Automatic Jig, 33. Chinese Joss House, 38. Parshall's Lubricator; A Bunch of California Pears, 41.

CORRESPONDENCE.—Notes of Travel in Eureka County, Nevada; The Vienna Exposition, 34.

SCIENTIFIC PROGRESS.—Position of the Planets for July; Proper Combinations in Soaps; Government Aid to Science; Hardening of Dried Peas in Boiling; An Interesting Chemical Experiment; Agassiz on Development; Making Hydrofluoric Acid; Effect of Sunlight on Flour; Effects of Sulphur Water on Iron Pipes; Exhalation of Carbonic Acid Gas; Reducing the intensity of a Negative, 35.

MECHANICAL PROGRESS.—Steam as a Fire-Extinguisher; New Mechanical Movements; Incrustation of Locomotive Boilers; Machine for Testing the Value of Lubricants; Hot-gilding of Iron; New Plan for Removing Sand Bars; The St. Gotthard Tunnel, 35.

MINING SUMMARY from various counties in California, Nevada, Arizona, Idaho, Colorado, Montana ann Utah, 37-44.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 36.

USEFUL INFORMATION.—Insect Life—Something to Think Ahout; Eyes; Hearing by the Teeth; Cultivation of Fish ii Ditches and Ponds, 39.

GOOD HEALTH.—Sensations Produced hy the Inhalations of Nitrous Oxide Gas; Expanding the Chest; Nasal Catarrh, 39.

DOMESTIC ECONOMY.—Grapes and Their Use; Secrets of Tea-Making; Why Some are Poor, 39.

MISCELLANEOUS.—Clean Up; City Creek Mines; The Sierra Madra Tunnel; Immensely Rich Gravel, 34. Diversion of Butte Creek to Concow Valley, 38. Patents and Inventions, 41. One Half Year's Work; The Emma Mine; Contemplated Water Project; Hydraulic Mining; White Pine Tailings; Sir Samuel Baker's Discoveries; Another Quicksilver Discovery; Interesting to Tobacco Users, 42.

MINING APPOINTMENTS.—Ws see that onr frisnd Mr. Henry Sswell has hsen namsd manager of the Camp Floyd Company's property. The company is now hsing wonnd up for reconstrnction and Mr. Sswsll has requssted them to raise $60,000 for a working capital. This appointmsnt is quite a fsathsr in Mr. Sewell's cap as hs is appointed hy the same Directors who have heen pitching into him so long for telling them ths truth ahout the Utah Silver Lead Co., of Bingham. Ths sams Directore had hoth companiss. They prohahly found ont it was not just the thing to persecuts him as they did. Mr. Sewell was ahout leaving for London when he recsived his appointment, hut he has remained to pull this company through.

We see also that our friend Mr. Riotte partner of Mr. Stetefeldt, and part inventor of the furnace of that name has heen over the mines pretty frequently of late.

He was sent to Pioche to correct some difficultiee in handling the oree there. He was then scnt for to come to Eureka, but was only thsrs a few days, when, ae a correspondent tells us, he was asked to go to the rescue of the Rye Patch mill whers some one else had heen summoned, who was unable to mill the ores to the satisfaction of the company. Ws hear now that Mr. Riotte is in Utah, and is superintending a large mill in that territory.

"PIGEON SPRINGS" a new miniug camp in the Lida Valley county, hae a ledge of galeua 22 feet wide, the ore averaging $400 psr ton in silvsr, and from 40 to 60 per cent lead.

RICH SILVER and copper ore have been fonnd in the Humholdt Rangs, Nev., ahout 11 milse south of Unionville.

THE MINT has coinsd already this month ovsr $1,300,000.

American Locomotives on British Railways.

"It is heyond questiou, he the cause what it may, that the locomotive engines of the United States cost *less* money and do *more* work than English locomotives; yet no English locomotivs superintendent has ever propossd to huild an sngine from Yankes patterns and try it on an English line. The thing would hs contrary to all precedsnt, and therefore is not done."

The above paragraph only recently appeared in the London *Engineer*, and hencs, though not very old, is nevertheless already suhstautially contradicted hy facts, at least so far that an order has heen issued, as follows, for a Dominion road, the head of whose managemsnt is in London. Verily ths world moves.

At the late semi-annual mesting of the Directors of the Canadian Grand Trunk Railway, hsld in ths city of London, where the *Engineer* is puhlished, ths Chairman announced that ths company had contractsd for 300 new American sngines, to take the place of most of the English locomotives which wsre then running on that road, and addsd that the reason for snch action was, "hscause there has heen *enormous progress* in the typs and manufacture of sngines, especially on the Amsrican continsnt. They make thsm thers now *much cheaper than we can buy them here*, and there have been many mechanical improvemsnts in ths mode of constructing engines; and I do uot hesitate to say that 300 new engines of ths present most advanced modern type, mads hy the best manufacturers in America, and coal hurning ars worth 450 of our old enginss, wood hurning. Thersfore, you see yon get this in ths snhstitution of one engiue for anothsr; yon get a large excsss of locomotive power."

Truly this is a most importaut trihuts to American mschanical progress, and to ths snperior model and workmanship displayed hy Americau locomotive huildsrs. That ths complimsnt was not intended for any single manufactory which might have succesded in producing a supsrior machine, or ons which happened to please the English eys, is learnsd from the furthsr statement of the Chairman aforesaid that the contract had hesn made with eeveral of the heet locomotivs huildsrs in ths United Statss.

And This is Not All,

A year ago 600 American cars were purchased for the same road, and a further recommendation has been made that the road bs rslaid with American stssl rails and furnishsd with Pullman cars and other American conveniences, which are not found on English roads or in English shops.

And here we may also say, that American locomotive and American cars, ars now heing generally iutroduced upou the Brazilian and Peruvian railroads in Sonth America, and we may very properly accspt thess facts, as the acknowledgement on the part of intelligent Englieh managsrs, that the trial of Amsrican and English railroad thsory aud practice has fairly rssulted in our favor. If such a trial hae thus resulted in so costly an experiment as railroad managemeut, may ws not rsst assnred, that the same result will follow in othsr, and less important directions.

Referring to the extract from ths *Engineer* prefixed to this article it must hs reasonahly inferred, that prsjudics rather than reason is the great hindrancs in the way of English acknowledgement of ths superiority of American ideas in at least ons important hranch of manufacture; else why, if our locomotives "*cost less money* and *do more work*," will "uo English locomotive superintendent" "hnild au engine from Yankee patterns, and try it on an English line?" The answer follows in ths sams paragraph—"The thing would hs contrary to all precedent, and *therefore* is not done."

Now, howsvsr, that the ground has heen fairly hroken in this Canadian railroad case, in the introduction of some 1,000 tons of American iron into England, the introduction thsre of iron axles and soms other prodncts, to say nothing ahont numerous importent inventions—the Dank's furnace for inetance—may we not hope that facts, hrought to their very doore, will eventually wear away prejudice, and establish "precedsnts?" It may he added, that all of these occurrencss transpire at a time when they are calculated to do ne the greatest good.

ASSESSORS' RETURNE.—The aesessors' returns for the differsnt counties are heing puhlishsd hy the local papers. Ws see Calaveras County mining claims are valned at $121,965, and ths improvemente on same, $131,795. Mining ditchee are valued at $76,915, and the total valnation is, of all property, $6,223,839.

Diamonds in Hydraulio Washings.

Diamonds have again hesn fonnd in the gronnd of the Spring Valley and Cherokee Mining Compauy, in Butte County, California. The Oroville *Record* saw three of them which were taken out at ths last clsan up, a fsw weeks since. One of them is a largs straw colored diamond; anothsr is a small hut remarkahly pure; and the third resemhles ths African diamoud, with which Arnold and Slack salted the ant hills of the plains. The editor of ths *Record* did not learn their wsight or value. The occurrsnes of thess diamonds is not rars in the hydraulic washings of this Stats. Professor Silliman, in a paper read hefore the California Academy of Sciences, in 1867, spoke of having seen them from fivs different localities.

Ths same gentleman not long since made an sxamination of the sauds collected in the sluicss of this same claim; and the microscops revsaled ths fact that they ahoundsd in heautiful colorless zorsons (hyacinths) of the form well known in ths hyacinths of Expailly, Francs, associatsd with crystals of topaz, qnartz in fragmente, rounded grains of chromic aud titanic iron, and a few small, almost glohular, masses of very high rsfracting power, which appeared to he diamonds. To determine this chemically, a portion of ths sands were treated so as to bs fresd from anything which could afford carhonie acid hut ths diamond, and further experiments proved that diamond powder was present in small quantity. Ths method employed was giveu in our issue of April 19th, 1873. Professor Silliman stated that when he was provided with a largsr amount of ths eands, hs propossd to detsrmine the amouut of diamond dust quantitatively. In ths sxamination made hy him, it was fouud that the hlack grains, which constituts fully one-half the hulk of ths Butte County sands, are ahout equally chromic iron, which ths magnet removes, and titanic iron, which is uaaffected by the magnet. No metallic grains of any of the platiuum or iridosmium metals or gold could he found.

It is thought that hy a mors careful examination, hy experienced syss, of the accnmulatsd sands of hydraulic washings, many rare speciss of minsrals may he found, which havs as yet escaped notics for want of scientific ekill. Dr. John Torrey found no less than twenty distinct mineral epsciee, many of them of rare occurreuce, in a sampls of eauds from Nicaragua Placer mines.

The Keystone Mine Patent.

Ths Commissionsr of the General Land Offics has issued patsnts for ths claime of ths Keystous Mining Company, on the Keystone, Spring Hill and Geneva mines, in Amador county. Thsss patsnts wsre issued under the late decision of ths Secretary of the Interior. Ths original claim to the Keystone mine, which was raised hy sharp epecnlatore, involved the question of wide application, ae to whsther the grant to ths State of California of ths sixteenth and thirty-sixth eections for school pnrposss, under the Act of March 3rd, 1853, included eaid ssctions, whsn they wers on mineral lands. The Secretary'e decision, which was referred to at length in our issue of May 3d, was as follows:

First.—That title to said sections sixteen and thirty-six, does not vest in the State until a survey hae been made, which hrings into existencs and locates said sectioue, and that said miuing companiee having appropriated said lands under the Act of July 20th, 1866, prior to such eurvey, they had ths better right.

Second.—That the eeventh section of the Act of 1853, excepts from the grant all of sections sixteen and thirty-six on which there had heen prior to the snrvey a settlement, by the srection of a dwelling houss, or the cultivation of any portion of the land, and that the settlement referred to was technically known as the "pre-emption settlement."

Third.—That the grant wae not intsnded to inclnde, and does not include, eaid sections when they are ou mineral lands.

The points in the decision were very important ones, as they established a principle which protecte honest minere from the schemee of wily speculators, who want to profit by the work dons hy the minere in good faith, hy a msrs legal technicality. Strenuous sfforts wsre made to gain a decision contrary to what was rendered, hut fortunately with no success. The Keystone Company now have good title to their gronnd, and the dscision in their favor protects others in similar circumstances.

The Emma Scandal, or Mrs. Grundy.

Written for the PRESS.

Well, well, Mrs. Grundy, the old woman who employs herself ahont other people's husiness, even if she has no facts to hack her statements with, has heen husy about that old "Belle," ths celehrated Emma, and is trying to maks it a "canse celehre." Bnt it so happens that a person with sxpressive syes and aquiline uose, who resemhles an eagle as much as anything I have seen, is after the old lady and has stuck his claws pretty deeply into her.

The scandal, this time, is about a flashy girl called Emma. Mrs. Grundy, it appsars, got some of her old friends, Park & Co., of Mariposa, etc., etc., to puff up this fashionahle "Belle." But finding no markst for her in their own country, they took her to London, and succeeded, with ths aid of diplomatic relations, to marry her to the honorahle Mr. John Bull. It was not long hefore ths honorahle hushand snspected her of possessing false teeth, etc., etc., which brought on serious diffsrences with his newly acquirsd matrimonial prize, whom he also found had deceived him as to her wealth.

He detsrmined at last to employ the eagle-eyed aquilins-nosed doctor, to investigate this unsatisfactory state of things. Ths doctor soon found that Mrs. Emma had many more falss things ahout her than was suspected hy her doting John, and reported accordingly. Those who palmed her off were on ths lookout, and remonstrated in a most formidahls mannsr through the press, and stated, with all the elsgance, hut minus the logic, they possessed, that the doctor was eimply "hsaring" Mrs. Emma down, trying to hring ahont a divorce case, so tbat the lady should, with all her millions, fall into the hands of his own immediats friends, who, they said, had promissd to do ths right thing by him.

The doctor, who is a wide awake sort fellow, determined to upset the Emma-Mariposa-apple-cart and gave ths honorahle hushand to understand that if hs had the slightest douht as to the state of things he would call in two other physicians, (one of whom had spent a summer in Mariposa, and, therefors, fully competent to decids on this case). The verdict of the other two physicians differed in no mauner from that of ths eagle-eyed doctor, which is as follows: That her rsputation for heauty and intrinsic value was far heyond her merits, hut that, notwithstanding the great deception practiced on Mr. Bull, with proper treatment shs conld he hrought ronnd to raise a hig and thriving family, if time and patisnce were allowed.

Now, sir, this ths plain etatemsnt of the case. Youre, truly, PUNCH.

P. S.—My address is Mr. Punch, Flest St., Loudon. Shall be happy to place myeelf in future communication with your eminent firm.

SOME VANDAL thief, went into the Geological museum of our friend Henry G. Hanks, at No. 649 Clay street, ons day this week and rohhed ths cases of a quantity of the richsst gold and silver specimens, together with thrse valuahle medals, which had heen presented to Mr. Hanks hy ths Mechanics' Institnte, the State Fair, and an English Inetitution. Thsy took some large epecimens of tin ore at ths same time, hut finding them of no valne left them on the door step the sams evening. The mnssum has usually besn lsft open for the henefit of visitors, hnt Mr. Hanks will, after this occurrence, prohahly havs to he mors carefnl, and kesp the place locked or have some one in attendance.

TIMES are livsly at Eureka, Nsv., as ths minee ars giving svidsncs of permanency, and the furnaces are wsll snpplied. There are few idle men, and everybody is satiefied with ths prssent and future prospscts.

CALAVERAS COUNTY CITIZENS havs formed a club or association similiar to ths Tnolumne County association, for the purposs of promoting friendly social relations among residents and ex-residente of the connty.

THE LAST CLEAN up of the Idaho Mine (Grass Valley) after a fonr days' rnn, wae $15,000. The amount for the month is $77,500, or $25 per share.

A DITCH 97 miles long is supplying a mining camp, 40 miles in exteut in Baker County, Oregon; considerahle gold is hsing taken ont this season.

THE WATER-LEVEL tunnel on ths Butts mine, now heing run, will cnt the Butte ledgs of ths Rys Patch Company 600 feet from ths surface.

THE sum of $20,000 has already hesn spsnt in the development of a coal mine, near Mark West Spriugs, Sonoma c'ounty.

THE Baldwin Expedition, to explore the mineral resources of Sonthern Utah, has started from Salt Lake City.

THE HUMBOLDT LEDGE, near Dnn Glen is again heing worked. Ths ors will hs worked by the Krom Coucentrator, in Star District.

Commencement Exercises of the University of California.

The closing exercises of the University, at Oakland, were witnessed with much pleasure by large nnmbers of onr citizens and strangers. The gradnating class nnmbers twelve, of whom hnt five are academical students, the remaining seven having taken the partial course. Want of space forbids onr entering as much into detail as we wonld wish. We can give but a brief review of the events that mark the termination nf the University year of 1873.

On Monday evening, Jnly 14th, the annual reunion of the Iota Chapter of the Zeta Psi Fraternity took place. On Tneeday, selections from the gradnating theses of the class were read. Judging from the subjects treated, the stndents are especially devoted to

Practical Science

And topics of local moment. We append the titles of the theses, with the names of the orators:

"The Vigilance Committee;" by Nathan Newmark, of San Francisco.

"Placer Miuing in California;" by Frank Otis, of San Francisco.

"The Metric System;" by L. L. Hawkins, of Oakland.

"The Reclamation of Marsh and Swamp Lands;" by John M. Boulton, of San Francisco.

"Forestry;" by Thos. P. Woodward, of San Francisco.

"The Commercial Policy of the Uuited States;" by Jacob Reinstein, of San Francisco.

"Boiler Explosions;" by Ebenezer Scott, of San Francisco.

"The Novel;" by Clarence J. Wetmore, of Oakland.

"Cherry Culture in California;" by Frauklin Rhoda, of Frnit Vale.

"Irrigation;" by James H. Budd, of Stockton.

"Practical Applications of the Parahola;" by George C. Edwards, of Visalia.

"P ossible Improvements iu Railroad Constrnction;" by George J. Ainsworth, of Portland, Oregon.

That such should be the hent of inclination and the professed taste of the young gradnates, is matter of gratulation to all who wish to see our State rapidly advanced; and this end will only be obtained hy the inculcation and adoption of just snch lines of thought as were evinced by the topics touched on.

As compared with the ordinary tone of Commencement speeches we have had the misfortnne to listen to elsewhere, this positive practicality was the distinguishing mark. The credit of having instilled snch ideas into the edncational conrse pnrsned at Oakland is, in great part, due to the energetic President, Prof. Gilman.

After the reading of the theses, the candidates for degrees of A. B. and Ph. B. were presented,and honorary appointments annonnced. At the cloae of these performances, the members of the Aasociated Alnmni of the Pacific Coast held their business meeting. In the evening, the usnal Alumni hanquet (!) was attended hy the gradnates of the different Collegea and friends of education generally; the scene, of course, heing gracod by the presence of the ladies. It was noticed that the Yale element largely predominated. The opening address of Col. Barnea was a most spicy piece of compoaition, and the Col. was equally fortunate in remarks made during the evening. Other speeches, hy Gov. Booth, Prea. Gilman, Hon. S. J. Field and othera, followed, in response to the varioua toasts of the occasion. Theae were quite intereating; bnt, it mnst be confeased, were aomewhat atiff, and hardly took the place of the genial *camaraderie* which marks snch rennions elsewhere.

The Commencement proper was on Wednesday, the 16th, and consisted of the Latin salntatory, by Frank Otis; the valedictory, by N. Newmark; the President'a address to the class; the

Conferring of Degrees

Upon Nathan Newmark, Frank Otis, Jacob Reinstein, Ebenezer Scott and Clarence J. Wetmore, the degree of Bachelor of Arts.

Upon George Jennings Ainsworth, John M. Bolton, James H. Bndd, George C. Edwsrda, Leander L. Hawkins, Franklin Rhoda, Ebenezer Scott and Thomas P. Woodward, the degree of Bachelor ef Philosophy.

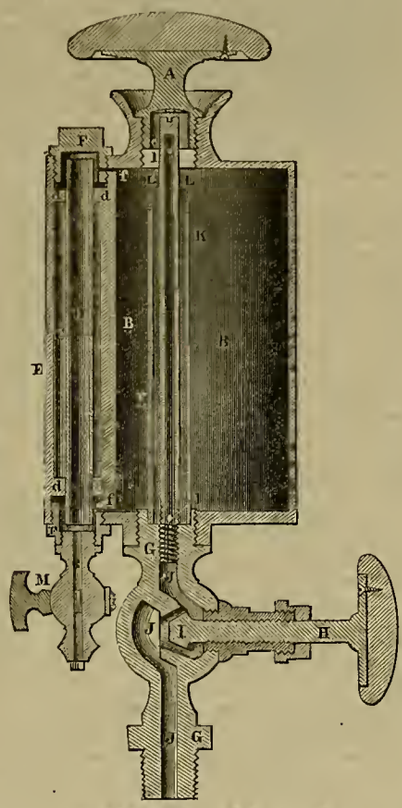
Then followed a congratnlatory address to the President, by Gov. Booth; and the presentation nf a portrait nf Bishop Berkeley, whose prophetic words, "Westward the conrse nf Empire takes ite way," have heen so much qnoted and so remarkably fnlfilled.

The alnmni of the University met in the evening, after which a very pleasant reception was given hy Pres. Gilman.

Altogether this Commencement may be said to have been a success. It certainly furnished a highly enjoyable and most interestiug series of events.

Parshall's Continuous Feeding Lubricator.

We give herewith an illustration of C. H. Parshall'e continnous-feeding lubricator for steam engines, a recently patented invention, which is claimed to be nnusually economical, lubricates continnally and needs no watching. These lubricators are suited to all steam engines, deliveriug the lubricant, whether tallow or oil, to every kind, equally well. Iu the accompanying cut, *A* is the screw cap or stopper, *B*, cnp for lubricant, *C*, hot air chamber, *D*, glass tube in chamber showing the amonnt of water and of oil, *E*, glass face to chamber, *F*,



PARSHALL'S LUBRICATOR.

screw capa to glass tube, *H*, valve stem, *I*, valve head, *J J*, steam duct throngh stem *G K K*, oil tube screwed at bottom into stem *G*, *L L*, steam tube within *K K*, and screwed also into atem *G*, *M*, common fancet, *d*, packing around ends of glass tube, *f*, passagea admitting oil into glass tube, *l*, elongated hole in tnhe *L L*, at connection with stem *G*, *l'* lateral hole near top of tube *L L*.

In operation the steam risea through the dnct *J J*, the valve *I*, standing open, and through the tnbe *L L*, and the lateral hole at *l'* near the top of aame, into the top of the cup *B*. The oil, as the steam condensea, rises over the top of the tube *K K*, flowing down the tube and through the elongated hole *l*, in the bottom of the tube *L L*, into the duct *J*, and thence on through the valve *l*, and the other part of the duct to the parts of the engine to he lubricated. When condensation of the steam begins, the water settles helow and raises the oil to the top. All sediment in the oil settles to the hottom of the cup, and the oil ou going to feed the engine is alwaya pure. The rate of flow or feed of the oil, ia regulated by the size of the elongated hole *l*, which can he made smaller, or stopped altogether, hy screwing the tube *L L*, down into the stem *G*; the tube *L L*, is formed with a head like a screw for that purpose.

The glass tube, *D*, indicating the helght of the water and the remaining amonnt of oil iu the cnp, standing in the chamber, *C*, is within the circumference of the cup aud is always bot, when the cnp is in aervice. The object of the valve, *I*, is to shnt the steam from the cnp, and that of the faucet, *M*, is to let the water ont of the cnp. To refill the cup, when the steam is on, the valve, *I*, is closed, and the faucet, *M*, is opened. When the water has run ont, the faucet, *M*, is again closed and the oil put in, after which the valve, *I*, is opened againu, and the steam passes up into the cup. These lnbricators may he placed on the steam-pipe, steam-chest cover, or the cylinder-head, as may be desirable. They admit the steam freely to the lnbricant, which is constantly permeated with it, aud therehy kept in a free, liqnid state. Numerous testimonials to its efficiency are presented. Parties desiring further information may obtain it from Wiester & Co., No. 17 New Montgomery street, in this city, they being general agents for the Pacific Coast.

A Pomological Curiosity.

Many of onr readers will recognise the accompanying engraving as a representation of

BUNCH OF CALIFORNIA PEARS.

a remarkable bunch of pears, which was exhihited at the Mechanics' Institute Fair of this city, in 1865. The engraving has heen made from a photograph, many of which were taken and distribnted at the time. The pears were of the *Louise Bonne de Jersey* variety, and were plucked from a tree in Mr. Brigg's garden, at Marysville, and consisted of 54 in number. It presents another remarkable inatance of the wonderful pomological productions of California.

Sierra County Mines.—A Correspondent writea us, that the Rocky Point Miuing Company have met with flattering success in their operationa. The tunnel has been run through from wall to wall, and showa a ledge of 13 feet in width. A working test at Strong's Metallurgical works in this city, showed a result of $292.28 per ton. The favorable location of thia mine, together with the advantage of ample water power, will enahle the owners to mine and work their ore for less than $4 per ont. The company are now disposing of sufficient stock to erect a mill, and expect to he in full operation in ahout four months. Capitalists need not look heyond our own State for investments in mining propertiea.

Virginia City bridal couplea are presented with silver bricks, on which is engraved their names and an appropriate conplet such as this:

The joys of Heaven on earth are known
To those who live in love alone;
As silver gleaming in the light,
Be e'er your joys as pure and bright.

The Washington Quicksilver mine, near Napa, turned out forty flasks of quicksilver last week, an increase of ten flaaks over tho previoua run, with only six men at work.

The ore shipment from the Comstock minea to varions mills is now about 95 tons per day.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, DEWEY & CO., Publishers and U. S. and Foreign Patent Agents]

By Special Dispatch, Dated Washington, D. C., July 15th, 1873.

For Week Ending July 1st, 1873.

Harvester and Thresher.—James H. Adamson, assignor to Wm. Taylor and M. Stewart Taylor, S. F., Cal.

Type.—William Shaw, Hollister, Cal.

Engine Governor.—Joshna Hendy, S. F., Cal.

Rotary Blower.—Richard F. Knox, assignor to Palmer, Knox & Co., S. F., Cal.

Bed Bottom.—Clinton V. B. Reeder, San José, Cal.

Hydraulic Hoisting Apparatus.—Philip Hinkle, S. F., Cal.

——The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue. Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Report of the Chollar-Potosi Mining Company.

The annual meeting of the Chollar-Potosi Mining Company was held in this city on the 14th inst. The names of the officers will be found in another column. The report of the Superintendent makes the following statements:

"For the year ending May 31, 1873, operations at the Company's mine have been steadily prosecuted with the following results: Ore extracted, 48,200 tons; ore reduced at mills, 44,050 tons. Ore supplies for the past twelve months have been drawn from the old and long developed portions of the mine. Notwithstanding much prospecting work has been done in quartera of the mine that indicated the existence of the precious metal, our labors and expenditures of money are, I regret to say, unrewarded, and the hoped-for deposits of ore are undiscovered. At fourth station of shaft, in drift north, there are strong probabilities of our getting ore of average quality; every effort has been vsinly made to reach this body of ore said to exist near this company's north line. In connection with the ordinary machinery, we have added a machine for compressing air—said air to he used as a motive power at low levels. Owing to delays in perfecting the compressor, no use has heen made of it. Concerning the reserves of ore, no correct estimate can be made. The quantity developed at this time is more extensive than the known supplies were one year ago. During the past twelve months much of the ore milled was largely impregnated with base metals, causing much difficulty in reducing and materially curtailing the results in hullion."

Of the 48,200 tons of ore extracted, 14,000 tons were from the Blue Wing Station, west, 13,000 tons from the Piute, 11,150 tons from Grass Roots, aud 10,050 tons from second station, new shaft. While the quantity extracted is 10,000 tons in excess of the previons year, the net returns were cousiderably less, because the ore turned out was of a lower grade. The shaft has heen thoroughly overhauled and repaired, and is now in complete condition. Though the developments made have not resulted in the discovery of paying ore, the indications at the close are more favorable than for some time. Tho Secretary's report presents the following financial exhibit for the fiscal year:

RECEIPTS.

Proceeds of bullion sold	$685,724
Assessment No. 4	140,000
Miscellaneous	5,488
Total receipts	$831,212
Cash, per last statement	174,149
Total	$1,005,361

DISBURSEMENTS.

Working ores	$483,255
Labor	198,853
Timber and Lumber	57,305
Machinery and materials	43,726
Hardware	16,637
Wood and Coal	12,780
Candles and Oil	3,973
Freight charges	11,272
Discount and assaying	10,891
Office expenses	8,841
Water	6,600
Taxes	4,427
Legal expenses	6,106
Miscellaneous	7,302
Total disbursements	$871,968
Cash on hand	133,393
Total	$1,005,361

The average cost of working the 44,050 tons ore crushed during the year was $15.62 per on.

During the fiscal year euding June 30, 1873, there were 5678 new incorporations formed in this city; of this number 376 were for the purpose of pursuing miuing operations.

Healdsburgh is becoming a quicksilver market, that town being the base of supplies for the minera in the vicinity.

Our Half Year's Work.

Exports of San Francisco for the Six Months Ending June 30th, 1873.

From the following statistics, it will he seen tbat the stride made in our foreign commerce during tbe last six months has been a vast one. The whole of the exports for the six months ending June 30th, 1872, including those hy railroad, may be valued at $13,000,000, and those for the same period of the present year at $17,000,000, showing an increase of $4,000,000, or ahont 32 per cent. This is most gratifying, especially when it is taken into consideration that, during the same period, our imports have, as shown hy the freights paid, slightly diminished. But our exports of treasure have decreased by $2,028,259, thus leaving the increase of exports to he abont 16 per cent. The decrease in the export of gold and the increase in the export of produce show that our commercial system is fast righting itself and that we may in the future expect few such years of financial tightness as during the first half year of 1873.

The following table, taken from the "Bulletin," shows the quantity and value of our Domestic Exports for the period in question:

Articles.	Quantity.	Valne.
Abalones, sks	692	$7,629
Asphaltum, tons	12	266
Barley, 100-lb sks	61,637	91,944
Beans, sks	3,308	10,336
Borax, cs	8,387	227,895
Bran, etc., pkgs	8,653	10,611
Brandy, gallons	30,339	68,609
" cases	113	
Bread, pkgs	7,608	20,651
Brick, M	20	267
Brooms, dozen	5,031	12,700
Broom Corn, 100-lb sks	101	525
Coal, pkgs	246	343
Corn, sks	235	323
Cotton, lbs	32,887	6,600
Fish—Salmon, pkgs	22,104	161,367
Flour, bbls	151,381	823,279
Fruit, hxs	1,767	3,779
Glue, pkgs	8	171
Hay, tons	495	9,044
Hides, no	33,420	154,701
Laths, M	121	276
Leather, pkgs	1,690	85,676
Lime, bbls	1,768	3,623
Live Stock	429	17,684
Lumber, M feet	6,507	147,232
Macaroni, cs	1,665	3,644
Mustard Seed, 100-lb sks	7,686	20,387
Oats, 100-lb sks	3,530	8,056
Onions, pkgs	644	2,314
Ores—Copper, tons	701	42,067
Silver, tons	374	65,792
Various, tons	521	46,332
Pickets, no	24,000	828
Posts, no	7,500	927
Potatoes, pkgs	9,801	15,680
Quicksilver, flasks	2,585	179,672
Rosin, pkgs	45	413
Salt, pkgs	996	810
Seeds, pkgs	64	1,745
Shingles, M	2,918	8,213
Skins, etc., pkgs	235	45,906
Spars, no	23	445
Spirits Turpentine, pkgs	105	799
Tallow, pkgs	183	5,643
Vegetables, pkgs	199	679
Wheats, 100-lb sks	4,488,035	8,712,919
Wine, gallons	260,370	186,496
" cases	3,262	
Wool, lbs	198,869	55 447
Total		$11,269,761

The Destination

Of our wheat has been nearly all to Great Britain, that exported to other countries not reaching an amount of 1,000 centals. More than half of our Flour went to China and Japan, the balance chiefly to Central America, New York and Great Britain. The latter may he considered a new market. Australia and New Zealand took five-sixths of our Barley export; China and the Hawaiian Islands two-thirds of the Oats exported; and New York all the Wool, with the exception of 11,824 lbs. which went to Great Britain. All our Hides found tbeir way to New York; nearly all our Quicksilver to China and Mexico. All our Wine, save about 10,000 gallons, went to New York. The following tahle exhihits clearly the destination of all our principal exports:

FLOUR.

		Value.
New York, bbls	10,294	$59,328
Great Britain	12,677	64,363
China	8,664	432,672
Japan	4,376	25,851
Philippine Islands	2,800	14,815
Society Islands	3,362	18,794
Hawaiian Islands	4,362	23,330
Navigator Islands	50	290
Guayaquil, S. A	3,000	15,760
Central America	16,342	94,760
Panama	6,360	35,869
Mexico	1,094	6,366
British Columhia	854	4,582
Russian Possessions	5,167	27,609
Totals	151,381	$823,279

WHEAT.

Great Britain, 100-lb sks	4,487,066	$8,711,076
Japan	16	31
Society Islands	395	765
Hawaiian Islands	389	716
Central America	66	130
Panama	2	4
British Columbia	111	207
Totals	4,488,035	$8,712,919

BARLEY.

Ohina, 100-lb sks	60	$73
Japan	46	62
Australia	37,349	67,620
New Zealand	15,400	22,400
Society Islands	1,804	2,318
Hawaiian Islands	221	289
Central America	293	430
Panama	6	10
Mexico	176	234
British Columhia	6,184	8,508
Totals	61,537	$91,944

OATS.

Ohina, 100-lb sks	1,124	2,643
Japan	443	1,071
Hawaiian Islands	1,201	2,668
Central America	228	562
Panama	106	247
Mexico	128	298
British Columhia	300	677
Totals	3,630	$8,058

WOOL.

New York, lbs	187,045	$53,447
Great Britain	11,824	2,000
Totals	198,869	$55,447

HIDES.

New York, no	33,420	$154,701

QUICKSILVER.

China, flasks	1,000	$68,850
Japan	30	2,180
Australia	105	7,260
Peru	300	21,421
Mexico	1,142	79,260
Panama	1	93
British Columhia	7	608
Totals	2,685	$179,572

ORES.

New York, tons	661	$62,978
Great Britain	945	100,229
Totals	1,606	$163,207

WINES.

	Gallons.	Cases.	Valne.
New York	250,448	1,042	$167,127
Great Britain	1,643	50	1,311
China	342	76	557
Japan	662	229	1,831
New Zealand	...	26	138
Hawaiian Islands	114	112	804
Society Islands	180	109	672
Peru	314	...	171
Central America	1,868	660	4,893
Panama	971	51	1,339
Mexico	2,664	458	4,037
British Columhia	624	36	462
Russian Possessions	540	614	3,264
Totals	260,370	3,262	$186,496

Our Merchandise Exports by Water

For the half year have aggregated $13,658,695, as against $7,662,387 for the first half of 1872, showing an increase of $5,996,238, or nearly 79 per cent. This is on the whole, for the exports to New York show a falling off of upwards of a million dollars; those to the Hawaiian Islands of $8,640; those to British Columhia of $16,638; those to Mexico of $39,784; and those to Japan of $126,969. In fact, exports to all countries, save Great Britain, Australia, New Zealand, Society Islands and Philippine, show a decided falling off. But the increase to Great Britain alone, in itself nearly six hundred per cent, is more than sufficient to make up for a hundred such losses.

The following tahles show the exports by water for the first half years of 1872 and 1873, to all countries with which we have communication; the details of the exports of Flour and Wheat for the same periods; and the weight in pounds of the export by railroad, for the first five montns of the year:

Exports by Sea for the First Six Months of 1872 and 1873.

	1872.	1873.
New York	$2,489,742	$1,307,441
Great Britain	1,663,682	9,118,908
Hawaiian Islands	273,767	230,127
British Columhia	364,002	347,864
Mexico	637,731	697,977
China	679,269	771,922
Japan	516,680	389,621
Australia	65,416	121,095
New Zealand	10,449	29,329
East Indies	36,614	.....
South Sea Islands	11,359	.....
Fiji Islands	600	.....
Society Islands	108,585	117,263
Philippine Islands	11,394	14,865
Navigator's Islands	.....	12,478
Guayaquil, S. A	.....	25,270
Chile	55,383	18,410
Peru	164,833	138,337
Central America	261,144	188,562
Panama	176,517	138,308
Russian Possessions	150,490	90,818
Total	$7,662,357	$13;658,696

Exports of Wheat and Flour for the First Six Months of 1872 and 1873.

FLOUR.

	1871-72.	1872-73
New York, bbls	4,333	13,566
Great Britain	9,862	15,874
China	149,097	126,326
Japan	7,687	7,652
Australia	2,251	16,318
New Zealand	500	1,260
Java	6,880	.....
Singapore	1,260	.....
Africa	....	2,500
Fiji Islands	25	.....
Philippine Islands	8,056	5,000
Society Islands	6,768	6,972
Hawaiian Islands	6,660	7,800
South Sea Islands	80	231
Navigator's Islands	....	60
Peru	200	240
Guayaquil, S. A	....	3,000
Central America	38,146	36,204
South America	....	506
Panama	7,442	12,664
Mexico	12,070	1,334
British Columhia	2,913	2,816
Russian Possessions	5,543	5,167
Totals	269,753	263,469

WHEAT.

	1871-72.	1872-73.
New York, 100-lb sks	14,801	8,358
Great Britain	1,361,064	9,798,913
France	34,986	.....
Ohina	6	1,116
Japan	234	16
Australia	48	28,971
Java	617	.....
Africa	....	2,042
Society Islands	1,395	718
Hawaiian Islands	284	803
Central America	68	66
Panama	3	2
Mexico	18	1
British Columhia	858	526
Totals	1,404,382	9,841,521

Railroad Exports.

Base Bullion, lbs.	19,345	Lead Bars, lbs	41,980
Beans	41,181	Leather	610,387
Borax	100,600	Merchandise	430,769
Butter	102,634	Nuts	149,080
Case Goods	42,316	Oil	6,340
Coffee	1,835,588	Plows	61,600
Cotton	123,616	Quicksilver	157,860
Fish	544,563	Silk	287,017
Flour	162,350	Sugar	39,620
Furs and Skins	74,455	Syrup	39,256
Glue	147,177	Tea	1,963,639
Hides and Pelts	264,915	Wine	1,183,735
Hops	74,962	Wool, Domestic	8,118,916
Horns	19,000	Wool, Australian	868,493
Total			17,509,797

THREE thousand dollars were recently obtainsd from six pans of gravel, out of the Moser & Haworth olaim, Calaveras county.

The Emma Mine.

The Sslt Laks *Journal* says: We are happy to bs abls to announcs that ths Emma, ths vsry queen of Utah mines, has agsin sssumed, in a partial but sncouraging degree, hsr formsr position as a grand silver ore producing mins. From various causes the Emma has been under a cloud for several months, snd ths bsd sffects of ths evil croakings in Englsnd and America concerning ths unfortunate situation of ths mins, havs had a most depressing effect on ths mining prospscts of Utah, hers and abroad. Ths mins was for a long timsths leading one of the Tsrritory, and bettsr known ths world ovsr, perhaps, than any in ths country, nsxt to ths Comstock Lods. Ths so called failure of ths mins acted as a wst blankst on all operations in Utah mines here and abroad. Evsry one thought, because the Emma had failed and British stockholdsrs had lost largsly in their investments in its stock, that there could be nothing in Utah. The mine reprssented to the great mass of the people, Utah's mineral wealth, and when it fell, sverything in the Territory got a "black eye," as they say on changs. It is for this reason that we are glad to be abls to say on excsllent authority that the Emma is again in a most flourishing condition. Work is now being done on a largs body of ore, which was discovered some months since, and which we alluded to atthe tims, and ore is now being shipped and sold here in considerabls quantitiss which assays, in the sample mill, 550¼ onnces of silver to the ton, and carriss fifty per cent. of lsad. A number of tons of this grade have already bsen sold at this rate, and a largs qnantity is awaiting shipment. Two car loads going 200 ounces to the ton wers sampled yesterday, and plenty more is coming.

Under these circumstancss, and with the promising future before it, we cannot hssitats to congratulate the stockholdere on the brilliant promiss of the mine, and sxpress our satisfaction at the agreeable turn of affairs which have been going somewhat adverse to the best intsrests of ths Tsrritory.

CONTEMPLATED WATER PROJECT.—Ever since the purchass of the ditches and water rights on the Gsorgetown divide, by the California Watsr Company, it has been surmised that this company had in view no less an undertaking than that of eventually supplying the towns of the Valleys, from Sacramsnto to San Francisco, with pure, crystal water from the mountains. Subsequsnt operations of this company have tended strongly to confirm these suspicions. The substantial character and enlarged capacity of all thsir improvements along their present canals; ths large force at prsssnt employed in extending their works to the South Fork and the outlets of Loon Lake, Plsasant Lake and many others, with their survsy extending to the Rubicon; the employment of Mr. Amos Booman, a thoroughly competsut enginser and surveyor, to maks a topographical survey and map of the entire route, and of the whols region of country lying between the south and middle fork of the American rivsr, are snfficient evidence that this water company means business of no ordinary dimensions. That these cities and towns will at some future time be supplied with watsr from the mountains, and that the California Water Co. has in contemplation this vast project, is no longer a matter of doubt. The enterprise is a vast one, yet it possesses all the requisites of success, viz: an unlimited supply of water, a practicable route, already dsmonstrated such by their present ditches traversing the first sixty miles from the mountsin lakss and rivsrs to the very foot hills of the plains, and a demand for ths water as everlasting as it is inevitable. Ths character of the men engaged in this enterpriss, the capital at their command, it is believed, are commensnrate with the undertaking.—*El Dorado Republican.*

HYDRAULIC MINING.—A gentleman rsturning from a tour through the mining districts of Nevada county, bsfore leaving for San Francisco yestsrday, expressed to us his surprise at the number and sxtent of the mining operations in successful working in almost every part of the upper portions of our county. There is no question, though we maks little blow about it, that Nsvada is the banner county of ths State in hydraulic and quartz mining. We have, it is trus, no Yosemites to attract pleasure ssssksrs to this locality, and no wild cat spsculations to place upon California street, but when the narrow gauge is in running order from Colfax we expect to attract hither individuals who dssire to make psrmansnt investments, bnt ars so dslicately constituted as to be deterred by the fear of a ride of some ten or twelve milss over a stage road. We will have palacs cars on our narrow gaugs expressly for ths accommodation of such, and shall then expect to ses them "flocking as doves to our windows."—*Grass Valley Union.*

WHITE PINE TAILINGS.—Emulating ths success of the Washoe Tailings Mills, one of the same description is being erected at Shsrmantown, White Pine, by J. B. Osborne. The *News* says five pane will be added to the mill, and a powsrful sngine is now being placed in position. Mr. Osborne has been trying to work the tailings with insufficisnt material, but will now erect works competsnt to do the work.

RICH QUARTZ has been found in the Cœur d'Alene mountains, and brought into Walla-Walla.

SIR SAMUEL BAKER'S DISCOVERIES.—London, July 7.—Ths *Herald's* corrsspondent at Khartoun telegraths, via Alexandria, confirming ths arrival of Sir Samuel and Lsdy Baker and party, all ths details of which ars known from previous dispstches. Hs adds:

"Sir Samusl Baksr succeeded in organizing district governments, appointing supsrintsndsnts, and making Fatiko ths chief station, Gondokooro being nsxt in importance. Hs also sstsblishsd eight other principsl posts, which form a connected chain from Nubia to Nyanza, and obtained ons thoussnd additional troops. An important geographical discovsrer is ssid to havs besn msds, which will astound ths scientific world, as it is said thst Lak s Tanganyika and Albert Nyanza provs to bs ons and ths same body of water, and a magnificsnt inland sea, 700 miles in lsngth. It is further announced that vessele can be landsd above the falls named Sir Roderick Murchison, and sail to Ujiji. Sir Samuel Baker and party were in excellsnt health, and were to leavs at once for Souakim, en route to Suez." The above narrative is dirsct from the explorer's lips.

IN every direction for a distance of fifty miles up and down the Ssn Ynez valley, by a width of tsn or twelve miles, the country is covered by a dense growth of white oak timber; down to the coast it exists in about the sams quantities as in this section. We msasured several trees that were eighteen fset in circumfersnce, many of which contsined not less than twenty cords of four foot firs-wood, each. The question is, can this vast body of timber, amounting to many millions of cords of wood, be cut, transportsd and put into market at rates that will leave a margin for profit? As a railroad is doubtless practicable from the ocean to this great forest we believe it would pay to build a cheap railroad, for ths transportation of this wood to tide water, if for no other purposs. The subject is worthy the attention of capitalists, inasmuch ae the timber resources of the coast counties, at least those contiguous to market, ars very nearly exhausted.—*Santa Barbara Index.*

ANOTHER QUICKSILVER DISCOVERY.—We were shown to-day, says the Petaluma *Argus* of the 8th instant, a spscimen of cinnabar that was discovered in this county, a few miles from the Geyser Springs, in a westerly direction. W. Forbes, of Laksport, is one of the principal ownsrs of the mine, which was discovered about six wseks ago by Msssrs. McKay, Sloper and Snow. Ths specimens are undoubtedly the richest "croppings" ever yet discovered, and if a well defined lode is developed, the mins will certainly prove a sours of great wealth. The mineral wsalth of Sonoma county is still in iit infancy, yet we predict that a few ysars from now our mines will develop a profitable revenue.

THE Trinity *Journal* says: Mr. Jos. McGillivray, has lately purchassd anothsr right of watsr in Cañon Cresk, and ws are informsd, intends to convsy watsr to the mines of Red Hill and vicinity. The ditch will be of the capacity to carry five thousand inches of water, and the water will be taksn across Trinity river in a largs iron pipe to the top of Red Hill, at a hight to cover all the known mines up and down the river for eight milss. The cost of this undsrtaking will be not less than sixty or seventy thousand dollars, but when completed cannot fail to yield a large profit, for the mines to be supplied by it are known to bs extremely rich.

AN ordinance has been read the first time in the Board of Aldermen of Virginia City, which providee that no Giant or Hercnles powder, gun cotton, nitro-glycsrine, or gasoline shall be storsd or kept within the city limits; that not more than ten casss of coal oil of ten gallons each shall bs kept in any one building, and that not more than twenty-five pounds of gun, blasting or black powdsr shall be kept in any place of business in the city, and that the latter shall be kept in metallic casss, secure from fire. The penalty for a violation of the ordinance is a fine of not lsss than $20 nor mors than $500, or imprisonmènt for not less than ten days nor more than six months, for each offense.

THE *Territorial Enterprise* says: The water in the Carson rivsr is becoming quits low; it is not as low, however, as it was at this time two years ago. The Eurska Mill, the largest on the rivsr, is still running to its full capacity. The millmsn do not fear losing much time this summer. They think they will be able to run the most of their machinery during the entire season, and say that as soon as the weather begins to grow cold, this fall, the water will incrsase in volume, from the dscrease in evaporation, probably.

THE Ventura *Signal* learns that at the Pirn mines thsre are now about sixty msn at work. They are doing wsll, working in rich ore, and a quartz mill will soon be srected by parties from San Francisco. Trade mostly goss to Bakersfield. This is a trade we should havs, the minss are in our county and quite near us.

INTERESTING TO TOBACCO USERS.—Dr. J. Richardson, of Philadelphia, has discovered that the corpuscles of the saliva are migrating white blood-globulss. So the more you spit the more you rob your systsm of blood. Smokers and tobacco chewsrs will do well to take notice.

THE Japaness Mint has already coinsd 15,500,000 pieces of gold and silver, valued at $20,178,000.

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The best, speediest, and snrest method for yon to obtain patents, file caveats, or transact any other important business with the Patent Office at Washington, or with foreign countries, is through the agency of DEWEY & CO., PUBLISHERS OF THE MINING AND SCIENTIFIC PRESS, SAN FRANCISCO, an able, responsible, and long-established firm, and the principal agents on this side of the continent. They refer to the thonsands of inventors who have patronized them, and to all prominent business men of the Pacific Coast, who are more or less familiar with their reputation as straightforward journalists and patent solicitors and counsellors.

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well-constructed model is generally first needed, if the invention can well be thus illustrated. It mnst not exceed 12 inches in length or hight. When practicable, a smaller model is even more desirable. Paint or engrave the name of the article, and the name of the inventor, and his address npon it.

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Also send $15 currency, amount of first fee of the Government. The case will be placed on our regular file, the drawings executed, and the documents made np, and soon sent to the inventor for signing.

As soon as signed and returned to us with the fees then due us, it will he sent straightway to the Patent Office at Washngton.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separated ingredients, sufficient to make the experiment (unless they are of a common and well-known character), and also of the manufactured article itself, must he furnished, with full description of the entire preparation.

For Processes, frequently no model or drawings are necessary. In such case, the applicant has only to send us an exact description, and what is desirable to claim.

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For further information, send a stamp for our illustrated circular, containing a digest of PATENT LAWS, 112 illustrated mechanical movements, and HINTS and INSTRUCTIONS regarding the RIGHTS and PRIVILEGES of inventors and patentees, which will be furnished post paid. Also a copy of NEW PATENT LAW of 1870.

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For the half year ending with the 30th of June, 1873, a dividend has been declared at the rate of nine and six-tenths (9 6-10) per cent. per annum on Term deposits, and eight (8) per cent. per annum on Ordinary deposits, free of Federal tax, payahle on and after July 14th, 1873. By order.

LOVELL WHITE Caehier.

DIVIDEND NOTICE.

SAVINGS AND LOAN SOCIETY,

No. 619 Olay Street.....San Francisco.

At a meeting of the Board of Directors, held this day, a dividend was declared for the six months ending June 30, 1873, of nine and six-tenths (9 6-10) per cent. per annum on all deposits, free of Federal Tax, and payahle on and after the 16th inst.

CYRUS W. OARMANY, Caehier.
San Francisco, July 8, 1873. jy12-2t

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Incorporated in Geneva, Switzerland, January 20th, 1873.
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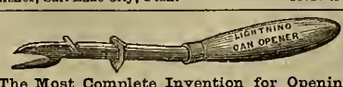

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16v20-3m JOHN F. LOHSE, Secretary.

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(Continued from Page 37.)

They are drifting and sinking, and the quality of ore raised is steadily improving.

The English Co. on the Kansas Extension are working their property steadily, crushing the ore at their mill in Black Hawk.

A most worthy, and highly beneficial enterprise to the development of the mines above Russell district, is the tunnel which has been bravely and persistently driven towards the heart of Clifton mountain for several years. This tunnel starts from near Russell Gulch, and has now attained a length of nearly 700 ft. It is designed to cut the lodes that rib this mountain at a depth that will enable them to be worked to much greater advantage than by means of shafts.

CLEAR CREEK COUNTY.—Bennett & Chapman have cut the enormously rich Saco mine above Georgetown with their tunnel, and after going through three feet of 600 ounce silver ore had not reached the inside wall of the mine. This proves, that the portion of the mine leased by them will exceed in richness and extent even the wonderful product of other parts of this lode.

PARK COUNTY.—Mining affairs are prosperous in Park County, and the Mines, especially the Moose and Hiawatha, are turning out very profitably. Clark & Smith are working 200 men on their five mile placer property at Fairplay. The Phillips mine is supplying iron for Dudley's and Hill's works. Dudley's works have been crowded with work since they started last season and are very successful. Fairplay is growing rapidly. There are hut few idle men in Park county at present.

Idaho.

THE WEATHER, WATER AND MINES.—Idaho *World*, July 10: During the past week it has been warm and sultry, though the nights have been cool and pleasant. The effect of the "warm spell" has been to dry up, to some extent, the water, and diminish the quantity running in the ditches. On the other side of the Basin, near Placerville, the water has gradually failed, until but little, if any, is now running in the ditches at that camp, though Crowly, Brogan & Co. still have a fair supply on their diggings at Granite Creek. Messrs. Eisler & Hughes run no water through their ditches to their digginga at Lady's Crevice, and vicinity, though they still have water on their claims in Ophir Creek. Centreville is still well supplied with water by means of Channell's and Goldtrap's ditches. Hon. Ben. Wilson, of Pioneer City, owning about all the ditches in that camp, still has an abundance of water, and our old friend, Bob McGinness, whom we met at Placerville last Sunday, informed us that mining oparations were in full hlast in that section, with everyhody at work. Around Idaho City the water is gradually failing in several ditchea. Willis & Driscol with a fair supply in their ditch are still runuing their claims on Gold Hill, while West & Ralston, who get their water from the "Big Ditch," are still working their claims in Bear Run. Tompkins & Lambing having their own ditch, are still at work on their hill claims hetween this place and Morestown, though we understand that their water is falling and in a few days they will be compelled to suspend operations for this season. Quite a number of claims are still heing worked on the South side of Moore Creek, heing furnished with water from the Shafer ditch, while Hill & Reardon, who own the Thorn Creek Ditch, are still at work on their diggings. On west side of More Creek the Buena Vista Company having still a good supply of water in the Alderson ditch, are actively carrying on their extensive mining operations on several claims, and Mr. Frank Headen, who procures water from the same ditch, ie, we helieve, also still at work on his claims. Although we were not favored with as much snow during the past winter, as during previous winters, still, owing to the cool weather during the Spring, we have had s better mining season than usual. But few claims have failed to pay, and as a general thing they have paid hetter than ever hefore. We have heard less grumbling and growling than usual, and from all accounts our miners generally are well satisfied with their season's work.

Montana.

MINES AT BUTTE.—*New North West*, July 5: Owing to various causes, not a great deal of work is just at present being done in the Butto Quartz Mines. Mr. Gilchrist some time since reached a depth of 105 ft. in his claim on the Parrott lead, the lead at that point having a 5 ft. crevice of ore, 17 inches of which is the noted rich copper and gold rock. At 90 ft, they struck water. The pay ore had pinched above this, and it was desirable to ascertain if it came in again wide helow water level. So work was continued under many disadvantages, 15 ft. deeper when the streak had widened out again to paying extent and gave evidence of still greater width. As the expense of keeping out the water was heavy and the appliances inadequate, work was therefore suspended until auch appliances could be placed on the mine. That it is a fortune to the owuers, neither they nor miners who have examined it have any doubts. Mr. Gilchrist a few days since sold to Nelson Woverton, of Rocker, a ½ interest in 400 ft, of the Parrott for $1,200.

Mr. Gilchrist also perfected arrangements last week with Mr. W. A. Clark, of the First National, for the further development of the Gamheta lode, which has now a 60 ft. shaft in it, showing at that depth 2 ft. 9 in. of very rich red and black oxide copper ore. It is a more promising lead than the Parrott. Mr. Clark has now a force of men sinking the shaft 10 ft, deeper, and enlarging it to working capacity, which will determine certain negotiations of 1,000 ft. of it, and probahly result in its continuous working. The ore in this 2 ft. 9 in. crevice is worth in San Francisco, for the copper alone, $250 per ton on average. It is designed to make quite a shipment of ore from the lead the present season.

Utah.

PARLEY'S PARK MINE.—Salt Lake *Tribune*, July 3: There are now about 1,000 men working and prospecting in that section of counlry. The Flagstaff Co. have commenced work toward erecting their stamp mill, which will be in running order in abont four weeks. The principal mines are the Ontario, McHenry, Walker, Webster, Pinyon, Pioueer and other claims. New discoveries are numerous and good, among them the Sunny Side stands prominent, at the depth of 55 ft. it having developed a vein four feet in thickness of milling ore, while the Silver Cloud has a similar vein of smelting ore.

BLUE JACKET MINE.—Same, 8th. inst.: A Bingham correspondent saye he visited this mine last week, and found everything in a first rate and promising condition The shaft was down some 43 ft., and has a drift 40 ft. to the north. The ore taken out assays from $60 to $125 per ton, of which there are about 100 tons now lying on the dump, and 150 tons more in sight in the shaft. The foot wall is smooth and well-defined, and there is every indication that the Blue Jacket will become one of the permanent mines of the district.

THE MILLER MINE.—From a private letter we learn that the Miller Mining Co., in American Fork Canon, has struck a new body of gray carbonate ore, large quantities of which are taken out daily. The writer says that all surrounding mines will yield more ore this season than ever hefore.

BINGHAMS'S PROSPECTS.—Salt Lake *Journal*, July 7: Our correspondent, writing from Bingham Canon under date of July 5, says that the prospects of Bingham are most flattering. The mines in this camp will soon be opened sufficiently to allow of more ore being shipped than from all the other camps of Utah combined. That they they have the capacity we can not doubt.

GIANT MINES—A four-foot vein of splendid looking carhonate ore has heen struck in the Little Giant miue. Adjoining this mine is the Big Giant miue, hoth of which are owned hy Messrs. Ferguson and Fuller, and hoth give promise of proving a windfall to the owuers. Work will be pushed ahead on these mines, and to-day a sufficient number of men will be procured to run them day and night.

Time Tests the Merits of all Things.

1840 For Over 30 Years, 1873

PERRY DAVIS'

PAIN-KILLER

Has been tested in every variety of climste, and by almost every nation known to Americens. It is the constant companion and inestimahlo friend of the missionary and the traveler, on the sea or land, and no one should travel on our *Lakes or Rivers without it.*

Since the PAIN-KILLER was first introduced, and met with such extensive sale, many Liuiments, Reliefs, Panaceas, and other Remedies have been offered to the public, but not one of them has attained the truly *enviable standing* of the PAIN-KILLER.

WHY IS THIS SO?

It is because DAVIS' PAIN-KILLER is what it claims to he, a Reliever of Pain.

Its Merits are Unsurpassed.

If you are suffering from Internal Pain, Twenty to Thirty Drops in a Little Water will almost instantly cure you. There is nothing to equal it for

Colic, Cramps, Spasms, Heart-burn, Diarrhea, Dysentery, Flux, Wind in the Bowels, Sour Stomach, Dyspepsia, Sick Headache, &c., &c.

In sections of the country where

Fever and Ague

Prevails, there is no remedy beld in greater esteem. Persons traveling should keep it hy them. A few drops, in water, will prevent sickness or bowel trouhles from change of water.

From foreign countries the calls for PAIN-KILLER are great. It is found to

CURE CHOLERA WHEN ALL OTHER REMEDIES FAIL.

WHEN USED EXTERNALLY, AS A LINIMENT, nothing gives quicker case in Burns, Cuts, Bruises, Sprains, Stings from Insects, and Scalds. It removes the fire, and the wound heals like ordinary sores. Those suffering with RHEUMATISM, GOUT, or NEURALGIA, if not a positive cure, they find the Pain-Killer gives them relief when no other remedy will.

It Gives Instant Relief from Aching Teeth.

Every House-Keeper sbould keep it at hand, and apply it on the first attack of any Pain. It will give satisfactory relief, and save hours of suffering.

Do not trifle with yourselves hy testing untried remedies. Be sure you call for and get the genuine PAIN-KILLER, as many worthless nosirums are attempted to be sold on the great reputation of this valuable medicine. ☞ Directions accompany each hottle.

PRICE—25 cts., 50 cts., and $1 per bottle.

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B. Roberts, 315 California Street, San Francisco, is general agent for this Coast. Send to him for circulars and information of this reliable, first-class company.

CONTINENTAL LIFE INSURANCE Co., No. 302 Montgomery street, corner of Pine.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Angels Quartz Mining Company---Principal

place of business, 408 California street, San Francisco. Location of works: Angels Mining District, Calaveras County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 35), levied March 4th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

T D Mathewson	8	300	$450 00
T D Mathewson	4	314	471 00
T D Mathewson	5	500	750 00
T D Mathewson	17	26	39 00
T D Mathewson (not issued)		325 5-7	488 57
J H Fish (not issued)		342 6-7	574 29
J H Fish, Trustee	20	50	75 00
J H Fish, Trustee	21	50	75 00
J H Fish, Trustee	22	50	75 00
J H Fish, Trustee	23	50	75 00
Mre E B Fish	9	1000	1500 00
R M Anthony	18	100	150 00
R M Anthony (not issued)		45 5-7	68 57
R M Anthony	19	60	90 00
E H Sawyer	11	800	1200 00
E H Sawyer (not issued)		228 4-7	342 86
Geo. Osgood	12	400	600 00
Geo. Osgood (not issued)		114 2-7	171 43

And in accordance with law and an order made hy the Board of Directors, on the 4th day of March, 1873, so many ehares of each parcel of such stock as may be necessary, will be sold at public anction, at the office of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on Monday, April 21st, 1873, at 2 o'clock P. M., of such day, to pay said delinquent assesement thereon, together with costs of advertising and expenses of sale. GEORGE CONGDON, Secretary.

Office, Room No. 1, 408 California Street, San Francisco, California (up stairs). a5-5t

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed for thirty days, at the same hour and place.

ap19 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale ie hereby postponed until Wednesday, June 18, 1873, at the same hour and place.

m17 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, July 16, 1873, at the same hour and place.

jl4 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, August 13, 1873, at the same hour and place.

jy19 GEORGE CONGDON, Secretary.

Stanislaus Water Company of California—

Principal place of business, 525 Kearny street, San Francisco. Location of works, near La Grange, Stanislaus County.

Notice is horcby given, that at a meeting of the Board of Directors hsld on the 2d day of July, 1873, an assessment (No. 2) of two cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, 525 Kearny st. Any stock upon which this assessment shall remain unpaid on the 10th day of August, 1873, will be delinquent, and advertised for sale at public anction, and unless payment is made before, will be sold on Tuesday, the 26th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CLINTON O. TRIPP, Secretary.

Office, No. 525 Kearny street, Roome 1 and 2, San Francisco, Cal. jy 5

Beckwith Mining Company---Location of

works, Ely Mining District, Lincoln county, State of Nevada. Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 7th day of July, 1873, an assessment of fifteen (15) cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on Monday, the 11th day of August, 1873, will be deemed delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 2d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors WM. H. WATSON, Secretary.

Office, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, California. jy8-td

Bunker Hill Quartz Mining Company—Lo-

cation of works: Amador, Amador County, California. Principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock on account of assessment, (No. 10) levied June 6th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Wales L Palmer	113	20	$200 00
Wales L Palmer	120	20	200 00
Wales L Palmer	121	20	200 00
Wales L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmer	125	20	200 00

And in accordance with law and an order of the Board of Directors, made June 6th, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the company, No. 19 First street, San Francisco, Cal., on Monday, July 28th, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office—No. 19 First St., San Francisco, Cal. jy19

The California Beet Sugar Co.—Loca-

tion of principal place of business, San Francisco, California. Location of Works: Alvarsdo, Alameda County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Name.	No. Certificate.	No. Shares.	Amount.
W. T. Garratt	2	125	$1250
W. T. Garratt	40	63	630
Ephraim Dyer	6	63	630
Ephraim Dyer	39	62	620
H. G. Rollins	9	63	630
H. G. Rollins	35	25	250
H. G. Rollins	35	12	120
Wm. B. Carr	23	250	2500
Wm. B. Carr	62	38	380
E. H. Dyer	27	5	50
E. H. Dyer	71	245	2450
Austin D. Moore	60	50	500
T. G. Phelps	68	53	530

And in accordance with law and an order of the Board of Directors made on the 26th day of May, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction at the office of the company, No. 314 California street, San Francisco, California, on Tuesday the 22d day of July, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS FRANCONI, Secretary.

Office, No. 314 California street, San Francisco, Cal.

The Central Land Company—Location of

office and principal place of business, No. 338 Montgomery street, Room 5, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of Assessment levied on the ninth day of June, 1873, the several amounts set opposite the names of the repective shareholders as follows.

Name.	No. Certificate.	No. Shares.	Amount.
P L Weaver (Executor)	37	150	$187 50
Edward McLean, and P Warner	36	100	125 00
F B Haswell	35	100	125 00
F B Haswell	34	100	125 00
F B Haswell	33	100	125 00
F B Haswell	30	50	62 50
F B Haswell	29	50	62 50
Edward McLean	12	50	62 50
Edward McLean	11	50	62 50
Edward McLean	10	50	62 50

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by the Secretary, at the said Room 5, 338 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costa of advertising and expenses of sale.

F. B. HASWELL, Secretary.

Office, No. 338 California street, Room 5, San Francisco, Cal. jy12

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 9th day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at No. 402 Montgomery Street, room 23. Any stock upon which this assesement shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for sale at public anction, and unless payment is made before, will be sold on Monday the 8th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francisco. jy 12

Dutch Flat Blue Gravel Mining Company.

Place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 13th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount
Booth, L A	13	2000	$1000
Booth, L A	14	1000	500
Booth, L A	16	1000	500
Cope, G W, Trustee	67	100	50
Cope, G W, Trustee	68	100	50
Cope, G W, Trustee	69	100	50
Cope, G W, Trustee	70	100	50
Dorsey, E B	37	500	250
Dorsey, E B	42	200	100
Dorsey, E B	43	100	50
Dorsey, E B	44	100	50
Dorsey, E B	45	100	50
Dorsey, E B	46	100	50
Dorsey, E B	47	100	50
Fry, J D	17	500	250
Forbes, Alex, Trustee	52	2000	1000
Gashwiler, J W	36	800	400
Heydenfeldt, S	16	2000	1000
Haggin, J B	5	1000	500
Haggin, J B	6	1000	500
Roberts, G D	18	500	250
Roberts, G D	20	1000	500
Roberts, G D	21	1000	500
Roberts, G D	22	1000	500
Roberts, G D	25	1000	500
Roberts, G D	26	1000	500
Roberts, G D	27	1000	500
Roberts, G D	28	1000	500
Roberts, G D	29	1000	500
Raymond, W H	3	1000	500
Raymond, W H	4	1000	500
Richardson, E A, Trustee	32	1000	500
Richardson, E A, Trustee	33	1000	500
Richardson, E A, Trustee	34	1000	500
Richardson, E A, Trustee	35	1000	500
Richardson, E A, Trustee	49	500	250
Richardson, E A, Trustee	50	200	100
Richardson, E A, Trustee	51	100	50
Richardson, E A, Trustee	54	1000	500
Richardson, E A, Trustee	56	1000	500
Richardson, E A, Trustee	55	1000	500
Taylor, H W	60	180	90
Taylor, H W	61	20	10
Taylor, H W	64	600	250
Whitcomh, C A	53	100	50

And in accordance with law and an order of the Board of Trustees, made on the 13th day of May, 1873, so many shares of each parcel of said stock as may be necessary will be sold at the office of the company, room 11, 401 California street, San Francisco, Cal., on Monday, the 14th day of July, 1873, at the hour of 12 o'clock at. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. W. M. HELMAN, Secretary.

Office—Room 11, No. 401 California street, San Francisco, Cal. jn28

POSTPONEMENT.—The above sale is hereby postponed to Saturday, the 29th day of July, 1873, at the same hour and place. W. M. HELMAN, Secretary. jy15-td

Equitable Tunnel and Mining Company,

Location of works, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fifth day of May, 1873, an assessment (No. 2) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 35 New Merchants' Exchange. Any stock upon which this assessment shall remain unpaid on the tenth day of June, 1873, will be delinquent, and advertised for sale at public anction, and unless payment is made before, will be sold on the thirtieth day of June, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

Office, No. 35 New Merchants' Exchange, San Francisco Cal. CHARLES S. HEALY, Secretary.

POSTPONEMENT.—The day for deeming stock delinquent on the above assesement is hereby postponed until Wednesday, July 2d, 1873, and the sale thereof until Tuesday, the 22d day of July, 1873. By order of the Board of Directors. CHAS. S. HEALY, Secretary.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Thursday, July 17, 1873, and the sale thereof until Friday, August 8th, 1873. By order of the Board of Directors. CHAS. S. HEALY, Secretary.

Frear Stone Company of California---Lo-

cation of works and principal place of business, City and County of San Francisco, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment, No. 5, levied on the 27th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Booth, Lucius A	11	405	$810
Booth, Lucius A	12	45	90
Coleman, John W	64	400	800
Cornell, M E	110	20	40
Dam, G W	99	10	20
Dam, G W	107	5	10
Emery, J S	34	450	900
Spaulding, N W	15	405	810
Spaulding, N W	16	45	90
Spaulding, N W	19	405	810
Spanlding, N W	20	45	90
Syer, Robert	95	50	100
Tripp, E	41	8	16
Wegener, R, Trustee	55	5	10
Wegener, R, Trustee	72	11	22
Wegener, R, Trustee	73	34	68
Wegener, R, Trustee	76	50	100
Wegener, R, Trustee	90	250	500

And in accordance with law, and an order of the Board of Directors, made on the 27th day of May, 1873, so many shares of each parcel of said Stock as may be necessary, will be sold at public auction at the office of he C mpany, No. 414 California street, San Francisco, California, on Monday the 21st day of July, 1873, at the hour of one o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco, California.

Office of the Frear Stone Company of

California. San Francisco, July 15, 1873.

The annual meeting of the stockholders of the Frear Stone Company of California will be held at their office, No. 414 California street, San Francisco, California, on Friday, the 1st day of August, 1873, at 1 o'clock P. M. jy16-td R. WEGENER, Secretary.

Globe Mining Company — Location of

works, Gold Hill, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 7d day of July, 1873, an assessment (No. 3) of seventy-five cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 26 Hayward's Building, No. 419 California street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 4th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

JOSEPH MAGUIRE, Secretary.

Office, Room 26, Hayward's Building, No. 419 California street, San Francisco, Cal. jy5

Hasloe Mill and Mining Company—Prin-

cipal place of business, No. 408 California street, San Francisco. Location of works: Mariposa County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 14th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
G B Dieferrari	3	10	$ 5 00
Wm D Higgins	74	50	25 00
T V Jullan	71	10	5 00
Wm H F Minnie	25	50	25 00
Margaret Ragsdale	44	50 bsl	27 50
Margaret Ragsdale	45	25 bsl	
O Irving Smith	52	10	5 00
O Irving Smith	53	12	6 00
C H Roberts	57	25	12 50
C H Roberts	68	25	12 50
G W Woods	47	20	10 00
W H Thomas	10		5 00
W H Thomas	24	15	7 50

And in accordance with law, and an order of the Board of Directors, made on the 14th day of May, 1873, so many ehares of each parcel of such stock as may be necessary, will be sold at public anction, at the office of the company, No. 408 California street, San Francisco, California, on Monday, the 21st day of July, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

J. W. TRIPP, Secretary.

Office—408 California street, up stairs, San Francisco California. jy-5

Great Blue Gravel Range Mining Company.

Location of works, Placer County, State of California. Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 3) levied on the 12th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Babcox, J T	145	25	$2 50
Babcox, J T	248	25	2 50
Babcox, J T	249	25	2 50
Babcox, J T	270	100	10 00
Babcox, J T	273	100	10 00
Babcox, J T	356	50	5 00
Babcox, J T, Trustee	94	100	10 00
Babcox, J T, Trustee	110	200	20 00
Babcox, J T, Trustee	117	100	10 00
Babcox, J T, Trustee	118	100	10 00
Baillie, Margaret	1	5	50
Berry, Mrs Julia A	169	40	4 00
Dowdy, Mrs Sarah S	333	20	2 00
Evers, Wm	393	30	3 00
Garfield, Carrie	394	5	50
Horn, Mrs Eliza	384	135	13 50
Hunt, E F, Trustee	114	25	2 50
Josselyn, L M	332	67	6 70
Kahn, Paul	367	733	73 50
Larue, James	5	500	50 00
Larue, James	229	1000	100 00
Morken, H F	60	100	10 00
Morken, H F	165	100	10 00
Murphy, M A	163	20	2 00
Murphy, M A	223	100	10 00
Murphy, Mrs M A	168	85	8 50
Mills, Mrs Phœbe S	368	25	2 50
Peck, E S	309	1420	142 00
Peck, E S	364	420	42 00
Plummer, M D	208	125	12 50
Plummer, M D	377	2000	200 00
Plummer, M D	378	3000	300 00
Peck, E T	47	200	20 00
Rose, Mary E	162	20	2 00
Reed, S M	381	100	10 00
Reed, S M	382	100	10 00
Snell, Geo P	184	50	5 00
Thompson, E F	399	100	10 00
Thompson, E F	400	20	2 00
Thompson, E F	401	30	3 00
Thompson, E F	402	50	5 00
Thompson, E F	403	15	1 50
Wilson, John B	393	15	1 50
Yeomanns, A B	318	50	5 00
Yeomanns, A B	319	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 12th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public nuction, nt the office of the Company, Room 5 nnd 6, No. 302 Montgomery street, San Francisco, California, un Tnesday, the 5th dny of August, 1873, at the hour of 2 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

WM. H. WATSON, Secretary.

Office, Room 5 snd 6, No. 302 Montgomery street, San Francisco, Cal. jy15-td

Greenhorn Gold Mining Company.---Location of principal place of business, San Francisco, California. Location of works, Grase Valley Mining District, Novadn County, California.

Notice is hereby given, that nt a meeting of the Board of Directors, held on the 11th day of July, 1873, an assesment of one dollar nnd fifty cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, No 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, nnd advertised for salent public auction, end, unless payment is nnde before, will be sold on Wednesday, the 10th dny of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco Californin. jy12-td

Heckerdorn Gold and Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Blue Mountain District, Calaverna County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 9th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Louis Rciff	174	400	$100 00
Frank Lyon	156	40	10 00
Isidore Lyon	108	20	5 00
Berson	161	100	25 00
Monin	157	100	25 00
A Mayer	101	100	25 00
Hanson	119	60	15 00
Savvyeur	93, 107, 156, 840		210 00
Louis Ny	157	400	100 00
Louis Ny	158	400	100 00
Louis Ny	201	800	200 00
Louis Ny	207	400	100 00
Louis Ny	208	200	50 00
Louis Ny	209	100	25 00
Saintat	109	20	5 00
Saintat	94	20	5 00
Saintat	95	20	5 00
Saintat	96	20	5 00
Selntat	97	20	5 00
Caterino Ny	136	100	25 00

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the offict of the Secretary, No. 734 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertisfng and expenses of sale.

LOUIS TERME, Secretary.

Office, 734 Montgomery street, San Francisco California. jy12

Lady Esten Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of June, 1873, an assessment (No. 3) of five cents per share was levied upon the capital stock of the corporation, payable immediately, in United State gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 17th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 6th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, 35 New Merchants' Exchange, California street, San Francisco, California. jl4

Lady Franklin Gold and Silver Mining Co.

Principal place of bneiness, City and County of San Francisco, State of California. Location of works, Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of July, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 507 Montgomery street, San Frau lsco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of September, 1873, to pay the delinquent assessment, together with coste of advertising and expenses of sale.

Office—507 Montgomery street, San Francisco, California. jy19

Manhattan Marble Company of California—Principal place of business, San Francisco. Location of works, Oakland, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 23d day of June, 1873, an assessment of one dollar per sharn was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francisco.

Any stock upon whieh this assessment shall remain unpaid on tha 24th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless paymunt is made before, will be sold on Monday, the 11th day of August, 1873, to pay the delinquent assessmnnt, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office, 319 Pine St., S. F., Cal.

Orient Silver Mining Company-- Location of principal place of business, San Francisco, California. Locatiou of works, Ely Mining District, Lincoln County, Nevada.

Notice is hereby given, that at a meeting of the Directors, held on the 14th day of June, 1873, an assessment (No. 2) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 26, Hayward's Building, No. 419 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 19th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 11th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

JOSEPH MACUIRE, Secretary.

Office, Room No. 26, Hayward's Building, No. 419 California street, San Francisco, California. jl6

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at n meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 6th day of August, 1873, will bndelinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchnnge. jy3-d&s

Placer Gold Mining and Canal Company.

Location of principal place of business, San Francisco, California. Location of works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Directors of said company, held on the eighth (8th) day of July, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 411 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Monday, the eleventh (11th) day of August, A. D. 1873, will be delinquent, and advertised for sale at public nuction, and, unless payment is made before, will be sold on Saturday, the thirtieth (30th) day of August, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

GEO. W. R. KING, Secretary.

Office—411 California street, San Francisco, California. jy19

Rising Star Mining Company.---Location of principal place of business, San Francisco, California. Location of works, Nevada County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 11th day of July, 1873, an assessment (No. 5) of six cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, room 37 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 30th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco, Cal. jy12-td

Regent Consolidated Mining Company—Location of principal place of business, San Francisco, California. Location of works, Little Cottonwood District, Salt Lake County, Utah Territory.

NOTICE.—There are delinquent upon the following described Stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, James M	46	10	$1 00
Allen, James M	48	10	1 00
Allen, James M	50	10	1 00
Allen, James M	51	10	1 00
Allen, James M	53	10	1 00
Allen, James M	54	10	1 00
Allen, James M	55	25	2 50
Allen, James M	56	25	2 50
Allen, James M	57	25	2 50
Allen, James M	58	25	2 50
Allen, James M	59	50	5 00
Allen, James M	60	50	5 00
Allen, James M	61	50	5 00
Allen, James M	62	50	5 00
Allen, James M	65	50	5 00
Allen, Jemes M	67	50	5 00
Allen, James M	68	50	5 00
Allen, James M	69	1000	100 00
Allen, James M	73	50	5 00
Allen, James M	74	50	5 00
Allen, James M	75	100	10 00
Allen, James M	77	50	5 00
Allen, James M	170	250	25 00
Allen, James M	172	250	25 00
Allen, Jsmes M	182	250	25 00
Allen, James M	183	250	25 00
Allen, James M	185	250	25 00
Allen, James M	187	250	25 00
Allen, James M	190	250	25 00
Allen, James M	212	10	1 00
Allen, James M	213	10	1 00
Allen, James M	214	10	1 00
Allen, James M	216	10	1 00
Allen, James M	217	10	1 00
Allen, Jsmes M	219	10	1 00
Allen, James M	220	10	1 00
Allen, Jsmes M	222	100	10 00
Allen, James M	223	100	10 00
Allen, James M	224	100	10 00
Allon, James M	225	100	10 00
Allen, James M	226	100	10 00
Allen, Jumes M	227	100	10 00
Allen, James M	229	100	10 00
Allen, James M	230	100	10 00
Allen, Jsmes M	235	20	2 00
Allen, James M	236	20	2 00
Allen, James M	237	20	2 00
Allen, James M	238	20	2 00
Allen, Jsmes M	239	20	2 00
Allen, James M	240	20	2 00
Allen, James M	241	20	2 00
Allen, James M	242	20	2 00
Allen, James M	243	20	2 00
Allen, James M	244	20	2 00
Allen, James M	245	20	2 00
Allen, James M	246	20	2 00
Allen, James M	247	20	2 00
Allen, James M	248	20	2 00
Allen, James M	250	20	2 00
Allen, James M	251	20	2 00
Allen, James M	252	50	5 00
Allen, James M	253	50	5 00
Allen, James M	254	50	5 00
Allen, James M	255	50	5 00
Allen, James M	256	50	5 00
Allen, James M	257	50	5 00
Allen, James M	258	50	5 00
Allen, Jamce M	259	50	5 00
Allen, James M	260	50	5 00
Allen, James M	261	50	5 00
Allen, James M	262	50	5 00
Bessie, M D	264	50	5 00
Chase, Dudley	322	250	25 00
Fortune, H W	327	150	15 00
Gates, Mrs L	265	50	5 00
Gates, George	266	25	2 50
Gates, George	267	25	2 50
Gates, George	268	25	2 50
Gates, George	269	25	2 50
Gates, George	270	25	2 50
Gates, George	271	25	2 50
Hinckley, George E	154	50	5 00
Hinckley, George E	155	50	5 00
Hinckley, George E	156	50	5 00
Hinckley, George E	157	50	5 00
Hinckley, George E	165	50	5 00
Hinckley, George E	167	50	5 00
Hinckley, George E	321	100	10 00
Hinckley, George E	323	50	5 00
Hinckley, George E	324	50	5 00
Hinckley, George E	325	50	5 00
Higgins, W W	162	50	5 00
Higgins, W W	272	25	2 50
Higgins, W W	273	25	2 50
Higgins, W W	274	25	2 50
Higgins, W W	275	25	2 50
Higgins, W W	276	50	5 00
Higgins, W W	277	50	5 00
Higgins, W W	278	50	5 00
Higgins, W W	279	50	5 00
Higgins, W W	282	50	5 00
Higgins, W W	283	50	5 00
High, W H	326	100	10 00
Shannon, Luke	307	50	5 00
Shannon, Mrs C A	308	40	4 00
Thompson, R M	306	10	1 00
Verdon, T J, Trustee	127	50	5 00
Verdon, T J, Trustee	128	50	5 00
Verdon, T J, Trustee	129	50	5 00
Verdon, T J, Trustee	130	50	5 00
Wallace, J A, Trustee	310	50	5 00
Wallace, J A, Trustee	311	100	10 00
Wallace, J A, Trustee	314	100	10 00
Wallace, J A, Trustee	316	100	10 00
Wallace, J A, Trustee	319	50	5 00
Wallace, J A, Trustee	320	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 26th day of May, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, Cal., on Tuesday, the 22d day of July, 1873, at the hour of 12 o'clock, M., of said day, to pay delinquent assessmni thereon, together with costs of advertising and expenses of sale.

WM. L. USTICK, Secretary.

Office, 438 California street, San Francisco, California. jy5

State of Maine Mill and Mining Company—Principal places of business, San Francisco, California. Location of works: Amador County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 3) levied on the 23d day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amounts.
Jas M Allen, Trustee	77	200	$ 10 00
Jss M Allen, Trustee	78	100	5 00
Jas M Allen, Trustee	79	100	5 00
J M Buffington	20	1000	50 00
J M Buffington	6	600	30 00
J M Buffington	85	66	3 30
J M Buffington, Trustee	84	250	13 00
Platt Burr, Trustee	41	1000	50 00
Platt Burr, Trustee	49	20	1 00
Platt Burr, Trustee	50	20	1 00
Plati Burr, Trustee	51	20	1 00
Plait Burr, Trustee	55	50	2 50
Plati Burr, Trustee	57	50	2 50
Chas Borthwick	72	50	2 50
H B Congdon	35	20	1 00
H B Congdon, Trustee	36	100	5 00
H B Congdon	37	100	5 00
H B Congdon, Trustee	38	100	5 00
H B Congdon, Trustee	39	100	5 00
H B Congdon, Trustee	40	500	25 00
H B Congdon, Trustee	73	50	2 50
H B Congdon, Trustee	74	50	2 50
H B Congdon, Trustees	75	50	2 50
O P Dudley	76	500	25 00
John Fay	2	1000	50 00
John Fay	14	3000	150 00
Wm Faulkner	22	500	25 00
Mrs M G Faulkner	10	100	5 00
Mrs M G Faulkner	11	100	5 00
V H Higgins	4	1000	50 00
Jss L King	83	400	20 00
S L Marks	12	240	12 00
S L Marks	21	500	25 00
A C Morse, Trustee	42	500	25 00
A C Morse, Trustee	43	500	25 00
A C Morse, Trustee	44	100	5 00
A C Morse, Trustee	45	100	5 00
A C Morse, Trustee	46	100	5 00
A O Morse, Trustee	48	100	5 00
Mrs. F. E. Morse	80	100	5 00
H. H. Beach	3	1000	50 00
H. H. Beach	18	1000	50 00
Mrs. Ella Beach	23	400	20 00
Chas. B. Tilley	1	1534	81 70
W. J. Tilley	61	1000	50 00
L. N. Tower	28	100	5 00
J. H. Whitman	5	1000	50 00
J. H. Whitman	15	2600	130 00

And in accordanco with law, and an order of the Board of Directors, made on the 23d day of May, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, 306 Montgomery street, San Francisco, California, on the 21st day of July, 1873, at the hour of 12 o'clock M., of said day, to pay the said delinquent assessment thereon, together with costs of advertising and expenses of sale. H. B. CONGDON, Sec.

Office, 306 Montgomery street, San Francisco, Cal.

Spring Mountain Tunnel Company—Principal place of business, No. 37 New Merchants' Exchange, California street, San Francisco, Cal. Location of works, Ely Mining District, Lincoln County, Nevada

Notice is horchy given, that a meeting of the Board of Directors, held on the 20th day of June, 1873, an assessment (No. 6) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, 37 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of July, 1873, will be delinquent, and adverti sed for sale at public auction, and unless payment is made before, will be sold on Monday, the 18th day of August, 1873, to pay the delinquent assessment, together with costs of advertisiug and expenses of sale. By order of the Directors.

J. M. BUFFINGTON, Secretary.

Office—37 New Merchants' Exchange, California street, San Francisco, Cal. jn28

The Sanderson Gold Mining Company—Location of works, Railroad Flat, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 20th day of June, 1873, an assessment (No. 5) of fifteen (15) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary of said Company, at his office, in San Francisco.

Any stock upon which said assessment shall remain unpaid on the 19th day of July, 1873, will be delinquent, and advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 4th day of August, 1873, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office, 113 Leidesdorff street, San Francisco, Cal.

Starr King Silver Mining Company—Location of prin ipal place of business, San Francisco, California. Location of works, Spruce Mountain Mining District, Elko County, Nevada.

NOTICE.—There are delinquent upon the followiug described stock, on account of assessment (No. 3) levied on the teuth day of June, 1873, the several amounts set opposite the names of the respectivo shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Booth, L A, Trustee	5	500	$250 00
Bush, Hymen P, Trustee	82	1000	500 00
Bush, Hyman P, Trustee	152	50	25 00
Bush, Hyman P, Trustee	154	50	25 00
Cornell, R H, Trustee	9	166	83 00
Cornell, R H, Trustee	180	100	50 00
Cornell, R H, Trustee	181	84	42 00
Drinkhouse, J A, Trustee	61	100	50 00
Drinkhouse, J A, Trustee	62	100	50 00
Drinkhouse, J A, Trustee	68	100	50 00
Drinkhouse, J A, Trustee	69	100	50 00
Drinkhouse, J A, Trustee	70	100	50 00
Drinkhouse, J A, Trustee	71	100	50 00
Drinkhouse, J A, Trustee	72	100	50 00
Drinkhouse, J A, Trustee	73	100	50 00
Drinkhouse, J A, Trustee	89	100	50 00
Drinkhouse, J A, Trustee	101	100	50 00
Drinkhouse, J A, Trustee	103	100	50 00
Drinkhouse, J A, Trustee	104	100	50 00
Drinkhouse, J A, Trustee	105	100	50 00
Drinkhouse, J A, Trustee	136	25	12 50
Drinkhouse, J A, Trustee	137	25	12 50
Friedlander, I, Trustee	124	500	230 00
Johnson, R P	206	173	86 50
Kaplan, Louis, Trustee	8	125	62 50
Kozminsky, H, Trustee	157	400	200 00
Moore, W H, Trustee	20	500	250 00
Nicol, Wm, Trustee	194	50	25 00
Nicol, Wm, Trustee	195	100	50 00
Nicol, Wm, Trusteco	196	100	50 00
Richardson, E A, Trustee	106	250	125 00
Sutliff, H, Trustee	42	100	50 00
Sutliff, H, Trustee	49	50	25 00
Sutliff, H, Trustee	67	50	25 00
Schmitt, M, Trustee	107	250	125 00
Sharp, Wm H, Trustee	165	500	250 00
Trask, A Y, Trustee	18	250	125 00
Trask, A Y, Trustee	19	62	31 00
Weeden, J H	36	150	75 00
Whitlatch, J W, Trustee	197	100	50 00
Whitlatch, J W, Trustee	198	100	50 00
Whitlatch, J W, Trustee	199	100	50 00
Whitlatch, J W, Trustee	200	100	50 00
Watson, Wm R, Trustee	171	1875	937 50

And in accordance with law, and an order of the Board of Directors, made ou the tentb day of June, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction et the office of the Company, rooms 26 and 27, Merchants' Exchange, California street, San Francisco, Cal., on Monday the fourth day of August, 1873 at the hour of 12 o'clock, M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

LOUIS KAPLAN, Secretary.

Office, Rooms 26 and 27 Merchants' Exchange, California street, San Francisco, Cal. jy15

Yule Gravel Mining Company---Location of works: Viola Claims, Township No. 8, Placer County, California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment, (No. 3) levied on the 4th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baker, Henry	353	20	$4 00
Bryant, A J	379	5	1 00
Cuiter, S L	317	10	2 00
Conners, John	420	70	14 00
Dore, Benj, Trusice	95	50	10 00
Dore, Benj, Trustee	110	100	20 00
Dore, Benj, Trustee	114	50	10 00
Dore, Benj, Trustco	115	50	10 00
Dore, Benj, Trustee	117	50	10 00
Dore, Benj, Trustee	237	100	20 00
Gimmer, W F	304	10	2 00
Hynemann, S, Trustee	382	20	4 00
Higgins and Green, Trustees	377	10	2 00
Higgins, W L, Trustee	398	20	4 00
Hill, John, Trustee	428	200	40 00
Hull, G W	400	100	20 00
Middleton, S P	433	100	20 00
McInerney, M J	406	155	31 00
Richardson, E A, Trustee	383	50	10 00
Richardson, E A, Trustee	390	10	2 00
Richardson, E A, Trustee	401	30	6 00
Romer, J L, & Co., Trustees	342	40	8 00
Romer, J L, & Co., Trustees	376	40	8 00
Schmidell, H, Trustee	307	25	5 00
Schmidell, H, Trustee	387	10	2 00
Sears, Wm H,	319	25	5 00
Voight, Dr C	386	40	8 00
Watson, Wm H, Trustee	163	100	20 00
Watson, Wm H, Trustee	166	50	10 00
Watson, Wm H, Trustee	172	50	10 00
Watson, Wm H, Trustee	182	100	20 00
Watson, Wm H, Trustee	183	100	20 00
Watson, Wm H, Trustee	189	100	20 00
Watson, Wm H, Trustee	196	50	10 00
Watson, Wm H, Trustee	199	50	10 00
Watson, Wm H, Trustee	250	100	20 00
Watson, Wm H, Trustee	257	100	20 00
Wetson, Wm H, Trustee	258	100	20 00
Wetson, Wm H, Trustee	260	100	20 00
Lowenberg, S, Trustee	437	50	10 00
Lowenberg, S, Trustee	438	50	10 00
Logan and Edelen, Trustee	399	20	4 00

And in accordance with law, and an order of the Board of Directors, made on the 4th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the company, room 5 and 6, No. 302 Montgomery Street, San Francisco, California, on Tuesday, the 29th day of July, 1873, at the hour of 2 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. H. WATSON, Secretary.

Office—Room 5 and 6, No. 302 Montgomery St., San Francisco, Cal. jy12

THE NEW U. S. MINING LAWS.

The new Laws of 1872, governing the location and purchase of Placer and Quartz Mines and Agricultural Lands in Mining Districts of the U. S., printed in circular sheet, for sale at this office. Single copies, 25 cts, Usual discount to the trade.

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Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1863.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore, C. J. Brenham, C. E. McLane,
Wm. Norris, Wm. H. Taylor, Lloyd Tevis,
James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC
Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES f

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

CO-OPERATIVE,

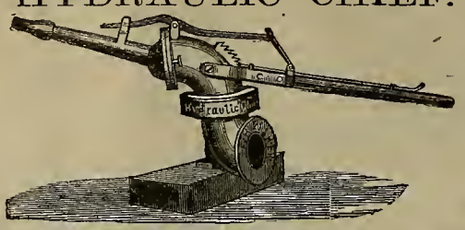
First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE

Cheapest and Best Hydraulic Machine in use.



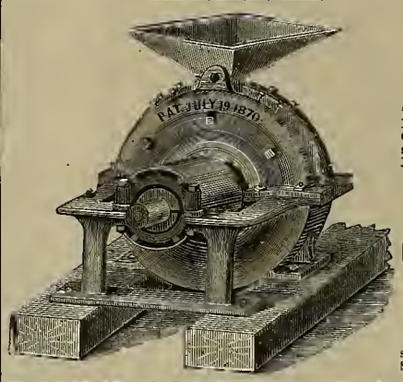
MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

THE LIGHTNING MILL.



THE

LIGHTNING MILL

For Pulverizing Quartz,

"Charleston Rock," and all Native Phosphates, Flint, Feldspar, Iron Ore, Manganese, Antimony, Carbon, Corundum, Old Crucibles, Barytes, Brimstone, Slate, Soapstone, Graphite, Glass, Marble, Plaster, Anthracite and Bituminous Coals, etc.

WM. STEWART'S

Patent Bone Mills and Crushers.

For Grinding Bones, Rock, Quartz, and all hard substances; also, Corn, Wheat, Oats, Barley, Coffee, Spices, etc.

WALKER BROS. & CO., Twenty-third and Wood Streets, Philadelphia, Sole Manufacturers of Stewart's Celebrated Patent Bone Mills and Crushers, A. W. Stranb & Co.'s Patent Revolution French Burr Mill and A. Duval's Patent Centrifugal Pumps.

CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

ASBESTOS ROOFING.

Over 15,000,000 Square Feet in Use.

THE ASBESTOS ROOFING IS A SUBSTANTIAL AND RELIABLE MATERIAL,

Which can be Safely Used in Place of Tin, Slate, etc.,

ON STEEP OR FLAT ROOFS, IN ALL CLIMATES.

It can be Cheaply Transported and Easily Applied.

THE PACIFIC COAST TRADE SUPPLIED BY

PERINE & EDWARDS,

No. 638 Market Street, San Francisco, Cal.

2v6-bp-te

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna, SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

C. W. MOULTHROP & CO.,

Draughtsmen,

Plans, Specifications, and Estimates for Machinery of all Kinds.

We also design machines to meet particular demands and secure and assign the patents on the same.

No. 237 First street, San Francisco. ap19-3m

GEO. W. PRESCOTT. C. W. SCHEIDEL. W. R. ECKART

PRESCOTT, SCHEIDELL & CO.,
MARYSVILLE FOUNDRY.

Corner of B and Fourth streets, Marysville, Cal.

MANUFACTURERS OF

STEAM ENGINES,

STATIONARY AND PORTABLE

SAW AND GRIST MILLS,

Hydraulic Machinery,

Quartz Crushing and Amalgamating Machinery

Of every description, constantly on hand.

Plans and estimates furnished upon application. Repairs upon all kinds of Machinery promptly made, and at moderate charges.

Having unrivalled facilities, we are prepared to make to order, at short notice, anything required in our line.

Specimens of our work may be seen in all the mining regions on this coast.

A. HANKE'S
IRON FOUNDRY,

CORNER MAIN AND HARRISON STREETS,

Entrance on Main Street.....San Francisco.

Every Description of Ornamental Work,

Stove and French Range Work, grate and fender work, small machines of all descriptions, house work, etc., promptly attended to.

25v26-3m

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

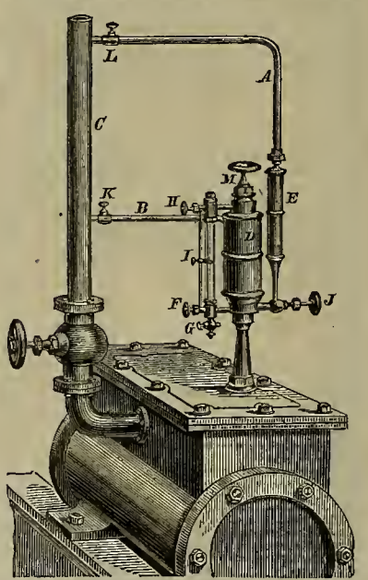
IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice.

Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26-3m

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe E into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast.
337 Kearny St., S. F

PRICE, $50. 12v27eow-bp-ly

☞ BUY BARBER'S BIT BRACE. ☜

Second-Hand Engines and Boilers

For Sale by McAFEE, SPIERS & CO.,
Boiler Makers. etc., 309 to 315 Howard St.

15-Horse Power Portable Threshing Engine—Nearly new made by Wood & Mann. Cylinder 9 inches diameter, 12-inch stroke. Boiler large and well proportioned, has all the mountings, is mounted on wheels, in first-rate condition, and will be sold cheap. This is the very thing for opening a new or working a small mine. Price, $1,350.

30-Horse Power Locomotive or Fire Box Boiler—made of the best C. H. No. 1 American iron, 5-16 inch thick. Furnace 4 feet long, shell 42 inches diameter, contains 46 tubes 3x12 inches, with grate bars, breeching and smoke stack, all in good condition. Price, $750.

Three 35-Horse Power Boilers, each 50 inches diameter, 16 feet long, containing 42 tubes 3½ inches diameter. These boilers have been entirely rebuilt, and are in thoroughly good condition. Will be sold together, or separately, at a low price.

15-Horse Power Boiler—32 inches diameter, 12 feet long, containing 32 tubes 2½ inches diameter, with steam drum, furnace front, grates and all fittings. Price, $300.

Build all kinds of Boilers, Water Pipe, Pump Column, Buckets, Tanks, etc. jy12-1m

CROCKER'S PATENT
TRIP HAMMER QUARTZ BATTERY.

The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

To Capitalists and Hydraulic Miners.

PATENT SELF-CLEANING SLUICE.

This new and useful invention is designed to collect all the gold as fast as it is set free from the dissolving earth, and conduct it into a receptacle of mercury or safety pocket, under lock and key, from whence it may be removed in a few moments, without either checking the flow of water or interfering in the least with the washing.

This invention, if properly placed in our rivers, will also collect the gold which is yearly traveling down their channels, thus affording an annual income with a trifling expense for attending.

For further particulars address

DR. J. B. BEERS,
2v27tf 230 Kearny street, San Francisco.

Friel's Patent Paragon Vapor Stove.

PATENT GRANTED.

The Great Labor Saver of the Household.
Economy, Convenience and Safety Combined.

JUST THINK OF IT—No Wood, no Coal, no Coal Gas, no Stove Pipe, no Chimney, no Smoke, no Ashes, no Dirt, no Wood Boxes, no Coal Scuttles, no Kindling Wood, but a Friction Match, and the

Fire in Full Blast in Half a Minute!

OVEN HOT IN TWO MINUTES.

Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment! And the house unheated! It has no rival in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it; a little Child can operate it, and

All Recommend It.

Prices from $5 to $25, according to size. Manufactured and sold by WM. FRIEL,
69 and 71 Fourth street, San Francisco.

N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will be sent as sample.
22v25-2am1y

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.
24v22-3m JOSEPH MOORE, Superintendent.

SAN FRANCISCO

SCREW BOLT WORKS,

PHELPS BROTHERS, Proprietors
MANUFACTURERS OF ALL KINDS OF

Machine Bolts, Bridge Bolts, and Ship or Band Bolts,

13, 15 and 17 Drumm Street, San Francisco. 4v24-1y

Purchasers please say advertised in Scientific Press.

LIFE

Insurance Company,

OF HARTFORD.

Assets, - - - - - $3,5000,000

Surplus, Over - - - - - 5,000,000

Rato of Expense to Receipts, 7. 53.

DIVIDENDS PAID ANNUALLY,

om mencing on Life Policios, with from 20 to 25 per cent. the First Year, 25 to 30 the Second, and inoreasing every year, thereby reducing the cost of Insuranoe with the age of the Policy.

In Life Ineurance, eelect an OLD COMPANY WITH EXPERIENCE, and having a LARGE SURPLUS.

Remember that Large Dividends, and Consequently

CHEAP INSURANCE,

ARE SECURED ONLY BY

Economical Management,

High Rates of Interest,

and Favorable Mortality.

In all these vital points, look carefully into the standing of all Life Insurance Companies, and the

Connecticut Mutual

WILL BE FOUND IN THE FRONT RANK.

JAMES B. ROBERTS.....315 California Street,

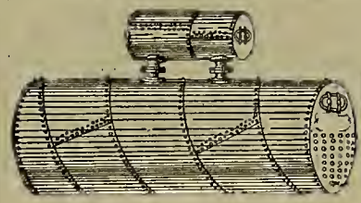
General Agent for the Pacific Coast.
20v25-com ep

San Francisco Boiler Works,

123 and 125 Beals Street.....SAN FRANCISCO

F. I. CURRY,

(Late Foreman of the Vulcan Iron Works,) Proprietor.



High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTURERS OF THE CELEBRATED
SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v26-3m

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

BLACK DIAMOND FILE WORKS.

G. & H. BARNETT,

Manufacturers of Files of every Description,
Nos. 39, 41 and 43 Richmond street,
Philadelphia, Pa.

MILL SAW FILES A SPECIALTY.
18v25-1y

Britton, Holbrook & Co., Importers of

Stoves and Metals. Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 178 J St., Sacramento. mr.-1y

CALIFORNIA INVENTION.

CALL AND EXAMINE.

For Sewing Machines, Dentists' and Jewelers' Lathes.

This Invention can he applied to the operating of all kinds of Sewing Machines, Dentists' and Jewelers' Lathes. Its simplicity is only equaled hy its durability; it avoids the use of the treadle, which is ungraceful and injurious.

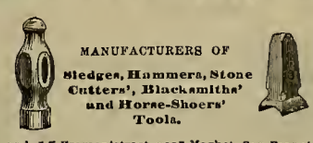
Application made hy the Agents for the Pacific Coast.

SAWYER & WHEDON,
1v6eowhp 633 Washington street San Francisco.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.



MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

13 and 15 Fremont street, near Market, San Francisco
16v14qr

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

Oregon street, below Front, San Francisco.

All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

Jos. Thornhill, 1612 Mason Street, near Green. C. W. White, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

Metallurgy and Ores.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention PAID TO

CONSIGNMENTS OF GOODS.
4v16-3m

G. W. STRONG. W. L. STRONG.

G. W. STRONG & CO.,

Metallurgical Works,

No. 10 Stevenson Street, near First, San Francisco

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,
(Opposite the U.S. Branch Mint.
San Francisco, Cal. 7v21-3m

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,

Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.
7v25-tf JOHN TAYLOR & CO.

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

San Francisco Gold and Silver Plating Works,
666 Mission street, San Francisco.
2v25-3m E. G. DENNISTON, Proprietor.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco

Nevada Metallurgical Works.

RIOTTE & LUCKHARDT,

Conculting Mining Engineers and Metallurgiste, No. 21 First St., S. F.

WORKING TEST MADE BY ANY PROCESS —TESTING OF PROCESSES.

Plans furnished for the most suitable Process for Ores.

Assaying in all its Branches.

Analysis of Ores, Minerals, Waters and all other substances.

☞ Special attention paid to the mining and metallurgy of Quicksilver. 26v11-6m

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.
For all Laboratory and Manufacturing Purposes
H. M RAYNOR,
26 Bond street, New York.
Platinum Scrap and Ore purchased.

New Incorporations

California Type Foundry, July 12. Object, to manufacture and sell printing type, printing presses, and printing material and implements connected with the business of printing. Trustees—C. H. Dewey, C. H. Parker, J. Hutchinson, A. Cooper and F. H. McConnell. Capital stock, $100,000, in shares of $100 each.

California College of Dental Surgery, July 12. Object, to instruct in the theory and practice of Dental Surgery, and to confer the degree of D. D. S. on such persons as may be found qualified. Directors—J. A. W. Lundberg, E. T. Bnnnell, J. J. Birge, R. Cutler, James L. Cogswell, Louis Buah and Max Sichel.

The following named company has filed its certificate of incorporation in the Secretary of State's office, Sacramento.

Washington Mining and Transportation Co., July 16.—Objects: Mining and doing a general transportation business in the State of California, Oregon and in Washington Territory, and for constructing a railroad (an electro-magnetic telegraph line in connection therewith), running from a point at or near Tenino to Budd's Inlet, at or near Oylmpia, in Washington Territory, of the length of twenty miles. The principal place of business is to be in San Francisco. Directors: John B. Felton, Theodore Le Roy, Henry Barrollhet, John N. Goodwin, Anson Goldsmith, J. M. Johnson and Edward S. Salomon. Capital stock $1,000,000. The amount of capital stock actually subscribed is $500,000, which the certificate states has been subscribed by the Directors.

Meetings and Elections.

Central Railroad Co. Directors: Reuben Morton, A. W. Bowman, Horace Davis, A. J. Gunnison, Charles Main, George H. Howard, A. J. Pope, Michael Reese and William Scholle. The Directors have chosen the following officers: President, Reuben Morton; Vice-President, A. W. Bowman; Treasurer, A. J. Gunnison; Secretary, N. D. Arnot Jr.

Overman M. Co., July 10. Trustees: George W. Beaver, (President), M. L. McDonald, R. F. Morrow Joseph Clark and O. H. Bogart. W. W. Stetson was re-elected Secretary. No dividends were paid during the year, though there were two or three assessments collected.

California Acclimatizing Society.—July 14. Trustees—W. A. Newell, M. D.; W. W. Taylor, Eureka Consolidated Mining Company; John F. Lohse, California Powder Works; C. R. Merrill, of J. C. Merrill & Co.; A. Gibbon, of J. C. Merrill & Co.; A. E. Swaiu; C. G. Toland, M. D.; P. McGovern; A. McKenzie; F. A. Walton. California Insurance Company; Chas. Kohler, of Kohler & Frohling; Franklin Lawton, Secretary San Francisco Board of Brokers.

Chollar-Potosi M. Co.—July 14. Trustees—A. K. P. Harmon, J. D. Fry, Alpheus Bull, William Norris, H. C. Kihbe, James Freehorn and James H. Dobinson, Secretary, W. E. Dean; Superintendent, Isaac L. Requia.

St. Lawrence M. & M. Co., Placer county, Cal., July 14: Directors.—Francis Avery, (President); Charles Mayne, W. H. Foster Jr., W. H. L. Barnes, and O. H. Bogart; Secretary, Richard B. Noyes; Superintendent, Charles Purdy.

Savage M. Co., July 17.—Trustees: J. H. Pritchard, (President); J. H. Boalt, Robert Sherwood, J. D. Coughlan, and S. A. Raymond; Superintendent, A. C. Hamilton; Secretary, E. B. Holmes.

Washington & Creole M. Co., July 16.—Trustees: G. D. Roberts, M. E. Kelly, T. Fords, T. R. Hayes and A. J. Bowie.

Trench Gold Hill M. Co., July 16.—Directors: H. H. Flagg, (President,) Geo. W. Beaver, James H. Dohinson, W. W. Stetson and Edward F. Stone. Jos. Marks was retained as Secretary.

The Grass Valley *Union* says the Idaho Mining Co met on Monday evening and declared a dividend of $77,500—$25 per share—proceeds of the June run.

A Rich Quartz discovery has been made near San Andreas, Calaveras county. The ledge is one foot wide.

San Francisoo Metal Market.

Wednesday, July 16, 1873.

Iron.—			
Scotch Pig Iron, ₱ ton	$55 00	@	— —
White Pig, ₱ ton	55 00	@	— —
Refined Bar, had assortment, ₱ lb	— —	@	— 06
Refined Bar, good assortment, ₱ lb	— —	@	— 06½
Boiler, No. 1 to 4	— 05½	@	— —
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	9 00	@	— —
Nail Rod	11	@	— —
Norway Iron	9		
Rolled Iron	6½		
Other Irons for Blacksmiths, Miners, etc.	6½	@	9½
Copper.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O. Nail's Pat	— 55	@	— —
Sheathing, ₱ lb	— —	@	— 25½
Sheathing, Yellow	— —	@	— 25½
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25		— —
Composition Bolts	— 25		— —
Tin Plates.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	13 00		13 50
Roofing Plates	13 00		13 50
Banca Tin, Slabs, ₱ lb	— 40		— 42½
Steel.—English Cast, ₱ lb	— 20		— 25
Drill	20		— —
Flat Bar	22		— —
Plough Points	— 16		— 17
Russia (for mould boards)	17		18
Zinc	9½		10
Zinc, Sheet	— 9		— 10
Nails—Assorted sizes	— 5½	@	— 9

Leather Market Report.

[Reported for the Press by Dolliver & Bro.]

San Francisoo, July 16, 1873.

Trado continues very quiet. Manufacturers only buying what they are compelled to. California and Eastern stocks are a shade lower under the continued pressure in the money market. French stock continues firm at old prices.

City Tanned Leather, ₱ lb			26@29
Santa Cruz Leather, ₱ lb			26@29
Country Leather, ₱ lb			25@28
Stockton Leather, ₱ lb			26@29
Sodot, 8 Kil., per doz	$50 00	@	54 00
Jodot, 11 to 19 Kil., per doz	66 00	@	85 00
Jodot, second choice, 11 to 16 Kil. ₱ doz	55 00	@	70 00
Cornellian, 12 to 16 Ko	57 00	@	67 00
Cornellian Females, 12 to 13	60 00	@	64 00
Cornellian Females, 14 to 16 Kil	66 00	@	72 00
Beaumorville, 15 Kil	60 00	@	— —
Simon, 13 Kil., ₱ doz	60 00	@	62 00
Simon, 20 Kil. ₱ doz	65 00	@	67 00
Simon, 24 Kil. ₱ doz	72 00	@	74 00
Robert Calf, 7 and 9 Kil	35 00	@	40 00
French Kips, ₱ lb	1 00	@	1 30
California Kip, ₱ doz	50 00	to	60 00
French Sheep, all colors, ₱ doz	9 00	@	15 00
Eastern Calf for Backs, ₱ lb	1 00	@	1 25
Sheep Roans for Topping, all colors, ₱ doz	9 00	@	13 00
Sheep Roans for Linings, ₱ doz	5 50	@	10 50
California Russet Sheep Linings	1 75	@	4 50
Best Jodot Calf Boot Legs, ₱ pair	5 00	@	5 25
Good French Calf Boot Legs, ₱ pair	4 00	@	4 75
French Calf Boot Legs, ₱ pair	4 00	@	— —
Harness Leather, ₱ lb	30	@	37½
Fair Bridle Leather, ₱ doz	48 00	@	72 00
Skirting Leather, ₱ lb	34	@	37½
Welt Leather, ₱ doz	30 00	@	50 00
Buff Leather, ₱ foot	20	@	22
Wax Side Leather, ₱ foot	17	@	19
Eastern Wax Leather	26		

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COMMENCING

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And until further notice, Trains and Boats will

LEAVE SAN FRANCISCO.

7.00 A. M. (Daily). Atlantic Express Train (via Oakland) for Sacramento, Marysville, Redding, and Portland, O., Colfax, Reno, Ogden and Omaha

7.30 A. M. (Daily). Cal P. R. R. Steamer (from Broadway Wharf)—Connecting at Vallejo with Trains for Calistoga, Knight's Landing and Sacramento; making close connection at Napa with stages for Sonoma.

12.00 M. (Sundays excepted). Stockton Steamer (from Broadway Wharf), touching at Vallejo, Benicia, and Landings on the San Joaquin river.

3.00 P. M. (Daily). San Jose Passenger Train (via Oakland), stopping at all way Stations.

4.00 P. M. (Sundays excepted). Passenger Train (via Oakland) for Lathrop, Merced, Visalia, Tipton, and Los Angeles, Stockton and Sacramento.

4.00 P. M. (Sundays excepted). Cal. P. R. R. Steamer (from Broadway Wharf) connecting at Vallejo with Trains for Calistoga, Knight's Landing and Sacramento.

4.00 P. M. (Sundays excepted). Sacramento Steamer (from Broadway Wharf), touching at Benicia, and Landings on the Sacramento river.

6.30 P. M. (Daily). Overland Emigrant Train (via Oakland)—Through Freight and Accommodation.

OAKLAND BRANCH.—Leave San Francisco, 7 00, 8 10, 9 2½, 10 10 and 11 20 a. m., 12 10, 1 50, 3 00, 4 00, 5 15, 6 30, 8 15 9.20 and *11 30 p. m. (9 20, 11 20 and 3 00 to Oakland only).

Leave Broadway (for San Francisco), *5 30, 6 40, 7 50, 9 00 and 11 00 a. m., 1 30, 2 40, 4 55, 6 10, 7 55 and 10 10 p. m.

Leave Oakland, *5 40, 6 50, 8 00, 9 10, 10 00, and 11 10 a. m., 12 00, 1 40, 2 50, 3 50, 5 05, 6 20, 8.05 and 10 20 p. m.

Alameda Branch.—Leave San Francisco, 7 20, 9 00 and 11 15 a. m., 1 30, 4 00, 5 30, and 7 00 p. m. (7 20, 11 15 and 5 30 to Fruit Vale only).

Leave Haywards (for San Francisco), *4 30, 7 00 and 10 45 a. m., and 3 30 p. m.

Leave Fruit Vale, *5 25, 7 35, 9 00 and 11 20 a. m., 1 30 4 05 and 5 30 p. m. *Except Sundays.

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STATIONS.	PASS	PASS	PASS	DIS	GOING NORTH READ UP	PASS	PASS	PASS
	a. m.	p. m.	p. m.			a. m.	a. m.	p. m.
San Francisco.....Lv	8.40	*3.20	*4.40	0		*8.50	10.10	5.25
San Mateo	9.48	4.23	5.41	21		7.47	9.10	4.21
Belmont	10.00	4.35	5.52	23		7.37	8.59	4.10
Redwood City	10.10	4.45	6.02	28		7.28	8.50	4.10
Menlo Park	10.24	4.59	6.16	32		7.15	8.36	3.47
Santa Clara	11.02	5.34	6.50	47		6.38	7.51	3.10
San Jose.....Arrives	11.10	5.42	7.00	50		*6.30	7.45	3.00
Gilroy.....Leaves	1.00			80				1.25
Pajaro	1.00			88				11.59
Castroville	2.45			109				11.16
Salinas.....Arrives	3.10			117				10.45
Gilroy.....Leaves	1.30							12.24
Hollister.....Arrives	2.30			94				11.10
	a. m.	p. m.	p. m.					p. m. a. m.

*On Saturdays this train leaves at 2.30 P. M.

Mails Arrive and Close in S. F.

MAILS FOR	CLOSE.		ARRIVE.	
[*Sundays excepted.]	a. m.	p. m.	a. m.	p. m.
Alameda	6.30	.....	.....	9.00
Antioch, Black Diamond, etc..	.....	1.40	.....	12.00
Benicia and Rio Vista (C P R R)	.....	3.15	.....	9.00
Cloverdale and Coast Points	.....	3.15	10.30	.....
Eureka	.....	1.40	12.00	.....
Napa Route via Vallejo	.....	3.40	12.40	.....
Northern California, Oregon and Washington Territory	6.30	.....	.....	9.00
	6.30	3.40	.....	9.00
Oakland			.....	1.00
Overland	6.30	.....	.....	9.00
Petaluma and Coast Points	.....	1.15	.....	12.30
Sacramento via Vallejo	7.15	3.40	.....	12.40
				8.40
San Rafael	9.15	.....	9.00	.....
San Jose	7.55	4.10	9.30	6.00
Southern California and Arizona	7.55	.....	.....	6.00
Stockton via W. P. R. R	6.30	3.40	3.00	9.00
Vallejo and Benicia	7.15	3.40	12.40	9.00
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Gilroy and points south	8.25	.....
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		3.50
Oakland, San Jose and intermediate points	.....	2.10
Petaluma and Sonoma	.....	2.20
Sacramento, Stockton, Northern Cal. and Or.	6.40	3.50
Suisun, Knight's L'dg and points on Cal P R R	6.50	3.50
San Jose	8.25	3.00
		4.00
San Jose, Saturdays	8.25	2.10
		4.00
San Rafael and San Quentin	.....	12.30
	.....	3.30
Vallejo, Sacramento and Napa, Cal. P. R. R	6.50	3.50

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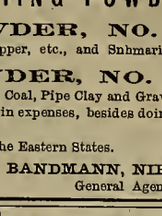

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The Farmers and Mechanics Bank of Savings.

The Farmers and Mechanics Bank of Savings has declared a dividend for the half year ending June 30th, 1873, at the rate of ten per cent. per annum on term deposits, eight per cent. per annum on class one, ordinary deposits, and six per cent. on class two, ordinary deposits, free of Federal Tax. Payable on and after July 14th, 1873. By order.

jy19-1m G. M. CONDER, Cashier.

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Newburyport, Mass., June 26, 1873. jy12-4t

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

Eureka, Nevada, July 10, 1872.

T. M. Martin My dear Sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. C. GOODWIN.

Emma Hill Consolidated Mining Co., Little Cottonwood, Utah, Superintendent's Office, Sept. 29, 1872.

T. M. Martin, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

W. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as nicely and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, San Francisco.

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MINING AND SCIENTIFIC PRESS.

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BY DEWEY & CO., Patent Solicitors.

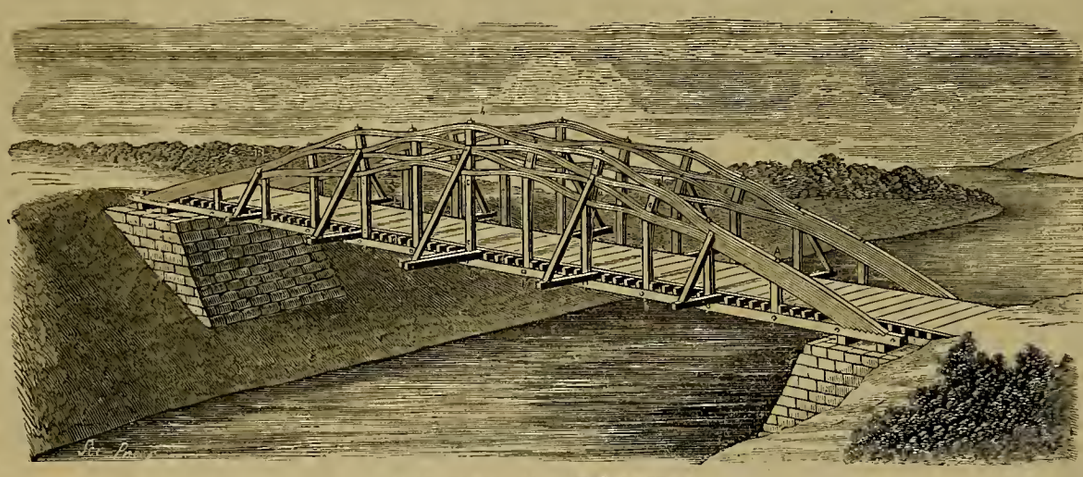
SAN FRANCISCO, SATURDAY, JULY 26, 1873.

VOLUME XXVII. Number 4.

An Improved Truss Bridge.

We herewith present an illustration of a new style of bridge truss, a patent for which has been recently secured through the SCIENTIFIC PRESS Patent Agency. The patentee is a civil engineer in this State. We have heard no name proposed for this truss, but the terms "Serpentine," or "Alternating," suggest themselves. The principal feature of novelty in this invention consists in the fact that certain portions of the truss are made to perform two separate functions, and yet are required to be only strong enough to perform the principal one. This may seem at first a paradoxical statement, but its correctness will he seen hy reading this description.

Before proceeding further, it may he well to analyze very briefly the elements of a truss, such as the Howe or any other into which the suspension principle does not enter. A truss consists of (1st) a top chord or beam, running nearly or quite the entire length of the span. The strains on it are of compression or from the ends towards the middle; (2d) a bottom chord extending the entire length of the span, and sustaining tensile strain, or the reverse of the top chord; (3d) a series of ties and diagonal braces between the chords. The main object of these is to convert vertical strains into horizontal ones and transfer them to the chords. In the Howe, the braces are inclined towards the ends; these prevent distortion. Without them the truss, when loaded at any particular point, would rise on each side of the load, and consequently he much weakened. Counter braces are required to he stronger and heavier as the middle of the bridge is approached. These braces and counters, ties, etc., are called "web members,"



NEW FORM OF TRUSS BRIDGE.

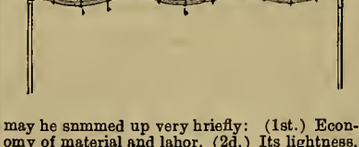
From the foregoing it will he seen that there is a limit to the span of a truss bridge, on account of the immense load of "web members" which a long span has to carry. It will also he seen that the chords have to increase in size and strength. Therefore the weight of a bridge does not increase as the length, but in a constantly-increasing ratio to the length itself; and after passing a certain limit of span, the bridge becomes so heavily-loaded with its own dead weight that it has no reserve strength to bear working loads. We will now pass to the consideration of the serpentine or alternating truss.

This invention consists essentially of a method of alternately uniting and separating a series of timbers into curved openings or bays. Two timbers for instance, may he firmly united in the middle and at the ends, and then strained apart at the intermediate points, making two bays. They may he carried into any number of bays, and another pair of timbers of the same or less length, but with similar openings may he placed on top; and the whole firmly united together, all timbers being properly keyed at the points of tangency. By this means it is apparent that the power of the timbers composing a bay, to resist a vertical strain, either upward or downward, is increased. It is also evident that their power to resist tensile or compressive strain is in no respect diminished—it being granted that the timbers are thick enough or are so secure, that distortion in a vertical plane cannot take place. Therefore the statement at the beginning of this article holds good, and the same parts may perform two different offices and yet need only he strong enough to perform the more severe one. Further; these openings may he of variable lengths; longer in one portion of a structure, and shorter in another; thus allowing an economical distribution of material. The individual timbers may also begin and end very nearly where the proportions of the structure demand, which is another feature of economy. The truss may he executed in wood or iron. The illustrations given, show only the application to wooden structures.

The larger engraving exhibits the general design of a bridge of 150 feet span, some of the minor details, common to all bridges, being omitted for the sake of simplicity. The design is an adaptation of the new method to a "bow-string" truss. The top chord is made, as arched chords generally are, hy placing several timbers or pieces, one on the top of the other, so that the greatest dimension of transverse section of each shall he horizontal. At any points demanded hy the proportions, *A* and *B* for instance, these timbers are separated and a strut inserted, half the timbers being on each side. Portions of these timbers are brought together again to make the first bay, while the top and bottom timbers are further separated to make the next two bays. This alternate opening and closing is continued through the length of the chord, the struts, *a a*, being disposed as shown, and longer struts placed under them and connecting the top and bottom chords. The screw bolts or suspension rods, *b b*, run entirely through, sustaining the load on the bridge and holding all the timbers firmly in place. The top chord may he braced laterally in the usual manner, hy ontside braces, c c, resting at their feet on floor beams extended for that purpose. The floor timbers are shown at *d d*, Now as to the effect of a load on the bridge.

A "bow-string" truss, which is uniformly loaded throughout its entire length will settle equally, there will he no distortion, and counter-bracing is not needed. Therefore it will he necessary to discuss only the effect of a local or moving load on the truss. Suppose the load occurs at any particular part of the truss, say the middle of it; the strain is carried hy the suspension rods and given to the upward curves of the bays over the load. Any upward thrust on either side of the load, which is usually met hy counter-braces, is amply resisted hy the downward curves in the adjacent openings. Thus the necessity of counter-braces between the chords is obviated. Not the least item of excellence in this method of composing timbers is that the system is compensating; that is to say, if the timbers of any bay are defective or weaker than the average, their tendency is to open with a compressive strain; that crowds those of the bay above or below closer together, thus lengthening them out and distributing the strain and relieving the weak portions. Neither are perfect joints so essential to this bridge as to others. In some trusses one imperfect joint will render useless one-fifth of the material of the chord and endanger the safety of the structure; or—going farther—it may he like a defective link in a chain; for a chain is no stronger than its weakest link. In this truss the timbers cannot but come to an even bearing and the work will he allotted to each portion according to its strength. When the bridge settles from use, the camber can he restored hy simply shortening the opening struts and drawing up on the rods.

The smaller engraving, shown beneath, presents a section of a roof truss of 75 feet span, with a rise of five or six feet in the middle. The struts, *a a*, are more numerous in this than the other, additional ones being inserted where the curves change from direct to reversed. The purlins, c c, are placed over struts and the tie-bolts, o o, pass through them and the truss, firmly securing the whole. The rafters and covering are represented at *d d*. A long tie-rod might he passed lengthwise through the tangent points of the lower openings from end to end of the truss. A roof truss more economical in material and space it would he difficult to design. The main features of excellence for which this method commends itself



may he summed up very briefly: (1st.) Economy of material and labor. (2d.) Its lightness, which allows increased span.

We may have occasion to refer to this subject again and present some other designs. The system admits of such a variety of forms and has so many adaptations that space forbids the exhibition of but a small portion at a time.

ALTA, Little Cottonwood, Utah, is excited over the fact that some parties in Salt Lake City hold a United States patent for the land on which the town is situated. If the parties holding this patent are unscrupulous speculators, it will he trouhlesome for Altaites; but if they are sensible men, they will deal honestly and fairly with the people of the town. If they put on the screws too heavily, however, the people of Alta had better take their town bodily, and move to some other locality near hy. As it is pretty high up in the mountains, they will have a down grade to move on, which is one advantage.

Academy of Sciences.

The regular semi-monthly meeting of the California Academy of Science, was held on Monday evening last. Professor Davidson in the chair. Messrs. D. O. Mills and H. H. Moore were elected life members, and J. C. Horner de Tavel and A Gros, resident members. A collection of fossil shells from an altitude of 800 feet on Cerros Island, off the Lower California coast, was presented by Lieut. Commander C. W. Kennedy. Capt. Wm. Hotzgar, presented several small lobsters from Magdalena Bay; also specimens of the nautilus. From C. A. Wetmore, specimens of pottery, fibre and twine, from the ancient graves of the Incas, in Peru. Specimens of paper manufactured from wood were donated hy Alexander Austin. A number of very handsome views of the Yellowstone country were exhibited hy the President.

Mr. Henry G. Hanks presented samples of cuproscheelite; described the mineral fully; it is referred to in another column of this issue.

Professor Davidson exhibited drawings and described in detail the construction and application of an improved telemeter. We will probably give an extended description and illustration of the improved instrument in a future issue of the PRESS.

A deed was read hy the President by which James Lick conveyed to the Academy 40 feet front adjoining the property already given hy him. This makes the whole gift 120 feet hy 275 feet of ground on Market street, in one of the most desirable locations in the city. The property is estimated as being worth about $250,000.

Dr. Hewston moved that the President and Trustees be authorized to receive the additional donation of James Lick and return the thanks of the Academy. The motion was carried unanimously.

Dr. Stearns submitted for publication two papers on the Shells of Lower California.

C. A. Wetmore explained the peculiarities of a collection of skulls taken from the ancient graves of Peru, on the eastern slope of the Andes.

Dr. Stearns announced the death of Colonel John W. Foster, President of the Geological Society of Chicago, and an eminent American scientist. On motion, Dr. Stearns was appointed to prepare resolutions appropriate to the event.

THE INTERNATIONAL MILL at White Pine, which was destroyed hy fire some time since, is being rebuilt hy the Eberhardt & Aurora Mining Company. This mill had 60 stamps, 30 crushing dry and 30 wet. It was complete in every respect and cost a fortune to build. The new mill will have 30 stamps. The machinery injured hy the fire is being repaired and will he used again.

SECRETARY DELANO has decided against the squatters in the Eureka mining case; also that in the six days wherein is granted the time to give notice of adverse claim, the first and last days are inclusive.

THE adverse claim to the application of the Tiger Silver Mining Company for a patent to the Tiger Lode in Arizona, has been rejected hy Commissioner Drummond.

CORRESPONDENCE.

Notes of Travel in Eureka County, Nevada.

[By Our Traveling Correspondent.]

Eureka.

In my last, I gave you a screp of the eerly history of this plece; since writing, I find e great many differing as to dets, and some few as to the nsmes of the eerly Pioneers of the plsce. I venture to sey that there are a great meny humble miners who had no title of Col. or Capt. to thsir names in thet dey, nor even now, whoss history, if known and writtsn, would make an interesting volums.

A little of what exists here besidss mining, mey not be uninteresting, so I will mention first,

The Climate

Of this section of Nevada is not as severe as one would suppose. During ths pest four winters, the thermometer never but once wes as low as —2°, (the lowest point reached last winter was 6°) and in the summer not ebove 85° or 88°. The winter hegins late and consequently "lingers in the lap of spriug." On Prospect mountain snow falls three or four feet deep, diseppearing entirely in May or June. In the valley it is seldom over six or eight inches deep, and remeins but a short time.

Rain falls tolerably regularly in Spring (April or May) and summer (July and August); often in summer accompanied with much thunder and lightning. The grazing on the mountains, and in the valleys in ordinary years is excellent, hut the almost total ahsence of the usual spring rains, gives the couutry just now a rather desolate appearance.

Botanical.

To the Californian, in his land of flowers, accustomed to hear Nevada spoken of only as a sage brush desert, the idea of dilating on the varieties of flowers here might seem ridiculous; but I am assured by an old resident that there are in ordinary seasons great numbers of flowers, insects and birds. My friend has known of a bouquet containing some sixty-eight different kinds of wild flowers, gathered on the Sacramento plains, and he assnree me that he gathered a bouquet containing twenty-seven different kinds of wild flowers, while going to the mines a short distance from home, among which were roses, fleur de lis, cineraria, phlox, tulips, campanella, Indian pink, batch-elor's button, daisy, larkspur, wild pea, end others whose names were unknown to him, and that with a little care, not less than forty or fifty kinds could be found, end this in tbe dryest of all seasons. Tbe foliage of some of the smaller shrubs and grasses is beautiful and very delicate.

Ornithology.

Flowers attract insects, and insects attract to the district many varieties of birds, snch as larks, robins, mocking-birds, catbirds, blackbirds, oreoles, wrens, and besides many of the smaller ground birds and wood warblers, and above all that splendid singer Audubon's warbler, who sings for honrs, both day and night, known all over Nevada.

During the summer months, the wind blows regularly from the south, often bringing with it along the travelled rontes clouds of dust, but this is only near the roads, and is not felt off the line of travel.

Fruits and Vegetables.

Fruit trees of the hardier kinds might be raised to advantage, as there is nothing in the climate to prevent it, but so far no attempt has been made. Vegetables of all common kinds are raised in the towns by the Chinese, and on the ranches in the vicinity. Potatoes, especially, grow finely. Mr. Chas. Bray raised and exhibited here potatoes grown on his ranch (the Cottonwoods) last year, as fine both as to size and quality as can be produced anywhere.

All of this goes to show that with time and care all snch necesseries of life could be raised here, and many pleasant and comforteble homes be built up, even in the sage brush wilds of Nevada.

Eureka Cons. M. Co.

So much has been written and said about this corporation, that it will be herdly necessary to go into detail or mention anyone connected with it, except tbe active officers: A. M. Ellsworth Esq., is the General Superintendent, and M. Lamb, Mining Foreman. Tbe mine of this company is located nearly south of the town of Eureka, and distant about two miles, on what is known as Ruby Hill. The possessions of tbis Company are bounded by those of other corporations as follows: The K. K. Min. Co., on their southeast; and the Richmond M. Co., (Limited), on their northwest. The ore body of this compeny runs in a direction bearing a little north of west by south of east.

Present Development

Is being made through two principel shafts, eech of two compartments and known es the Windsail and Lewton shafts, both vertical, and the depths of which ars: Windsail, 255 feet, and Lewton, 300 feet. This latter sheft hes 4 levels, commencing from the top. The 1st level is 74 feet from the surfacs and is run in a southwesterly course a distance of 630 feet, and cross-cut 150 feet eddltional. The 2nd level is 170 feet from the surface, runs a north of west course, end is in 360 feet; 520 feet of cross-cuts heve been run on this level. The 3d level is 220 feet from the surface, runs in a northerly direction, and is in 310 feet, and has 220 feet of cross-cuts. Tbe 4th level is at the bottom of this sbaft, 300 feet from the surfece, runs south of west, in 220 feet, and is cross-cut 230 feet more.

The Windsail Shaft.

Tbis sheft has four lsvels, celculated on a bsse line bowever, from ths Lawton shaft, altbough tbe top of this sheft is 53 fest more of elevation, which must be added to the calculetion below the surface. The 1st level is 28 feet down, end run in 70 feet; the 2nd level is down 88 feet, end run in 95 feet; the 3d level is down 140 feet, and in 55 feet; the 4th level is down 202 feet, and in 160 feet. Tbe generel course of the ore hody in tbis company's mines is nortwest by southeast, and in some places where they are now extracting ore, the pay-streak is 50 feet wide, end they do not know how much wider. The extent of

Mining Ground Claimed

By this corporation, by location and purchase, is about 90 acres, or 1,480 feet long hy 910 feet wide, the most of which is covered by U. S. Patent. Tbey own 14 locations, ths following of which ars the principal ones: Buckeys, Champion, Savage, Lewiston, Mammoth, At Last, Margarite, Lupita, Elliptic and Triaugle. I neglected to state that they have still another shaft, besides the two ahove mentioned, called the "Buckeye," a whim-shaft, (the other two have fine steam hoisting works over them.) This sbaft is 170 feet deep and has 3 levels; the 1st one is down 100 feet, and in 240 feet, running east; the 2d level is down 125 feet, runs west and is in 120 feet; the 3d level starts in at a point 129 feet from the surface and is in 90 feet in a northeasterly direction. I would edd further that a tunnel connects tbe 74-foot level in the Lawton sbaft, with the ore shutes, so no ore is raieed to the top of the shaft.

Ore Extracted.

The numher of tons of ore extracted daily from this mine varies, but averages about 100 tons, which also vary in velue, hut average about $35 per ton. Tbey employ about 200 men on an average, the wages of whom are: Miners $4 per day, timber carpenters $4.50, emelters $4.50, engineers $5 to $6, carpenters from $5 to $8, which schedule of prices paid for wages, is the same in the rest of tbis district. The ore is hauled by contract from the mine to the furnaces, and costs $2 per ton. This company's furnaces, or

Smelting Works,

Are located in the lower part of the town of Eureka, about 2 miles distant from the mines. These works have 5 first-class furneces, two of which are in constant operation, driven by a 50-horee power engine, connected with three 54-inch boilers, all of which have been thoroughly overhauled, together with the furnaces, engine, and several new appliances, and one new main shaft, since Mr. Ellsworth, the present Superintendent, took charge of the company's works; add to the above 1 Blake rock-breaker, 5 Sturtevant blowers and one splendid steam pump, to be used in case of fire, and you have as complete a working furnace as there is in this camp. A machine shop is connected with these works for doing their own repairing, driven by a separate engine. A first-class lathe, with all the usuel appliances, is to be found in their shop. Tbe furnacee of tbis company are able to smelt abont 40 tons of ore eacb, daily, turning out from 5 to 8 tons of bullion each, every 24 honrs. Tbe company turn ont from 312 to 543 tons of bullion monthly, that is worth in gold, silver and lead, about $400 per ton.

The Adams Hill Mine,

A fine property, is at present lying idle, although cousidered here among the first-class mines of tbis district. They have fine hoisting works, and one main shaft down 257 feet, all the way in ore thet will averege from $60 to $80 per ton in silver and gold, about 600 tons of which are now on the company's dumps. I could obtain no particulars as to when they intended to again start up.

Richmond Mining Co. (of Nevada),

Located on Ruby Hill, about 2¼ miles in a northwesterly direction from the town of Eureka, Nev., J. J. Corrigan, Pres.; Trnstees —J. B. McGee, Tbos. Wren and J. J. Corrigan; J. B. McGee, General Supt. Incorporated in February of this year.

Tbis mine was one of the first claims worked after this district became known, the history of which is a long story, and probably uninteresting to your readers. Suffice it to say, tbat it is what was known as the "Richmond Consolidated M. Co." and formerly owned by Ogden, Dunn & Co., of Eureka, Nev., and has been worked successfully by different managements, since the year 1870.

Mining Ground Owned

Consists of the following locations, obtained by purchase end otherwise, viz: The Richmond; Virginia; Look-out; Colorado; Silver Region and Tip-Top, making an eggregate of about 5,000 feet of ledges.

The ledges, or ors bodies, havs the same general courss as all others on the hill, i. e., northwest by southeast. The general character of the country rock is limestone; the ore found is bass, carrying silver, gold and leed, and pays about $50 per ton in silver and gold, and runs about 25 per cent. lead. This mine hes hed en immense amount of lahor performed upon it since my visit here one year ago. The

Tunnels, Shafts, &c.,

Coustituting the present developmeut are as follows: One tunnel, now in ebout 400 feet, running through the lime cap, end now witbin 50 feet of the ors body. This tunnel will be, when completed, 550 feet in length, and will terminete at what is known as the Look-out sheft, which shaft is down vertically 280 feet, and in ore. Their principal shaft is an incline, down about 400 feet, on au angle of 35°. From this incline sheft some 500 feet of cross-cutting has been mede; tbis incline shaft is distant about 400 feet from the Look-out, and about 300 fcet of that distance has besn mined out, exposing the largest ore body in the world—outside of the Comstock lode.

An Immense Ledge.

That portion of this mine already worked out, shows that an ors body 250 feet wide, and from 30 to 80 feet thick exists. This same ore body is still facing them, end even larger, now, thsn that portion teken out. By way of quotation, I see in e recent number of ths London *Mining Journal*, that, by en estimate made by Clarencs King, there is ore enough in sight in this mins to produce $3,500,000 worth of bullion, or, in their languege, seven hundred thousand ponnds sterling. Tbis company ars employing at their mine, about 60 men, night end day; and ars extracting about 100 tons of ore daily. This ors is hauled by contract from the mine, at $2.50 per ton, to

The Company's Furnaces,

Located in the upper portion of the town of Eureka, and distant from the mine, (as above stated) 2½ miles.

This corporation's smelting works consist of two large furnaces, that have a capacity of reducing 80 tons of ore every 24 hours, working 35 men in ell departments. Tbe engine, blowers, rock-breaker, and all the usual appliances used around a furnace, are in use here; many new ideas and improvements have been introduced here since my last visit, all of which are meritorious; but time and space forbid special attention of each at this time. In addition to furnishing ore for tbeir own furnaces, they are baving about 45 tons of ore per day reduced at the Hoosac Smelting Works, using some of their surplus ore now on hand to supply both

Coal and Wood.

This company use about 3½ cords of wood, and 2,200 bnshels of charcoal deily, to run their furnaces. Wood is worth per cord (by contract) $6.50, and charcoal 28 cts. per bushel. The consumption at this furnace is 1,277 cords of wood, and 804,000 bushels of charcoal. The average production of base bullion at tbis Company's furnaces is 435 tons monthly, and including tbe bullion mede by the Hoosac Works, it will run 650 tons monthly, worth about $300 per ton, about $240 of wbich is silver and gold.

Industry Mine.

Tbis mine, located on the east side of Prospect mountain a little west of south from Eureka, and distant about 4 miles, is owned by five partners; M. P. Murphy, owning one-third, and the following named gentlemen owning a sixth interest each: J. W. Sullivan, James Miley, Laurence Hartnett and Donald Fraser. Mr. Murphy is Acting Superintendent. These gentlemen claim 1,000 feet of a ledge, or ore body, running north and soutb, aud dipping to the west. The character of the country rock is limestone on both sides. At present tbis claim is lying idle, but the

Previous Development

Consisted of 3 shafts sunk to depths varying from 10 to 45 feet, and three open cuts, two of which run to two of the shafts. By the above mentioned development, an ore body apparently continuous was found, varying in width from 4 to 10 feet. A tnnnel has also been run into this mine, at a higher point on the bill, in which, some 14 feet from the surface, an ore body 4 feet tbick is found. This company have had 5 tons of ore worked at tbe Richmond furnace, that paid a little over $70 per ton, and 6 tons worked at the Lemon mill paid $90 per ton, and 25 tons just worked at the Ruby Consolidated furnace paid $83 per ton. The ahove tests and development show a very flattering prospect. A full force of men will be put upon this mine, before this appears in print, with night and day sbifts. You may expect something more flattering from this mine, shortly. They have about 70 tons of fine ore on their dumps at tbis writing.

Charcoal Producers.

The production of charcoal in this section of the country, is an extensive one, and wortby of notice. Some 8 differeut contractors are engaged in coal-burning here, and employ about 1,000 men, producing about 2,000,000 bushels annually. Messrs. Wbisler & Reilly furnish about 1,250,000 bushels of that amount, employ about 400 men, and bring into requisition some 200 yolk of oxen. L. P. MC.

[Concluded next week]

MILLING AT MINERAL HILL.—We have received the following letter from Mr. H. H. Oakes, Superintendent of the mill of the mineral Hill Silver Mines Company, which expleins itself:

EDITORS MINING AND SCIENTIFIC PRESS:—I notice in your interesting paper of the 12th inst. under "Notes of Travel iu Eureke and Elko Counties, Nevede," by your travelling Correspondent, thet makes meution of the high price charged for reducing ores by the Custom Mills, wbich he understands is $35 per ton. As there is no other Custom Mill in the immediate neighborhood of Mineral Hill, I concluded bis remarks referred to the mill of tbe Minerel Hill Silver Mines Compeny.

As his statsment is apt to misleed the public who mey have ores to work, will you allow me spacs in your veluable paper to say, thet tbs price cbarged for reducing ores at the mill of my Company, is now, (as it alweys bas been,) $30 per ton; returning to the owners of tbe ore, from 80 to 84 per cent. of the essey value according to the grade of ore worked. I don't think any one can cell tbis an unreasoneble charge. I venture to say, thsre is not a mill in the State which will work custom ores at a lower figure.

I am Dear Sir, yours most obediently,
H. H. OAKES, Supt.

Mount Diablo Coal Mines.

A correspondent of the *Call* writes as follows from Somersvills: At Somersville are situated the Union, Independent, Eureka and Pittsburgh mines. The latter company have recently purchesed the Independent end Eureka, and are busily engaged in repairing sbafts, tnnnels and machinery, preparatory to working them—thess two mines having been idle for some time. In the Superintendent of tbe Pittsburgh, Mr. C. W. Clarke, I recognized an old Tuolumne acquaintance. As the foremsn, Mr. J. H. Smitb, was about making his morning round of inspection, I accepted his invitation to accompany him. Donning a mining suit, and placiug one of the little coffee-pot-like lamps on my head, I descended the slope in a car. The air seemed to be very close on arriving at the first level, and I was cautioned about walking too fast. The first gangway we entered was about 1,100 feet long; we started at a slow walk to traverse this distance. A small railroad track is leid the whole length. After progressing about two hundred feet a faint rumbling noise wes heard, growing more distinct each moment. Mr. Smith informed me that it was one of the small coal cars coming, and pointed out a little niche in the rocky well for us to stand in while it passed. Tbe cars run on a geutle down grade, and each one is accompanied by a young man, called a "car runner." On came the car, and soon a faint light appeared in tbe darkness, growing more distinct as it approached. I flattened myself as much as possible egainst the wall, and noticed that I had just tbree inches to spare as the car went wbizzing by, with its "car-runner" perched on the rear end, looking, for all the world, with his head-light on, like a veritable imp of darkness. We passed three of these "flying devils" before we reached the end of the tunnel, or gangway, as they are called in coal mines. I noticed wide spouts or "shutes," ae we pessed along, and upon inquiry, their use was explained to me. At a distance of about fifty feet from tbe slope, the first "shute" is put in and numbered No. 1, and so on at eecb fifty feet the whole length of the gangway. As thie gangway was about 1,100 feet long it contained twenty-two "shutes." The gangway runs parallel with the length of the vein. It is about six feet square. The veiu of coal being only about three and a half feet thick, the miner neceesarily has to cut out from three to four feet of eand-rock on the bottom of the gangway, on which is laid the car track. The coal veiu pitches at an angle of thirty degrees, and when a "sbute" is put in the coal is cnt out to the width of about five feet and the tbickness of the vein; a wooden trough five feet wide, about one foot in depth, and several feet in lengtb, with sbeet-iron on the bottom, is inserted. The miner then extends thie opening in a streight line, following the pitch of the vein to the next gangway, tbus securiug an air passage. He then commences taking out the coal on each side of him for about fifteen feet, and leaving a strip some twenty feet wide between the "shutes" for supports. In this space of three or four feet in height tbe miner crawls. and, either sitting or lying down, works out the coal with a pick. The cars pass along under tbe ends of the "shutes," which project a little into the gangway, and receive their load of coal.

In taking out the pillars of coal, when they are of no further nse, great care is used to prevent accidents, and soon the lower ledge of sand-rock swells and closes up the space from which the coal has been taken. The foreman is extremely careful in sending his men to do this work, and in the ten years that this mine has been worked but three men have been killed. The Pittsburgh Company employs 160 men, and are averaging about 4,000 tons of coal per month. The Union, superintended by H. S. Hawxhurst, employs about 100 men. The coal from these two mines is transported by railroad to Pittsburgh Landing on the San Joaquin river, a few miles below Antioch. The Central Company's mine is eituated about half a mile southeaet of Somersville. A large portion of the stock of tbis company is owned by Messrs. Shattuck & Hillegase, of Oakland. Mr. Stewart is the Snperintendent. The coal is transported by teams to Antioch.

MECHANICAL PROGRESS.

Ancient Construction.

Mass was the predominant feature of ancient constructions, and clay, earth, bricks and stones, the principal materials. The introduction of the arch or vault was one of the earlest substitutions of the hollow for the solid. If a solid, massive, square pillar have the middle portion cut out and an arch turned over the top, there is so much of the original mass removed, and a new style of construction, so to call it, introduced. It has been generally admitted that the invention of the arch is due to the Romans, yet there can be very little doubt but that the Assyrians were thoroughly acquainted with it, although clay in some shape or another constituted almost their sole constructive material. This formed the nucleus of the enormous artificial mounds which that people were fond of raising on which to erect their palaces, citadels, and other commanding buildings. Instead of excavating foundations upon which to build, an artificial foundation was raised and the superstructure placed thereon.

Modern works are now conducted on a scale so gigantic that we are pretty well accustomed to immense shifts of earth; but mechanical appliances are at our command which were unknown to our predecessors, who used neither wagons nor barrows, but hand labour only in its simplest form. In the erection of the artificial mounds to which we have alluded, the Assyrians were not in the habit of using the clay at random, but mixed and prepared it with great care, so that it showed a uniform section everywhere when cut. It was completely free from stones and all foreign bodies, and closely resembled in its consistency the best modern puddle. This material is now in numerous instances giving way to concrete, which promises fair to be to us what the clay and bricks were to the ancients. In work of a character similar to the Thames Embankment the quantity of concrete used in foundations and backing is something enormous.

Explorations at Nineveh have shown that except for paving purposes stone rarely entered into the construction of the walls and buildings. They consisted of clay only, which had evidently been moulded in the shape of bricks, and put together without the aid of mortar or cement of any kind. In the few examples in which stone was found to be employed the joints were made in the same manner, that is, by simple juxtaposition. Mortar and cement appear to have been rarely or never employed. The size of the stones was considerable, so that mere weight would, to some extent, render superfluous the employment of any adhesive substance at the joints. But this was not the case with the bricks, which were nearly of a square form, 1ft. 4in. on the sides by 2in. in thickness.

The question which remains unsettled is, in what degree of consistency were these bricks at the time they were put together? Were they sufficiently plastic to adhere together, or were they wetted before being used, so as to soften the surfaces merely which were in contact? Upon this supposition there would be an appreciable difference between the appearance of the body of the bricks and that of the joints, which does not exist. There is, nevertheless, a slight difference in colour at these points, which looks like lines.

The Assyrians have two varieties of baked bricks: the one was regularly shaped, with parallel faces, and the other of a trapezoidal form. These latter were intended for arches or vaults, and the inclination of the sides varied with the position which the particular brick was intended to occupy in the curve.

The dimensions and proportions of the Assyrian bricks differ from those of modern manufacture. Those employed in paving were of two sizes. One class was 1ft. 4in. by 1ft. 4in. by 2½in. in thickness, and the other 13in. by 13in. by 4½in. thick. A peculiar feature in these old bricks is that they are with few exceptions covered with inscriptions in the cuneiform character. Two remarkable features in the construction of ancient cities were, first, that either the diagonals or the direction of the sides pointed exactly towards the cardinal points, and, secondly, the enormous thickness of the walls of the principal buildings. It is probable that astronomical reasons dictated the former of these, and climatic exigencies the latter. In the case of Nineveh there can be little doubt of this, as the Assyrians were noted for their skill in astronomy, and their partiality for the science. The thickness of the internal walls is scarcely ever less than 10 ft., and that of some of the external varies from 16ft. to 25ft. Some consideration must be given to the fact, with regard to the thickness of the walls, that the mode of building them with bricks merely dried in the sun required this dimension to be disproportionately great.

In the building of their domes and vaults the Assyrians employed a more brittle description of brick than in their walls and pavements, and the joints were made by grouting them with semi-fluid clay. The voussoir shape of these bricks proves that the theory of the arch must have been known at the time, and some considerable progress made in the preparation of artificial stones. There is no evidence of timber being employed as a material of construction by the people under notice. It was used only in small quantities, and for the purposes of ornament. It seems that iron was altogether unknown as a constructive material. Copper was turned to account for the pivots or hinges of doors, and lead was also rendered serviceable. Enamelled bricks were common, and stucco was largely employed, as with us, for the double purpose of protecting the brickwork from the effects of the air, and hiding the roughness of the surface.

There is one ceremony which appears to have existed at the time of the Assyrians, which is common to modern times as well. It is that of laying the first, or foundation-stone of a building. A recent French explorer, M. P. Place, discovered in a layer of fine sand underneath one of the monoliths of the gates of Nineveh a variety of different objects in marble, agate and cornelian, which were cut and engraved, and were, moreover, all pierced with a hole, as if they had originally formed part of a bracelet or necklace deposited at the laying of the stone, as coins are deposited with us. While well versed in the practice of earthwork, brickwork, and even masonry, the Assyrians were totally ignorant of the art of construction considered in the light of an assemblage of pieces of timber or iron. They could heap up materials so as to cause the structure so composed to resist any outward force by its sheer weight or inertia, but they knew nothing whatever of the distribution of pressures, or how to proportion a structure so that it should be equally strong in all parts. Both the labour and the material were too abundant to call for economy in either one or the other.—*Engineer.*

Safety Lamps in Mines.

Some valuable researches on the conditions under which safety-lamps are truly safe have been conducted by Mr. R. Galloway, partly at the new Laboratories at South Kensington and partly at the Meteorological Office. Mr. Galloway has already found that if a Davy lamp be burning tranquilly in an explosive atmosphere, the transmission of a sound wave, produced by a slight explosion of gunpowder, is sufficient to determine the communication of flame from the lamp to the surrounding atmosphere. Hitherto it has been generally assumed that the occurrence of a colliery explosion, after firing a shot, is due to actual communication of flame from the gun powder to the fire-damp; but Mr. Galloway's experiments show that it is much more likely that the explosion is determined by the noise of the shot being propagated through the galleries of the mine to the safety-lamps. An admirable experiment to illustrate this point was exhibited by Dr. W. Spottiswoode at a recent lecture at the Royal Institution. A lighted Davy lamp was surrounded by streams of coal gas issuing from a number of jets round the base of the lamp. One extremity of a long tin tube, open at both ends, was placed in connection with the lamp, while a pistol was fired at the other end, a caoutchouc diaphragm being interposed in the tube to prevent the transmission of a direct current of air. The sound-wave, generated by the report, travelled along the tube, and as soon as it reached the flame, caused ignition of the surrounding atmosphere—the lamp being immediately enveloped in flames.

A NOVEL RAILROAD STOVE. — A fire proof-stove for use in passenger cars especially, was subjected to a severe test in Boston, recently. The stove is made of wrought and malleable iron. It is circular in form, composed of three upright cylinders and two cold air boxes at the bottom. The fuel is placed in the inner cylinder. The cold air rushing through the cold air boxes drives hot air outward and upward through the cylinders, the rounded form giving a very powerful radiation. The heat escapes through a register in the back. The whole is firmly bound together by strong iron bolts. The doors are fastened by patent locks. At the trial, the stove, after the fire in it was well under way, was thrown from the staging upon which it was placed, to the ground, a distance of six feet. It was then rolled about, and tumbled over and over, but not a spark of the fire was spilled upon the shavings which were scattered around. When the stove-door was opened, the fire was burning briskly. The ingenious apparatus was invented and manufactured in Wilmington, Delaware, and it is believed its general introduction would prevent the supplemental fires which so generally follow railroad accidents where stoves are used in the cars, and which frequently cause almost as great a loss of life as the original break down.

STATION ANNOUNCER.—In every car on the Connecticut River railroad there is a box overhead at one end in which is contained the name of the next station, which it is the duty of the brakemen to change as they leave the stations. It also states where they connect with other roads. As the change is made, a bell strikes twice, which attracts the attention of the passengers, so that the box always exhibits the name of the next station, and so on. Thus passengers always know the name of the stopping-place, and also if it connects with any other railroad.

TO DISTINGUISH IRON FROM STEEL.—An English engineer says that a good method to determine between steel and iron is to burn filings of the samples in a flame, as steel would scintilate, while iron would burn quietly.

SCIENTIFIC PROGRESS.

Sympathetic Vibrations in Machinery.

The vibrations I propose to demonstrate are those which are pitched so low as not to come within the limits of human ears, but which are felt rather than heard. I wish to show how these may be seen as well as felt.

All structures, large or small, simple or complex, have a definite rate of vibration, depending on their materials, size and shape, and as fixed as the fundamental note of a musical chord. They may also vibrate in parts, as the chord does, and thus be capable of various increasing rates of vibration, which constitute their harmonics. If one body vibrates, all others in the neighborhood will respond, if the rate of vibration in the first agrees with their own principal or secondary rates of vibration, even when no more substantial bond than the air unites this body with its neighbors. In this way mechanical disturbances, harmless in their origin, assume a troublesome and perhaps a dangerous character, when they enter bodies which are only too ready to move at the required rate, sometimes even beyond the sphere of their stability.

At one time considerable annoyance was experienced in a cotton mill because the walls and floors of the building were so violently shaken by the machinery; so much so, that, on certain days a pail of water would be nearly emptied of its contents, while, on other days, all was quiet. Upon investigation it appeared that the building shook in response to the machinery only when it moved at a particular rate, coinciding with one of the harmonics of the structure; and the simple remedy was to make the machinery move at a little greater or a little less speed, so as to put it out of tune with the building.

We can easily believe that, in many cases, these violent vibrations will loosen the cement and derange the parts of a building, so that it may afterwards fall under the pressure of a weight which otherwise it was fully able to bear, and at a time, possibly, when the machinery is not in motion. Large trees are uprooted in gales of wind, because the wind comes in gusts; and if these gusts happen to be timed in accordance with the natural swing of the tree, the effect is irresistible. The slow vibrations which proceed from the largest pipes of a great organ, and which are almost without the range of musical sounds, are able to shake the walls and floors of the building so as to be felt, if not heard.

We have here, also, the reason of the rule observed by regiments on the march, when they cross a bridge, viz., to stop the band, and break step. This is lest the measured cadence of a condensed mass of men should urge the bridge to vibrate beyond its cohesive force. A neglect of this rule has frequently led to accidents. The Broughton Bridge, Manchester, gave way beneath the measured tread of sixty men only, who were marching across it.

A few days ago a similar disaster befell a battalion of French infantry while crossing the suspension bridge of Angiers. Reiterated warnings were given to the troops to break into sections, but the rain falling heavily, the orders were disregarded; the bridge fell, and 280 men were killed.

When Galileo set a pendulum in strong vibration by blowing on it whenever it was moving away from his mouth, he gave a good illustration of the way in which small but regularly repeated disturbances grow into consequence. Professor Tyndall tells us that the Swiss muleteers tie up the bells of their mules, lest the tinkle should start an avalanche. The breaking of a drinking glass by the human voice, when its fundamental note is sounded, is a feat instanced by Chladin, who mentions it as an experiment frequently repeated by an innkeeper for the entertainment of his guests, much to his own profit.

Robert Stephenson has remarked that there is not so much danger to a bridge when it is crowded with men or cattle, or if cavalry are passing over it, as when men go over it in marching order.

A chain bridge crosses the river Dordonge on the road to Bourdeaux. One of the Stephensons passed over it in 1845, and was so much struck with its defects, although it had been but recently erected, that he reported them to the authorities. A few years afterwards it gave way when troops were marching over it.

The bark of a dog is able to call forth the response from certain strings of the piano; and a curious passage has been pointed out in the "Talmud," which discusses the indemnity to be paid when a vessel is broken by the voice of a domestic animal. If we enter the domain of music, there is no end to the illustrations which might be given of these sympathetic vibrations.

In the case of vibrations which are simply mechanical, without being audible, at any rate in a musical sense, the following ocular demonstration may be given: A train of wheels, set in motion by a strong spring wound up in a drum, causes a horizontal spindle to revolve with great velocity. Two pieces of apparatus like this are placed about ten or twelve feet apart. On the ends of the spindles, which face each other, are buttons about an inch in diameter. The two ends of a piece of white tape are fastened to the rims of these buttons. When the spindles, with the attached buttons, revolve, the two ends of the tape revolve, and in such directions as to prevent the tape from twisting, unless the velocities are very different. Even if the two trains of wheels move with unequal velocities, when independent of each other; their motions tend to uniformity when the two spindles are connected by the tape. Now, by moving slightly the apparatus at one end of the room, the tape may be tightened or loosened. If the tape is tightened, its rate of vibration is increased, and, at the same time, the velocity of the spindles is diminished on account of the greater resistance. If this tape is slackened, its rate of vibration is less, and the velocity of the spindles is greater. By this change we can readily bring the fundamental vibration of the tape into unison with the machinery, and then the tape responds by a vibration of great amplitude, visible to all beholders. If we begin gradually to loosen the tape, it soon ceases to respond, on account of the two-fold effect already described, until the time comes when the velocity of the machinery accords with the first harmonic of the tape, when the latter divides beautifully into two vibrating segments, with a node at the middle as the tension slowly diminishes, the different harmonics are successively developed, until at length the tape is broken up into a number of segments, only an inch or two in length, presenting the appearance of a beautiful wave line.—*Iron.*

Progress of Astronomy in the United States.

Mr. Richard A. Proctor, the distinguished British astronomer, bears the following testimony to the progress and results of astronomical science in this country:

"The American arrangements for extending government aid to astronomy seem to me to afford a model which might be copied with advantage on this side of the Atlantic. We see their physical observatories attached to other government establishments, to universities, and so on. Their professors of astronomy are not only real working astronomers, but skillful mathematicians (for the most part university men) and men of admirable zeal in the cause of science. I have been struck with the abundance, I had almost said the superabundance, of labor which has been bestowed on work, the record of which has recently reached me from America. Thus, in the mathematical investigations of the coming transits of Venus, a problem of difficulty has but to be suggested, to be at once attacked and solved to the utmost limits of exactness. The pictures of solar phenomena, spots, faculæ and prominences, are the most striking and beautiful I have yet seen. Their lunar pictures are remarkable for artistic beauty, as well as scientific value, and, altogether, their work, as I have said, is a model of our astronomers."

DOES THE SUN INFLUENCE A FIRE?—There is a common opinion, that the direct action of the rays of the sun diminishes the combustion of a common fire. This notion has often been ridiculed as erroneous; and, with a view to put it to the test of experiment, Dr. M'Keever ascertained the actual rate of combustion of well-known bodies, in different circumstances. It appears from these trials, that the quantity of wax-taper consumed in broad sunshine, in the open air, is less than consumed in a darkened room, in the same time, in the proportion of ten to eleven. When the experiment was made with a common mould candle, an inch in length was consumed in fifty-nine minutes, in strong sunshine, temperature eighty degrees; in fifty-six minutes, in a darkened room, temperature sixty-eight degrees. Other trials were made to ascertain the effects of the different colored rays of the prismatic spectrum on combustion, and it was found to proceed most slowly in the verge of the violet ray. The times of consuming the same length of taper in the different portions of the spectrum were, in the red ray, eight minutes; green ray, eight minutes twenty seconds; violet ray, eight minutes thirty-nine seconds; verge of violet ray, eight minutes fifty-seven seconds; the common opinion is therefore correct; but the difference is not so considerable as might be expected.

NON-CHEMICAL ANALYSIS.—That butter is not a single fat, but a mixture of fats, is perfectly well known to chemists, as may be seen on looking into almost any chemical hand-book. Apparently, however, there are those who profess to be chemists, who are not aware of the fact, as may be instanced by the following report of a certain chemist, who was called to testify in court as to the quality of a lot of butter, the value of which was in dispute:—"The butter contains a quantity of stearin and palmatin. It is therefore largely adulterated by the admixture of fat containing these substances, etc." The case in which this curious specimen of chemistry was exhibited was carried to a higher court, and is exciting some degree of interest. A public writer has already remarked that if the absence of stearin and palmatin had been established in the sample, demonstration would in reality have been given that the sample contained no butter at all; and under cross-examination the witness appears to have modified his report to a slight extent. He seemed to say that—though for aught he knew to the contrary, stearin and palmatin may exist in genuine butter—they do not exist in the free state in butter.—*Ex.*

Table of Fluctuations.

Showing Highest and Lowest "Regular" Sales of Mining Stocks on the Board List of the San Francisco Stock and Exchange Board, during the last Four Weeks, together with Number of Feet, Shares, Last Dividends and Assessments.

NAME OF COMPANY	IN MINE. FEET	IN MINE. SHARES	LAST DIVIDEND.	LAST ASSESSMT.	1873. WEEK ENDING WEDNESDAY July 2 High	July 2 Low	July 9 High	July 9 Low	July 16 High	July 16 Low	July 23 High	July 23 Low
WASHOE.												
Alamo Gold and Silver M. Co					75c	75c					75o	75c
Alpha Consolidated	300	6000		5, Mch. 1, '71	31	28	24	24	28	25½	25	15
Alta	3600											
		30000		1, May 17, '73	3¾	4½	4¾	3¾	5	3¾	6⅛	4¾
American Flat	1900	18000		5, June 16, '73	2¾	1⅞	2⅞	1¾	1¾	⅝	2¾	1⅝
Arizona & Utah	65	24000	27, July, '71		3	3	2	2	3	3	2	3
Bacon Mill and Mining Co		54000		3, June 3, '73	10	8¾	8¾	7¾	9	8	9¼	7⅝
Baltimore Consolidated	1040	104000	16, July, '73		103	92½	97	87½	87	81	85½	76
Belcher	224	22400		8, Feb. 7, '71	4¾	4⅛	4¾	4½	4	3½	4	2¾
Best & Belcher	20	5000										
Bowers		16000		7, Jan. 21, '73					1¼	1¼	1	62½c
Buckeye	2500	25000		45, Aug. 6, '72								
Bullion	5000	20000		4, Feb. 5, '73	17½	16¾	16½	14	16¾	11	14	11
Caledonia Silver Mining Co	150	10800							5	5		
Central	100	20000			6½	5¾	6	6	6	4¾	5	5
Central No. Two	2800	28000	39, Feb., '72	4, Feb. 18, '73	51	53	56	50	51	39½	45	35
Chollar-Potosi	130	24960	6, May, '65	10, Mar. 18, '73	7	6¾	6¾	4¾	7	6¾	5	5
Confidence Silver Mining Co	34½	20000					2	2	2½	1¾		
Cons. Gold Hill Quartz	1160	23600		15, June 11, '73	110	98	101½	96	99	90	92	67
Consolidated Virginia	1600	24000		1, Sept. 4, '72								
Cook & Geyer	600	100000	22, July, '72	6, May 28, '72	106½	100	103	99	100	94	100	88
Crown Point Gold and S. M.	2900	24000	2, July, '63	6, May 28, '73	1¼	1¼	1⅝	1⅝	1½	1⅜	1⅝	1⅜
Daney	1200	24000										
Dardanelles	70	25000			6	6	5½	5	5½	5	5½	3¾
Eclipse	75	50000	21, May, '67	13, June 10, '73	5	4¾	4¾	¾	5¾	4	4½	2½
Empire Mill and Mining Co	400	8000		9, June 26, '72	9¼	9	9½	8	8	7¼	8	4⅞
Exchequer	3000	12000										
Flowery					2¾	2½	2¾	2¼	2¾	2		
Franklin		20000		3, July 21, '73	1⅜	1⅜	1¼	1¼	1⅛	⅞	87½c	75c
Globe	1200	48000	26, Oct., '70	16, June 9, '73	13	11¾	13	10	12⅞	10	11¾	7¾
Gould & Curry Silver Mining	400	16000	26, April, '71	40, July 1, '73	45	40	43	35	37	29½	32	23
Hale & Norcross	184	100000	30, June, '68	16, Apr. 8, '73	6¼	5¾	6¼	5⅝	5¾	5¼	5½	3⅞
Imperial					2	2						
Indiana	2000	30000		1, May 5, '73								
Insurance	2000	20000		14, June 9, '73	1⅞	1½	1⅝	1¼	2¼	1⅝	2⅛	1½
Julia Gold and Silver M. Co	3000	21000		6, June 24, '73	10¾	7½	11⅜	8¾	9¾	5¾	6¾	4¾
Justice	95	30000	62, Mch., '70	10, Apr. 25, '73	10½	9¾	9½	9	9	8	9	6
Kentuck	1200	24000		5, Mch. 24, '73	4	3¾	3⅝	2¾	3¼	2½	3⅛	1⅞
Knickerhocker												
Lady Bryan	3600	36000										
McMeans	1600	50000		1, May 6, '73	1	1	1½	1¼	1⅜	1¼	1½	1¼
Mint Gold and Silver Mining	3000	40000									1	75c
Nevada	3600	36000		4, May 31, '73	1¼	1	1⅜	1	1⅛	⅞		
New York Consolidated	800	10000	1, Mch., '69	1, Feb. 5, '73	4	4	4½	4	4	4		
Occidental	1400	16800	22, Mch. '64	25, June 24, '73	34	30½	32	27	26½	20	23½	15
Ophir Silver Mining Co	1200	12800		26, June 4, '73	38½	31½	36	30	33½	29	32	25
Overman Silver Mining Co	1200	24000										
Phil. Sheridan	2000	30000		3, June 19, '73	30c	30c			25c	15c	90c	15c
Pioton		24000		1, June 20, '73	50c	37c	30c	30c	25c	25c		
Rock Island	800	16000	52, June, '69	3, Apr. 6, '73	158	127	162½	127½	145	62½	67	44½
Savage	160	6400		14, July 20, '71	55	50	54	46	52	46	46½	33
Segregated Belcher		10000										
Segregated Caledonia		24000		8, June 24, '73	75	50	62½c	50c	62½c	50c	50c	40c
Senator Silver Mining Co		20000	11, Jan., '71	1, Dec. 24, '72	10¾	10	10½	10	10	9	9¾	7½
Sierra Nevada		54000		1, Dec. 24, '72	20	19½	20½	20	21	18	18	14
Silver Hill		24000							50o	50c	50c	50c
Sonth Overman	7600	22800	2, Oct., '71	5, Nov. 26, '72	2¼	2⅛			2	1⅜	1⅜	1⅛
Succor Mill and Mining Co		24000										
Sutro		90			5	4½					75o	50c
French	20	33000			1⅛	⅞	87½c	75c	75c	75c		
Tyler	2200	20000		3, June 13, '73					50c	50c		
Union Consolidated	803	20000		2, May 6, '73							1⅞	1¼
Utah	1400	20000		1, Jan. 12, '72	3½	2½	2¾	2	2¼	1½	53	44½
Woodville Gold and S. M	1200	24000	25, Aug., '71	15, Jan. 4, '73	64	61	63	59	60½	50		
Yellow Jacket												
NEVADA.												
Adams Hill		50000		3, Dec. 23, '72							1½	62½c
Alpa Silver Mining Co	800	30000		1, Feb. 8, '73	2	1¾	1⅞	1⅜	1⅝	1¼	2⅛	2¼
Amador Tunnel and Mining				1, June 4, '73	3	2⅞			3	2⅞	3½	3
American Flag Mill and M		30000		2, June 3, '73	5	4⅜	6¼	5½	6½	5		
Arkansas	300	30000		3, Jan. 18, '73					3	2½		
Belmont		30000			3½	3	4	3½	3½	⅞	1⅜	75c
Bowery		30000		3, May 6, '73	3	1¼	1½	1	1½	⅞		
Chapman Mill and Mining		30000		3, Mch. 4, '73	35c	35c	25c	25c			35c	30c
Charter Oak Silver Mining	1000	30000		1, Mch. 3, '73	10c	10c			2½	2		
Chief of the Hill		30000		2, May 23, '73	2½	2¼	2½	2½			2½	1¼
Chief East Extension		36000		2, May 23, '73	40c	15c	40c	30c	35c	30c	35c	30c
Columbus Mill and Mining	10000	50000		2, April 26, '73							20o	15c
Condor		25000		1, Sept. 12, '72							12	9½
Eureka Consolidated		50000	5, June, '73		12½	10¼	12	11½	12	11½		
Excelsior		12000		1, June 20, '72								
Harper Silver Mining Co		30000		1, Nov. 27, '72								
Hermee	1000	30000		4, May 10, '73	12½	7½	8	7	8	7½	7½	7
Home Ticket												
Hunn & Hunt Silver Mining	3600	30000		6, May 12, '73	3½	3½	3½	3½	2½	1½	2¾	1½
Ingomar Silver Mining Co	1000	40000		6, May 12, '73	87½c	62½c	75c	75c	75c	50c	1	62½c
Ivanhoe		30000		2, Dec. 12, '72								
Jackson		50000		6, June 25, '73	25c	5c	10o	10c	¼	¼	15c	15c
Juniata Consolidated	5000	50000		1, Jan. 17, '73							2½	2
Kentucky Gold and Silver	1000	30000		6, June 18, '73	2½	1	2¾	2½	2½	2½	2½	2
Kinston	1000	30000		3, Aug. 26, '72					90o	90c		
Lehigh	1000	30000										
Lillian Hall	1000	15000		2, Jan. 23, '73								
Louise	2400	30000		3, Sept. 15, '72	62½c	30c	40o	40c	25o	25o	30c	30c
McMahon	1000	30000		4, June 19, '73								
Marion		30000		1, Dec. 9, '72								
Meadow Valley	24023	60000	17, July, '73	7, May 30, '70	23	20½	21¾	21¼	22	15¾	18½	17
Mocking-Bird	1200	30000		1, Dec. 5, '72							8	75c
Monitor Belmont			2, Mch., '73									
Murphy	2000	60000										
Newark Silver Mining Co	800	32000		4, Apr, 10, '73	4	4⅛	7¼	5¾	6½	5	6⅜	5¼
Pacific Tunnel and Mining												
Page & Pansca Silver Mining	2400	40000		3, Feb. 3, '73	1⅜	1⅛	1¼	1	1¾	1	1	1
Pearine	1000	30000		6, May 12, '73	50o	30c	45o	35o	42½c	30c	35c	30c
Phœnix		50000		11, May 28, '73	50o	20c	50c	45c	45o	40c	40c	30c
Piocbe Silver Mining Co	1000	20000	3, Aug., '72	3, Feb. 21, '73	9¼	8½	9	9	8¾	8¼	8½	1½
Pioche West Extension		35000		4, May 16, '73	1	1	1	1			1	1
Pioche-Phœnix		40000		3, May 6, '73	4½	3¾	3½	3⅜	3½	⅞	1¾	3½
Portland				3, May 6, '73								
Raymond & Ely	5000	30000	22, Feb., '73		66	60	62	60	63	55	63	51½
Silver Peak		30000		2, April 3, '73	1¾	1½	1⅝	1½	1¾	1⅜	1⅝	1½
Silver West Consolidated				4, June 10, '73								
Standard Mill and Mining				2, May 16, '73	3	2			2½	2	2¾	2½
Star Consolidated	18000	50000		3, June 19, '73								
Starlight	6300	25000										
Sterling		30000		1, July 15, '72								
Spring Mount		25000		2, Jan. 15, '73	1	15c						
Spring Mountain Tunnel		20000		3, June 20, '73								
Ward Beecher												
Washington and Creole	200	30000		8, April 25, '73	2¾	2½	2¾	2¼	2¾	2¼	2½	2⅛
Yellowstone												
CALIFORNIA.												
Alpine	1200	12000		4, May 13, '73								
Belleve	6000	20000		6, April 14, '73								
Calaveras Gold Mining Co	3200	20000		3, Feb. 12, '73								
Cederberg Gold Mining Co		24000	4, Feb., '73		4½	4	4	4	5	3	4¾	4
Consolidated Amador			5, April, '73									
Cottonwood Creek		20000										
Dunderberg Mill and Mining												
El Dorado Ind. Quartz M.												
Eureka Gold Mining Co	1680	20000	9, July, '73						21	21	20	20
Gillis		24000		1, July 20, '72								
Independent Gold Mining	1800	25000		3, Apr. 2, '73					1¼	1	1⅛	87½
Keyetone Quartz		10000	1, July, '72									
Mt. Jefferson	1500	25000		4, Dec. 18, '72								
Oakville Quartz Mining Co												
Rye Patch					10	7½	9	8	9	6½	7	6½
St. Lawrence Mill and M. Co				1, Mch. 11, '73								
St. Patrick	1800	20000		6, Oct. 31, '72								
Tecumseh	3000	30000		20, May 28, '73								
Yule Gravel	400	10000	9, April, '72	3, June 4, '73								
IDAHO.												
Empire		25000		3, April 10, '73			50o	50c	½	½	75o	50c
Golden Chariot	150	10000	9, Mch., '71	9, May 26, '73	18	14	18½	18½	20	10½	19¾	17
Ida Ellmore	1200	10000	6, Feb., '70	9, Mch. 25, '73	8	8	8	8	4¾	4½	4	3½
Mahogany G. and S. Mining	720	10000	1, Aug., '72	9, June 11, '73	8½	8	8½	4½	4½	4½	8½	7½
Minnesota Gold and Silver	1070	20000		6, May 21, '73	11	10½	15	12	17½	15	14	9
Red Jacket					4	3½	5	4	6	4⅞	4½	3¼
South Chariot	650	20000		6, May 23, '73	2⅞	2¼	3	2¼	3½	2½	2¾	1⅞
War Eagle	1000	10000		1, Nov. 4, '72					25o	25o		
WHITE PINE.												
General Lee	1000	20000		6, Jan. 9, '73								
Mammoth Silver Mining Co	1800	36000		12, Mch. 3, '73	45c	40c			35o	35o	25c	25c
Noonday	1000	20000		14, May 31, '73								
Original Hidden Treasure	800	21333	1, June, '70	8, Oct. 9, '72	7	6	6½	6	5½	5½	5½	5
Silver Wave												
Ward Beecher		24000		1, Nov. 21, '72								
UTAH.												
Deseret Consolidated	2400	30000		1, Sept. 16, '72								
Wellington		50000		1, Nov. 12, '72							1½	1½
OREGON.												
Virtne	2309	20000										

[☞ IN EVERY FRIDAYS ISSUE of the DAILY MINING PRESS we publish, in connection with this table, the highest and lowest rates of sales during each of the past twelve months.

ASSESSMENTS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, excluevie of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	*Location.*	*No.*	*Amt.*	*Levied.*	*Deling'nt.*	*Sale.*	*Secretary. Place of Business.*
American Flat M. Co.	Washoe		50	July 22	Aug 26	Sept 16	G. W. R. King, 411 California st
Amador Tunnel M. Co.	Ely District	1	1 00	June 4	July 10	July 30	L. Kaplan, Merchants' Ex.
AmericanFlagM. &M. Co.,	ElyDist.	2	1 50	June 3	July 9	Aug. 4	Geo. R Spinney, 320 California st
Arizona & Utah		5	1 00	June 16	July 21	Aug 12	Joseph Maguire, 419 California st
Baltimore Con. M. Co.	Washoe.	3	75	June 3	July 8	July 31	D. F. Bagley, 401 California st
Bellevue M. Co.	Placer Co., Cal.	6	50	April 14	May 19	July 30	T. F. Cronise. 438 California st
Buckeye G. & S. M. Co.	Washoe.	8	1 00	July 14	Aug 19	Sept 8	J. Maguire, 419 California st
Charter Oak S. M. Co.	Ely District.		25	July 16	Aug 25	Sept 15	G. W. R. King, 411 California st
Caledonia S. M. Co.	Nevada.	5	2 00	July 11	Aug 21	Sept 11	R Wegener, 414 California st
Chief of the Hill M. Co.	Ely District.	2	50	May 23	July 1	July 24	C. S. Neal, 419 California st
Consolidated Virginia M. Co.	Washoe.	15	3 00	June 11	July 16	Aug. 7	D. T. Bagley, 401 California st.
Chief East Extension M. Co.		1	20	May 28	July 2	July 30	R. Wegener, 414 California st
Daney G. & S. Co.		6	50	May 28	July 1	July 25	Geo. R. Sweney, 320 California st
El Dorado Quartz M. Co.	Cal.		10	July 3	Aug 11	Aug 29	G. W. R. King, 411 California st
Empire M. & M. Co.	Washoe.	13	1 00	June 10	July 14	Aug. 6	Geo R. Spinney, 320 California st
Globe M. Co.	Nevada.	3	25	July 2	Aug. 4	Aug. 25	Joseph Maguire. 419 California st
Gould & Curry S. M. Co.	Nevada.	18	1 00	June 9	July 14	Aug. 4	A. K Durbrow, room 22, Merch's'. Ex
Hale & Norcross S. M. Co.	Washoe.		5 00	July 1	Aug 2	Aug 22	J. F. Lightner, 438 California st
Julia G. & S. M. Co.	Nevada.	14	50	July 9	July 12	July 31	A. Neel, Room 20, 419 California st.
Justice M. Co.	Nevada.	6	1 00	June 24	July 29	Aug 19	R. Wegener, 414 California st
Jackson M. Co.	Nevada.	6	10	June 25	July 29	Aug 18	H. C. Kibbe, 419 California st
Kentucky G. & S. M. Co.	Ely Dist.	6	1 50	June 2	Aug 5	Aug 26	J. P. Cavallier, 509 Montgomery st
Knickerbocky G. M. Co.	Cal.	4	20	June 23	July 24	Aug 8	Geo. Fletcher, Grass Valley
Lady Franklin G. & S. M. Co	Cal.		50	July 1	Aug 15	Sept 15	J. S. Luty, 507 Montgomery st
Mahogany G. & S. M. Co.	Idaho.	9	2 00	June 11	July 19	Aug 4	E. McFaddin, Express Bld'g
McMahon S. M. Co.	Nevada.	4	25	June 19	July 25	Aug. 19	Geo R. Spinney. 320 California st
New York Cons. M. Co.	Washoe.	40	50	May 21	July 2	July 31	H. C. Kibbe 419 California st
Ophir M. Co.	Washoe.	26	5 00	June 24	July 29	Aug 18	J. Marks, Merchants' Ex
Overman S. M. Co.	Washoe	26	4 00	June 4	July 8	July 28	W. W. Stetson, 414 California st.
Pictou M. Co.	Nevada.	3	20	June 19	July 21	Aug. 8	S. Phillips. 408 California st
Pioche Phœnix M. Co.	Ely District.	3	1 00	May 6	June 19	July 31	C. E. Elliott 419 California st
Rock Island G. M. Co.	Washoe.	8	50	June 20	July 20	Aug 11	W. E. Dean, 419 California st
Senator S. M. Co.	American Flat.	8	50	June 24	July 29	Aug 18	Henry Boyle, Stevenson's Bld'g
Silver West Con. M. Co.	Nevada.	4	25	June 10	July 17	Aug 12	F. R. Bunker, 36 Montgomery st.
Spring Mountain Tunnel Co.	Nev.	6	20	June 20	July 29	Aug 18	J. M. Buffington, 37 N. M. Exchange
Star Con. M. Co.	Nevada.	3	10	June 19	July 24	Aug. 18	Geo. R. Spinney. 320 California st
Tyler M. Co.	Washoe.	1	50	July 18	Aug 21	Sept 11	Merchants' Ex
Woodville G. & S. M. Co.	Washoe.	2	75	July 16	Aug 19	Sept 6	A Neel, 419 California st
Yule Gravel M. Co.	Placer Co, Cal.	3	20	June 4	July 9	July 29	W. H. Watson, 302 Montgomery st
Yellow Jacket M. Co.	Washoe.	16	5 00	July 10	Aug 15	Sept 15	C. W. Hopkins, Go d Hill

Other Companies (not on the Lists of the Boards.)

Alpine G. M. & M. Co.	Cal.		50	July 21	Aug 25	Sept 17	J. F. Lightner, 438 California st
Atlantic & Pacific Con. M. Co.			6	June 20	July 24	Aug. 12	A. Neel, 419 California st
Beckwith M. Co.	Ely District.		15	July 7	Aug 11	Sept 2	W. H. Watson, 302 Montgomery st
Browns Valley Cons. M. Co.	Nevada.	1	50	June 27	Aug 2	Aug 25	R. B. Noyes. 411½ California st
Buena Vieta Vinicultural Society,	Cal.		5 00	June 12	July 15	Aug 5	H. Selmer, 409 Battery st.
Bunker Hill M. Co.	Cal.	10	10 00	June 5	July 7	July 28	C. H. Knox, 19 Firet st.
Caroline M. Co.	Ely District.	1	20	June 20	Aug 8	Sept 4	C. E. Elliot, 419 California st
Central Land Co.	Cal.		1 25	June 9	July 10	July 28	B. F. Haswell, 338 Montgomery st.
California Beet Sugar Co.	Cal.		10 00	May 26	June 30	Aug 12	Louis Frenconi, 314 California st
Central Coal M. Co.	Cal.	20	20 00	June 10	July 15	Aug. 5	W. Hillerlaae, 457 8th st. Oakland.
Cincinnati G. & S. Co.	Cal		5	July 7	Aug 18	Sept 1	Wm. Small, 331 Kearny st
Central Polynesia Land Co.	Navigators Ie		5 00	May 14	June 17	Aug 5	J. J. Mcaburn, 319 California st.
Commercial Coal M. Co.	Cal.		50	July 3	Aug. 16	Sept. 3	S. B. Hanson. 402 Montgry st
Dutch Flat Bine Gravel M. Co.		2	50	May 13	June 14	July 29	W M Heiman 401 California st
Daisy Hill G. M. Co.	Grass Valley.	6	50	June 12	July 15	Aug. 2	H. Silvester, Grass Valley.
Empire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakins, 230 Kearny st
East Idaho M. Co.	Cal.	1	5	June 18	July 28	Aug 16	P. H. Paynter, Grass Valley
Eclipse & Lee G. M. Co.	Cal.	1	25	June 13	July 19	Aug 11	A. Treadwell, 411½ California st
Emerald Hill M. Co.	Utah.		25	June 24	Aug 1	Aug 26	F. Madge, Merchants' Ex
Enterprise Gravel M. Co.	Gras Valley.	21	4 00	June 11	July 10	July 31	M. McDonough, Grass Valley.
Eureka M. & Smelting Co.	Eureka Nev.	1	20	June 4	July 9	Aug. 1	T. P. Beach, 217 Sansome st.
Eliza M. & M. Co.	Siskiyou Co., Cal.	2	1 00	May 1	June 9	July 30	T. F. Cronise. 438 California st
Equitable Tunnel & M. Co.		6	50	May 6	July 7	Aug 8	C. S. Healy. Merchants' Ex
Golden Eagle M. Co.	Cal.	1	10	July 15	Aug 18	Sept 8	R. Stevenson, 305 Montgomery st
Greenhorn G. M. Co.	Cal.		1 50	July 11	Aug 18	Sept 10	Joel F. Lightner, 438 California st
Granite Tunnel M. Co.	Cal.		10	June 27	Aug 4	Aug 23	W. G. Holme', Cor. Wash. & Battery
Grace M. Co.	Schell Creek.	1	10	June 20	July 26	Aug 20	W. H. Knight, 331 Mont gomery st.
Grant Blue Gravel Bnnge.	Cal.	3	10	June 12	July 14	Aug. 5	Wm. H. Watson, 302 Montgomery st.
Greenville M. Co.	Plumas Co., Cal.	4	1 00	June 11	July 16	Aug. 4	H. C. Kibbe, 419 California st.
Heckerdorn G. & S. M. Co.	Cal.		25	June 9	July 10	July 28	L. Terme. 734 Montgomery st.
Hermguera Mining Co.	Lower Cal.	7	3 00	May 6	July 2	Aug. 18	J. H. Applegate. 729 Montgomery st
Lost Eaten Tunnel & M. Co.	Utah.	3	5	June 11	July 17	Aug 5	C. S. Healy. Merchants' Ex
La Paz M. Co.	Ely District.		50	June 16	July 21	Sept 1	W. W. Hopkins. 411½ California st
Lady Emma M. Co.	Cal.	3	20	June 25	July 26	Aug 18	A. D. Carpenter, 605 Clay et
Meudba S. M. Co.	Neveda.	1	1 00	June 9	July 15	Aug. 11	Geo. R. Spinney, 320 California st.
Manhattan Marble Co.		1	1 00	June 23	July 24	Aug 11	D. M. Rooke, 319 Pine st
Omegn Table Mountain M. Co.	Cal.	2	5	June 4	July 5	July 28	David Wilder, Merchants' Ex.
Orient S. M. Co.	Nevada.	2	10	June 14	July 19	Aug. 11	Joseph Maguire. 419 California st
Placer G. M. & Canal Co.	Cal.		10	July 8	Aug 11	Aug 30	Geo. W. R. King, 411 California st
Potrero Land Investment Co.			70 00	June 11	July 14	Aug 4	B. B. Minor, 411½ California st
Phenix Tunnel & M. Co.	Utah.		10	July 2	Aug. 6	Aug. 15	C. S. Neal, Merchants' Ex
Pioneer Cons. M. Co.	Nevada.	1	10	June 19	July 25	Aug 13	C. S. Neal, 419 California st
Potrero Land Investment Co	Cal.		70 00	June 11	July 14	Aug 4	B. B. Minor, 411½ California st.
Plymouth Rock M. Co.	Utah.	1	5	June 11	July 18	Aug 18	Jas. Mason, 422 California st.
Rising Star M. Co.	Cal.	6	5	July 23	Aug 13	Aug 30	J. M. Buffington, 37 Merchants' Ex
Sanderson G. M. Co.	Cal.	5	16	June 20	July 19	Aug 4	Wm. Stuart, 113 Liedesdorff st
Schuylkill Quartz M. Co.	Cal.	19	10	June 7	July 10	July 28	W. E. Reed, Grass Valley.
Stanislaus Water Co.	Cal.	2	2	July 2	Aug 26	Sept 15	C. C. Tripp, 526 Kearny st
Summit M. Co.	Cal.	4	25	June 21	Aug 26	Sept 15	Geo. Davidson, 734 Montgomery st
Stanislaus Water Co.	Cel.	1	2	June 3	July 7	July 28	C. C. Tripp, 526 Kearny st.
Starr King M. Co.	Nevada.	3	50	June 10	July 14	Aug. 4	L. Kaplan, Merchants' Ex.
South Emma M. Co.	Utah.	1	25	June 11	July 21	Aug 15	Henry Boyle, Stevenson's Bldg
Silver Sprout M. Co.	Inyo Co., Cal.	3		June 3	July 15	Aug 12	T. B. Wingard, 315 California st
Sickle Quartz M. Co.	Cal.		50	June 3	July 17	Aug. 30	D. Wheaton, 401 Montgomery st
Stevens Pacific Smelting & M. C		1	20	June 4	July 7	July 24	J. M. Knight, 320 Montgomery st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 31	L. Francoui, 314 California st
The City Gardens,	S. F.		66⅔	June 27	Aug 7	Aug 25	G. S. Ladd, 522 California st
Victoria and Imperial T. & M. Co.	Utah.		20	July 1	Aug 5	Aug 27	W. H. Watson, 302 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
American Flat M. Co.	Neveda	G. W. R. King.	411 California st	Annual	Aug 6
American Flat M. Co.	Nevada.	L. Hermann,	Virginia City.	Annual	July 28
California Jute Manufacturing Co.	S. F.	P. Susmann,	Battery et	Special	July 31
Cerbat Cons. G. & S. M. Co.	Cal	T. E. Jewell,	507 Montgomery st	Annual	Aug 11
California Pacific R. R. Co.	Cal.	E. H. Miller, Jr.		Annual	Aug 11
Cederburg G. M. Co.	Cal.	D. M. Bokee,	319 Pine st	Annual	July 31
Calaveras G. M. Co.	Cal	T. B. Wingard,	318 California st	Annual	Aug 5
Cons. Gold Hill Quartz M. & M. Co.		R. Wegener,	414 California st	Annual	July 31
Dayton G. & S. M. Co.		W. E. Dean,	419 California st	Annual	July 31
Eliza M. & M. Co.		T. F. Cronise,	438 California st	Annual	July 25
Frear Stone Co.		R. Wegener

Our Weekly Stock Review.

THURSDAY EVE., July 24, 1873.

The stock market has been "way dawn" and the general opinion seemed to be that the "bottom had dropped out" as prices did not reach it. The Virginia *Enterprise* says that some of the miners were a little afraid, under the state of the market, to go down into the lower levels of the Comstock, for fear the bottom would drop out altogether. At the latter part of the week, however, the prices rallied a little, though there was no great activity to speak of. The decline in value from July 1st to the 23d instant of thirteen leading mines, aggregated over $6,000,000. The prominent falling off in values as judged by stock prices were, Savage, $118.50 per share, or $1,283,000; Virginia Con. $36 per share, or $868,000; Ophelar, $21.50 per share, or $580,000; Yellow Jacket, $19 per share or $480,000; Crown Point, $8 per share, or $800,000; and Belcher, $10 per share, or $1,040,000. The declines in Crown Point and Belcher were in the face of dividends paid, although few shares changed hands. Savage is charged as being the cause of the whole list falling. It is rumored that there are no prospects of a settlement between the Raymond & Ely and Hermes Mining Companies, and that they are preparing for renewed litigation. The heavy fall in stocks has, of course, had the effect of reducing the amount of business done in the market. The fact that mining companies listed in the Board had paid up to June 30th the sum of $7,414,181 in dividends as against $4,026,000 during the same time last year, had no effect in keeping up even the prices of these stocks. Even the best-paying mines feel the effects of the decline of a fancy stock like the Savage.

On Friday the Stock Market was very weak, the break in Savage bringing everything else down. Saturday brought no more animation, and prices were low and weak.

On Monday the market was very dull, with prices still down to bed-rock figures, and no prospects of a rise.

Tuesday, stocks opened dull and weak, but recovered strength, and a comparatively better feeling was apparent in the afternoon, with, however, little variation in prices.

On Wednesday the Stock Market showed better indications, and prices were a little higher. Another bad break occurred to-day, quite unexpectedly to those who thought the market had touched bottom on Wednesday. A general decline was felt in stocks of every district: but Comstocks suffered most.

San Francisco Metal Market.

WEDNESDAY, July 23, 1873.

IRON.—			
Scotch Pig Iron, ₰ ton	$52 50	@	— —
White Pig, ₰ ton	52 50	@	— —
Refined Bar, bad assortment, ₰ lb	— —	@	— 06
Refined Bar, good assortment, ₰ lb	— —	@	— 06½
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	8 50	@	
Nail Rod	11	@	
Norway Iron	8	@	
Rolled Iron	6½		
Other Irons for Blacksmiths, Miners, etc.	6¼	@	9¼
COPPER.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O.Nail's Pat	— 55	@	— —
Sheathing, ₰ lb	— —	@	— 25½
Sheathing, Yellow	— —	@	— 25½
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25		— —
Composition Bolts	— 25		— —
TIN PLATES.—			
Plates, Charcoal, IX ₰ box	14 00	@	14 50
Plates, I Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₰ lb	— 40	@	— 42½
STEEL.—English Cast, ₰ lb	— 20	@	— 25
Drill	20	@	— —
Flat Bar	22	@	— —
Plough Points	16	@	— 17
Russia (for mould boards)	17	@	18
ZINC	9¼	@	10
Zinc Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5½	@	— 9

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

SAN FRANCISCO, July 23, 1873.

Prices of both French and American stocks remain about the same, with a trifling increase in the demand, and we look for a better trade during the coming month.

City Tanned Leather, ₰ lb			26@29
Santa Cruz Leather, ₰ lb			26@29
Country Leather, ₰ lb			25@28
Stockton Leather, ₰ lb			26@29
Jodet, 8 Kil., per doz			$50 00@ 54 00
Jodet, 11 to 13 Kil., per doz			66 00@ 85 00
Jodet, second choice, 11 to 16 Kil. ₰ doz			55 00@ 70 00
Cornellian, 12 to 16 Kil			57 00@ 67 00
Cornellian Females, 12 to 13			60 00@ 64 00
Cornellian Females, 14 to 16 Kil			66 00@ 72 00
Beaumerville, 15 Kil			60 00@ — —
Simon, 10 Kil., ₰ doz			60 00@ 62 00
Simon, 20 Kil. ₰ doz			65 00@ 67 00
Simon, 24 Kil. ₰ doz			72 00@ 74 00
Robert Calf, 7 and 9 Kil			35 00@ 40 00
French Kips, ₰ lb			1 00@ 1 30
California Kip, ₰ doz			50 00 to 80 00
French Sheep, all colors, ₰ doz			8 00@ 15 00
Eastern Calf for Backs, ₰ lb			1 00@ 1 25
Sheep Roans for Topping, all colors, ₰ doz			9 00@ 13 00
Sheep Roans for Linings, ₰ doz			5 50@ 10 50
California Russett Sheep Linings			3 75@ 4 50
Best Jodet Calf Boot Legs, ₰ pair			5 00@ 5 25
Good French Calf Boot Legs, ₰ pair			4 00@ 4 75
French Calf Boot Legs, ₰ pair			4 00@ —
Harness Leather, ₰ lb			30@ 37½
Fair Bridle Leather, ₰ doz			48 00@ 72 00
Skirting Leather, ₰ lb			34@ 37½
Welt Leather, ₰ doz			30 00@ 50 00
Buff Leather, ₰ foot			20@ 22
Wax Side Leather, ₰ foot			17½@ 18
Eastern Wax Leather			26 — —

LUMBER MARKET.

CARGO PRICES OF REDWOOD.		PUGET SOUND PINE —Retail Price.	
Rough, ₰ M	$20 00	Rough, ₰ M	$18 00
Rough refuse, ₰ M	16 00	Flooring and Step, ₰ M	30 00
Rough clear, ₰ M	32 50	Flooring, narrow, ₰ M	32 50
Rough clear refuse, M	22 50	Flooring, 2d quality, M	25 00
Rustic, ₰ M	35 00	Laths, ₰ M	3 00
Rustic, refuse, ₰ M	24 00	Furring, ₰ lineal ft	¾
Surfaced, ₰ M	32 50	Rough refuse, ₰ M	10 0
Surfaced refuse, ₰ M	22 50	**REDWOOD—Retail.**	
Flooring, ₰ M	30 00	Rough Pickets, ₰ M	18 00
Flooring, refuse, ₰ M	20 00	Rough Pickets, p'd, M	20 00
Beaded deorns, ₰ M	32 50	Fancy Pickets, ₰ M	30 00
Beaded floor, refuse, M	22 50	Siding, ₰ M	25 00
Half-inch Siding, M	22 50	Tongued and Grooved, surfaced, ₰ M	35 00
Half-inch siding, ref, M	16 00	Do do refuse, ₰ M	27 50
Half-inch, Surfaced, M	25 00	Half-inch surfaced, M	37 50
Half-inch Surf. ref., M	18 00	Rustic, ₰ M	37 50
Half-inch Battens, M	22 50	Battens, ₰ lineal foot	¼
Pickets, rough, ₰ M	14 00	Shingles ₰ M	3 00
Pickets, rough, p'tsd	16 00		
Pickets, fancy, p'ntd	22 50		
Shingles, ₰ M	3 00		

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

AMADOR COUNTY.

GOOD HOPE.—Amador *Dispatch*, July 19: Since the new hoisting works have been put in operation the surplus water has been taken out of the shaft, and the work of sinking and taking out rock has been commenced in good earnest.

KENNEDY MINE.—After a large amount of labor and expense, the old and new shafts have been connected by underground communication, thus giving the miners better facilities for getting out rock, as well as better means of escape in case of fire or other accident. The rock now being taken out is said to be unusually rich, besides being plenty.

CALAVERAS COUNTY.

A GOOD MINE.—Calaveras *Chronicle*, July 19: As we passed through San Andreas last Monday, our attention was attracted to the Lloyd Brothers' gravel mine, situated in that village. The claim is an old river bed or channel, varying from 100 to 260 ft. in width—the pay streak—from 2 to 4 ft. in depth and from 50 to 60 ft. below the surface. The mine is drained by a tunnel 800 ft. long. The gravel is raised out by hoisting works run by water power and dumped into an arastra worked by the same power, an ordinary sluice stream only being required to raise, crush and wash the gravel. The present working force is 12 men.

VERY RICH ROCK.—About the richest quartz we ever saw was brought to town the other day by some parties who recently discovered the lead from which it was taken. The lode is situated near Donnallan's bridge, about seven miles from Mokelumne Hill. The rock was so strung together with gold that it could scarcely be broken in pieces. We did not learn the size of the lead, but we understand that but very little work has yet been done upon it.

PRUSSIAN HILL mine let a contract to sink the shaft 100 ft. deeper; about 250 ft. in all.

NEVADA COUNTY.

EUREKA MINE.—G. V. *Union*, July 17: The following is from the official report of the Superintendent, Mr. Watt, to the Co. at San Francisco. The report is dated July 12, and says: "Our clean up for the last six days' run of ten stamps is 1,175 ounces of amalgam. We have commenced cross-cutting for the ledge in the bottom east drift. The west shaft shows good walls, but no ledge. The sixth level stopes look well, the ledge being large and good. No change in any other part of the mine."

SAN BERNARDINO CO.

ARLINGTON DISTRICT.—*Guardian*, July 12: The mines in this District are becoming to be almost as famous as those in the Clarke and Holcomb Valley Districts. They were first discovered by Mr. Bobelly, of Anaheim, and the locations have mostly been by citizens of that place. Quite a large quantity of very rich ore has been taken from the mines, which has sold in crude bullion in San Francisco for from $650 to $700 per ton. From the mines the shipment has been made via Anaheim to San Francisco. The leads that have principally been worked, so far, are the Big Blue, Lone Valley, Sonoma and Comet. These mines are situated about 60 miles northeast of San Bernardino, near the old Cusonbary City and 15 miles from Holcomb Valley. 50 or 80 men are employed in working them. Two companies are now making arrangements to put up smelting works. The successful development of mines in such rich districts as the Clarke, Holcomb Valley, Ord, Twenty-nine Palms and Liberal, makes it appear as though a new era of prosperity was beginning to dawn upon our town and county. The amount of supplies required for these mines—when they get fairly under way—will be no small item, and San Bernardino will be the depot from which they are drawn.

TRINITY COUNTY.

A MINING SPECULATION.—Trinity *Journal*, July 19: J. W. Smiley and J. G. Trotter have purchased a number of the gold mining claims at Smith's Flat near Douglas City. They intend to put in a large flume, take water in big pipe from Faulsen's ditch, and try what virtue there is in working old diggings in a scientific manner. Smith's Flat was noted for its uniform good pay, and was worked for a number of years successfully. At the front of the flat was worked away and the bank grew deeper, it became difficult, with the poor facilities for working then known, to strip enough bed rock in a season's work to pay well, and this past winter only one company has worked there. As the necessity for cutting more than one deep bed rock ditch will be avoided by the use of the improved mining appliances now in vogue, it is claimed that the ground that is yet left can be made to pay as well as that formerly worked.

TUOLUMNE COUNTY.

Tuolumne *Independent*, July 9: Confidence has shut down for reasons unknown, but supposed to be on account of law matters. The engineer is at his post to keep out the water.

The Golden Gate Tunnel is now in 268 ft., and the rock looks better than ever. The iron work for the new mill is being rapidly pushed at the Sonora Foundry, and the lumber is already on the mill site.

Fowles & Co. have commenced work on their quartz lode at Arastraville. They have just got the water out, —having been filled up last winter,—and have commenced sinking. This vein is a splendid one, and has yielded rock going $50 per ton.

Hidden Treasure, at Cherokee, has shut down for want of water. The Co. will now start in and push their tunnel. The contract has been let to run 80 ft. further, when it will strike the lode 150 ft. from the surface. When the contract is completed, the tunnel will be in 300 ft.

Nevada.

BELMONT.

EL DORADO.—Reese River *Reveille*, July 12: The large steam pump is in its place and working finely; the double track is finished from top to bottom; all the levels have good tracks in them and new turn-tables of a very light and strong pattern have been put in at each station. To stand at the lower station and see the cars coming, first from the north side, then from the south and next from the bottom of the incline, which is now being sunk in good ore, makes a fellow feel that this company means business. We spied around to see where this ore all came from, and were surprised to see such large, fine breasts of sulphurets in the north, and large strata of black metal in the south. We are well satisfied that this mine will be giving up its precious metals long after we poor mortals have gone to the happy hunting ground.

BELMONT CO.—Have quit sinking for the present, are drifting back for the ledge at the Canfield incline: are also sinking a winze into the ore body 500 ft. north of the Canfield shaft. The Highbridge works are completed and will toot the big whistle to-morrow. Our bullion shipments will greatly increase when the rich ores from the Highbridge are commenced on.

MONITOR CO. is still sending its rich ore to the mill; drifting lower tunnel back into the hill, also sinking the two winzes from the lower tunnel level down through good ore, and are very near water level.

THE MONITOR-BELMONT MILL.—This mill has been repaired and put in splendid order; it is running steadily on the ores of the Monitor and Belmont companies.

A great deal of work is going on in Jefferson Canon, Silver Point and the Spanish Belt. Johnny Grimes is hatting away on his Green and Oder mine near town, and if he has much of such ore as he showed us a few days ago, he must certainly have a big thing.

COPE DISTRICT.

EXCELSIOR.—Eureka *Sentinel*, July 13: This mine is located on the northwest side of Prospect mountain, and about two-thirds of the way to the summit. The improvements consist of an incline of about 70 ft., with a couple of drifts leading from it, and a tunnel about 50 ft. below the point of the drift. Work upon the latter is temporarily suspended. At the opening of the incline ore is to be seen lining its whole orifice, but of a low grade. Descending, both the quality and quantity of the ore increase until the first drift is reached. From this excavation a large amount of high grade ore has been taken, and still more is to be seen. Proceeding downward, can be seen extensive rich streaks of yellow carbonate of silver, and, when the end of the incline is reached, a force of men is found delving in an immense deposit of this silver-bearing substance. The body has not been sufficiently developed to allow of an opinion as to its proportions or extent, but the indications in general lead to the conclusion that fine mine will be opened.

ROBINSON DISTRICT.—We were shown last evening, by Mr. Lynch, who had just come in from Robinson, some very rich specimens of ore taken from the Sunburst mine in that district. The samples are composed of yellow carbonate of silver and galena. He informs us that several hundred tons of the same character of ore are in sight in this mine, and a large quantity already on the dump. We also learn from the same source that the 10-stamp mill which is in course of construction by the Watsou Company, will be completed and in operation within 30 days. Tha Hayes is the principal of the location owned by this company, and is yielding largely in free milling ore. It is the opinion of our informant that the district only lacks means for reducing the ores which the mines will yield to make it come into favorable notice. Robinson is distant from Hamilton about 40 miles, a stage line plying between tha two places.

EUREKA.

RICHMOND MINE.—Eureka *Sentinel*, July 12: Winze No. 5 displays the finest ore during its whole extent; in fact, nothing but ore is visible at all from its mouth to the extremity. The southeast drift displays the same amount of the metalliferous substance. It is between 40 and 50 ft. in extent, and is curvature in form. The body of ore has been exposed for about 200 ft. of its length, and will average 80 ft. in thickness. In some pieces stoping has been continued for 80 ft. without exhausting the mineral. In one place in the workings a shaft has been put down 58 ft., to test the continuance of the vein matter, and shows the most encouraging results. This was done during the presence of the recent suit between this company and the Consolidated, when it was a leading point for the former to show that they had a vein, and not a deposit. The Lizetto tunnel, which is being run from the north side of the hill, and which is intended to tap this body of ore horizontally, will be completed in the course of 4 or 6 weeks. Work from either end is being pushed on with all compatible speed. It will be over 500 ft. in extent.

THE K. K. MINE.—The main shaft of this mine has a depth of about 200 ft. The lower part is being cribbed, in order to allow the cage to pass down to the bottom, where drifts are to be opened. The only level from which any considerable work is being done is 135 ft. from the surface, and has been worked in about 400 ft. Three winzes have been sunk from this level, and each developes fine ore deposits. Was were shown through extensive workings, whose immense bodies of ore are exposed to view.

Truckee *Republican*, July 17: The Tecoma Silver M. Co. had their smelting works started up yesterday for the first time. The process used by the Tecoma Co. is believed to be the best known, and is the result of years of successful experience in the smelting of silver ores in Nevada and Utah. The ore now being smelted here is from the Co.'s mine at Tecoma. The Co. have two furnaces now ready for operation, and intend to erect a third one soon. They have on hand about 400 tons of silver ore from the Tecoma. Tha ore is very rich and assays from $300 to $400 a ton. They also have on hand about 20,000 bushels of charcoal. Of this they now use 200 bushels a day, but with the other two furnaces in operation they will consume about three times that amount. The works are kept in constant operation day and night, and from 35 to 40 men are employed. Up to last evening they had turned out 7 bars of bullion of 100 pounds each. The Co. possess abundant means and have large bodies of rich ore for smelting. The smelting works in this place will doubtless be kept in successful operation hereafter.

CITY CREEK MINES.—Salt Lake *Tribune*, July 12: From some gentlemen of reliability who returned from City Creek mines last evening, we learn that several of the locations look most encouraging and give promise of proving valuable mines. Amongst the ledges named were the New Jersey, General Scott, Henry, Flagstaff and Victoria, all looking well. The ore, our informants believe, will range from $30 to $60 per ton, and they are of opinion that City Creek will yet prove a good ore-producing district.

HARD SCRABBLE DISTRICT.

It is situated about 5¾ miles eastward from Mineral Hill, and was discovered last April, by Dr. Hanson and H. F. Anderson.

CLARENDON MINE.—This claim is in Slate formation, has regularly defined walls and shows a fine body of ore. A tunnel has been driven 60 ft., from the extreme point of which it is 40 ft. to the surface. From several assays the value of the ore is ascertained to be $100 per ton, and of a character to be amalgamated, although the ore of the district generally is plumbiferous and in a limestone formation.

THE WAVERLY MINE is of some promise, so far as explored, and yields ore which assays $30 per ton.

THE STARS AND STRIPES CLAIM is looking well, and being worked vigorously.

THE MARIPOSA LOCATION is owned principally in Eureka, and is working 3 men. The vein matter assays $30 per ton.

MINERAL HILL DISTRICT.

MINERAL HILL.—Eureka *Sentinel*, July 17: This mining camp is improving. The Mineral Hill Silver Mines Company are continuing vigorously the workings of their mines, and at present employ 60 men. Since the property came into the possession of this Company they have shipped bullion to the extent of $1,072,000 in value. The product for the last year has been $392,000. The Atwood mill is kept constantly in operation upon ore from the hill, and reduces from 15 to 20 tons per day.

The Taylor mill has been idle for some time, in consequence of a falling off in the ore products of the mines. This structure was erected and equipped at a cost of about $135,000, and is now offered for sale by the Co. It is nearly new, has 20 stampa, 9 amalgamating pans and settlers and a large engine from the Booth Iron Works, San Francisco.

THE SPENCER AND AUSTIN MINES, principally owned and managed by the Plummer Brothers, are giving employment to 6 or 8 men, and are producing some good ore. The development of these mines is retarded by the owners not having a mill by which to work their ore, the other company charging as high as $35 per ton for custom work.

PEAVINE DISTRICT.

It now seems probable that a mining revival has commenced in this once popular district. Mr. Toombs, of San Francisco has begun the erection of a mill, and will have it running inside of sixty days. It will be a water mill and will work the ore of the Poe lead. The ore of the lead will mill $17 per ton, and there being an abundance of it, it is considered that the speculation will prove a profitable one.

The new works of the Rossuth Company below Silver City will be supplied with water brought from the Silver Hill mine, through a flume three miles and a half long.

ITEMS.—THE CHAMPION MINES.—This mine was purchased by Messrs. Elzy, B. F. Bivens and others, some three years since. "The company, have four hundred tons of ore on the dump, worth from $75 to $250 per ton, besides an inferior quality, which is certainly worth $75 all through. An expert lately visited the mine and stated that, if in Salt Lake, it would readily sell for three millions." Mr. D. O. Turner, B. F. Bivens and many other Carsonites, are largely interested in the mine, and we are promised accounts of its progress, as well as of other mines in the same locality.

SECRET CANON.

THE GEDDES AND BERTRAND MINES.—Eureka *Sentinel*, July 18: They are all situated upon a line, the direction of which is north and south, and in the order following: Beginning at the south, the first of the series is the Calico, which is, perhaps, the first in importance, also, of the whole. Upon this a shaft has been sunk 150 ft., the first 10 ft. of which penetrate ore, and the remainder what seems to be, as it is technically termed, a "horse." The first drift is 53 ft. from the surface.

The next drift is 35 ft. from the surface and has a linear extent of 42 ft. After passing 8 ft. through the porphyry formation through which tha shaft penetrates, a fine character of ore is entered, and continues during the remaining 36 ft. of ths drift, save at its very extremity, where a sort of quartzite conglomerate comes in. A bisecting excavation is made 25 ft. from the mouth of the drift, and at right angles with ths latter. It has been carried through 18 ft., and brings to view nothing but ore. Another cross-cut has been made which extends 16 ft. from the drift, and carries ore 12 ft. of its length, the letter part penetrating a formation which is more lime than anything else. A third cut is run from this drift, close to its extremity, but developa nothing of interest.

The third level is 75 ft. from the mouth of the shaft, has been driven in a distance of 40 ft., and after passing through whet wo shall call the "horse," enters an ergentiferous formation similar in kind to that in the other workings of the Celico. At the furthermost exploration in this level the ore gives place to formations other than metellic. The first cross-cut is made at an angle a little greater than a right angle from the drift, is 12 ft. in length, and passes through nothing but high grade. Another drift has been put in from the level, in nearly an opposite direction from the ore already described, but has brought to light nothing worthy of note. The fourth level is 150 ft from the top, but, like the other, possesses nothing of interest.

WASHOE.

SAVAGE.—Gold Hill *News*, July 19: Sinking the incline has been again resumed, and is making good progress. The main south drift on the 1700-ft. level is being driven energetically ahead to make connection with tha north drift on tha same level from Hale & Norcross. A cross-cut west from the main south drift has been started near the south winze, but has developed nothing of material value as yet. Prospecting in other portions of the mine continues as usual, without change of interest.

COLLAR-POTOSI.—Daily yield, 140 tons of ore, worth, per assay value, $30 per ton. There has been little or no change in either the looks or yield of the different ore-producing sections of the mine during the week. The east cross-cut from the main northwest drift at the fourth section is still pushed energetically ahead, the face in quartz of a very promising nature.

IMPERIAL.—The cross-cuts at the 1700-ft. level afford nothing new to report for the week. Prospecting the other levels continues, with no change of interest.

OPHIR.—Sinking the incline is making steady progress, without change of interest to chronicle. The rock in the south drift at the 1300-ft. level is improving in character. Nothing new to report of the prospecting in other portions of the mine.

JULIA.—The main east drift at the 800-ft. level cut during the week some fine ore, with occasional spots of exceeding richness. The flow of water from the south cross-cut of the main west drift at the 1000-ft. level continued to gain upon the tanks until it reached a point 31 ft. above the station, where it was stopped, and from which the hoisting tanks are again gradually lowering it.

ARIZONA AND UTAH.—The shaft is now down 370 ft., the rock in the bottom working well, and good progress being made. Some rich feeders and stringers of ore were found last week, indicating an approach to the main back ledge. Sinking the winze in the main east drift at the 250-ft. level is making good progress, occasionally cutting bunches of good ore.

AMERICAN FLAT.—Sinking the incline is making good progress, the rock in the bottom working well. The southwest drift on the 400-ft. level of the Baltimore has cut through some fine indications of an ore body at that point, which is undoubtedly a continuation of that found in the Baltimore. Good developments may be looked for soon.

OCCIDENTAL.—Daily yield 35 tons of ore. This yield can be increased in a very short time to almost any desirable amount, the development already made showing the ore body to be both valuable and extensive. Tha mill is kept running steadily, crushing ore from the mine.

JUSTICE.—Work in the old Waller Defeat ground, which haa been suspended for the part week, will be again resumed in a couple of days. Ths ore in the main south drift on the 400-ft. level of the old shaft continues to improve, showing spots and streaks of exceeding thickness.

MINT.—A cross-cross in the main southeast drift at the second station, 30 ft. south of the shaft, is in 30 ft. passing during the week through a spur of the main ledge, 3 ft. thick, of fine ore. It is expected that the main ledge will be reached in a very few ft. more. Everything in and about the mine is working finely.

NEW YORK CONSOLIDATED.—Sinking tha shaft is progressing at the rate of 2½ ft. per day. Tha pump continues to handle the water with the most perfect ease, and everything in and about the mine seems to be conducted in the most economical business manner possible.

BALTIMORE CONSOLIDATED.—Driving the main west drift at the second station has made excellent headway during the week, encountering some fine indications of good ore developments in a very short time. Prospecting at the first station continues, with very encouraging indications of a continued enlargement of the ore body already found.

SIERRA NEVADA.—Daily yield 60 tons of ore, keeping the mill steadily running. The ore bresats in the upper and middle portions of the mine are gradually being extended further to the north and west, and show bnt little change in either tha quantity or quality of ora prodnced.

UTAH.—Sinking the shaft is making excellent headway, the work progressing downward at the rate of 2 ft. per day.

SILVER HILL.—Daily yield 60 tons, the assay value of which is $50 per ton. The main north drift at the second station is still driven ahead, the water no longer interfering with the progress of the work. The main north drift at the first station is being again pushed ahead, the ore in the face gradually improving in quality as the drift advances. The ore slopes on this level are both looking and yielding well.

CALEDONIA.—Daily yield 60 tons from the 400-ft. level. The main north drift at the 500-ft. level has developed good indications of a fine body of ore. Two cross-cuts have just been started from this drift. A winze has been started from the 400-ft. level to connect with the main north drift on the 500-ft. level. The winze is down 46 ft. and has developed some fine ore.

BUCKEYE.—Prospecting the various levels continues as usual, with no changes of importance to chronicle. The company's mill is kept steadily running on ore from the mine. An assessment of $1 per share, aggregating $16,000 was levied July 14, delinquent in the office of the company September 8th.

FRANKLIN.—Reopening the old tunnel is making excellent progress, the face in porphory. Small pieces

(Continued on Page 60.)

Spice Plants.

Ginger.

We present in Fig. 1 of our illustrations, an engraving in miniature of the ginger plant; root and top; and from the root of which is obtained a pungent but agreeable spice; well known and extensively used in all civilized countries. Ginger is cultivated in both the East and West Indies, as well as in South America, Africa and China; and could be cultivated in California with profit. The rhizome, or woody root-stalk which forms the ginger, is dug up when of sufficient size, cleaned, scraped and dried and in this state is called uncoated ginger; but when the outer skin is not removed from the root-stalks, it is called coated, and presents a dirty-brown appearance.

Independent of this difference in color, which is in the mode of preparation, it is supposed there are two varieties of the species, one producing white, and the other dark-colored ginger. Its well known hot, pungent taste is due to the presence of a volatile oil; it also contains a large quantity of starch and yellow coloring matter, inclosed in large cells. Ground ginger is largely adulterated with starch, wheat flour, ground rice, mustard, etc., in various proportions.

In a young state the roots are tender, fleshy and mildly aromatic; in this state they are preserved in sirup and form the delicious conserve known as preserved ginger. Ginger is an aromatic stimulant, principally used as a condiment, and much employed in the manufacture of various liquors, cordials and beers. An infusion under the name of ginger tea is much used as an aromatic tonic.

The Nutmeg.

The nutmeg tree, Fig. 2, is extensively cultivated in tropical regions for its valued products. It is comparatively a small tree, seldom reaching a height of more than 30 feet. The leaves are aromatic, and the fruit is very much like a peach, having a longitudinal groove on one side, and bursting into two pieces, when the inclosed seed, covered by a false aril, which constitutes the substance known as mace, is exposed. The seed itself has a thick outer shell which may be removed when dry, and which exposes the nucleus of the seed, which is the nutmeg of commerce.

The mace or covering, which is of a fine red or cinnamon color when fresh, becomes a golden yellow when dry. The nuts are liable to be injured by insects; to guard against which, they are repeatedly dipped in lime-water for several weeks after gathering. Even the fleshy pericarp is often used as a conserve. Nutmegs and mace are largely employed as condiments. They are both used in medicine as stimulants, carminatives and flavoring agents.

The best nutmegs are grown at Penang, or Prince of Wales Island, in the Straits of Malacca; they are about an inch in length, shaped like a damson plum, pale-brown in color and furrowed on the exterior, and gray on the inside, with veins of red running through them. From the foregoing it will be seen how widely the true nutmeg differs from that of the so-called wild nutmeg of California, as well in its general make up, as in the form of its foliage.

The Caper.

Here in Fig. 3, we have a creeping plant, a native of the South of Europe. The flower buds, and in some parts of Italy the unripe fruit, are pickled in vinegar, and form what are known as capers. There is an African species that furnishes berries with a pepper-like, pungent taste, and when dried are used as food. There are several other species, nearly all of which are possessed of vermifuge properties. The smell of this plant in some of its varieties is so detestable that no animal will eat the foliage.

The Cinnamon Tree.

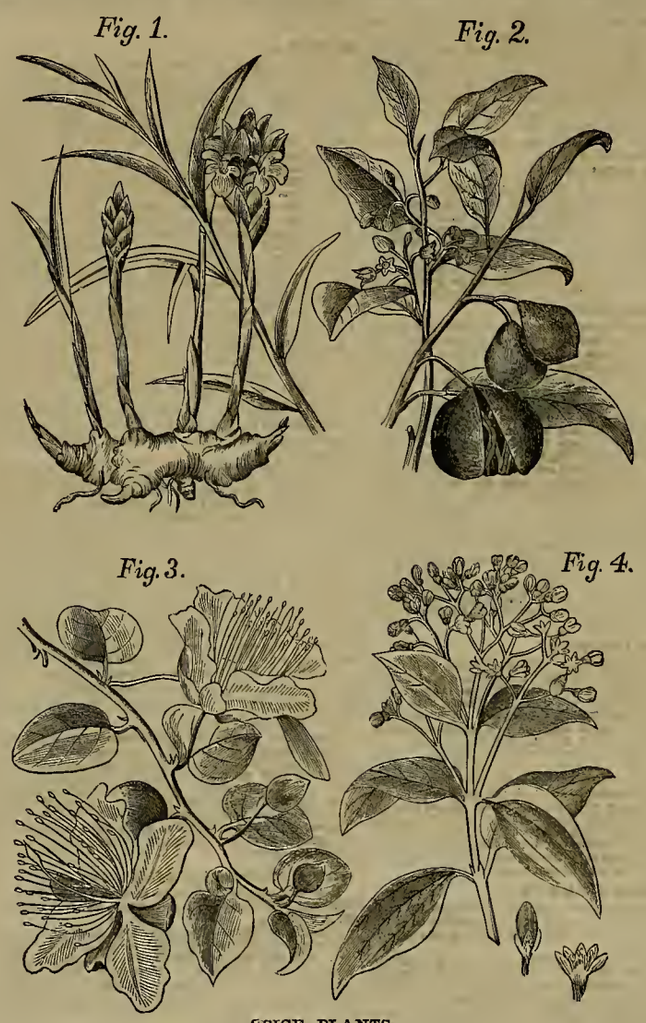
The true cinnamon is obtained from a tropical tree reaching a height of 30 feet and cultivated in many countries. Ceylon has long been noted for the excellence of its cinnamon, but commerce is largely supplied from the West Indies and South America. Its leaf and flower stalk are shown in Fig. 4. It is prepared by stripping the bark from the branches, which, on drying, naturally rolls up into quills, the smaller of which are introduced into the larger and then the drying completed in the sun.

Good cinnamon is generally known by the thinness of the bark; as a rule the thinner and more pliable, the finer the quality. When broken, the fracture should be splintery. It is largely used as a condiment for its pleasant flavor, and its astringent and cordial qualities give it a value as a medicine. From the root an excellent camphor is extracted, and the dried flowers are used as a spice. Cassia, has the flavor of the true cinnamon, but the bark is thicker, coarser and not so delicate in flavor, and is much used to adulterate the true article; the bark is more brittle and less fibrous in texture.

Riches vs. Poverty, or California as she is and Should be.

Written for the PRESS by ALMARIN B. PAUL.

Is it not reasonable to say that California has no superior in point of natural wealth and advantages of producing it? Wealth in the innumerable gold bearing lodes, which crop out in every range. Wealth in the water-power of her mountain streams. Wealth in a soil ever productive. Wealth in a climate which has no extremes of cold in winter or scorching heat in summer. Wealth in its clear sky and invigorating seasons; in its mineral springs and evergreen hills; in its ocean boundaries and railroad facilities; in all the natural advantages man can ask for. Yet, what do we see? Prosperity? No! not among the masses. Not in the mountains, where lie the golden treasures. Not in the towns, where once was life and bustle, where legitimate industry and the sweat of the brow made the heart beat light, and the welkin ring with cheerful song at the close of the day. Not in this commercial mart, where once were big brains to conceive and ready hands to execute, where energies were expended in building up a great commercial



SPICE PLANTS.

city—to be—where men prosecuted business for business sake; where the effort was to enlarge the fields of industry, by which the rich and the laborer were equally rewarded; where there was brotherly love and a desire to elevate one another.

How is it now? Poverty! unbounded poverty! Why is it? Why, as a people, have we lost sight of legitimate labor and become gamblers—capital gamblers, in fostering speculations for high rates of interest. The merchant gambles because trade is dull, and "stocks on the board" give life to weary hours, and besides he may win on the turn. The laborer gambles, he hears of riches to be gained in stocks. The servant girl ventures, "stocks may come up." All go in, and the coin only jingles in the go—poor deluded souls. And so it is all heads full of stocks, and at the expense of every legitimate pursuit. Legitimate endeavor is work, stock-gambling is play, and this "play" is ruining the entire Pacific Coast. Is it not? Where are your flourishing manufacturies which an abundant capital should foster and build up for the good of itself and the whole people. Where are your prosperous inland cities? What is the condition of the real estate market in the boasted "great" commercial city of the Pacific? Where is your commerce? Where are your efforts in opening up the wealth which lies in the quartz beds at your very door, in the mountains which every hour of the day are within your vision? Twenty-four years have passed, and where is it? Is it what should be expected of an industrious, intelligent, productive people? Is it what it should be, were we such? No, far from it. California produces less than twenty-five millions of gold, and has advantages which, properly cared for by legitimate effort, should produce one hundred millions per annum, and fill every mining camp with population, vigor and prosperity.

Some may say we are prosperous, and point to the fifty millions on deposit in our city banks. Fifty millions have been deposited, but where are they? What amount of that fifty million is cash on hand? Where is it? Gone, gone, gone,—gone to pay interest at from 10 to 18 per cent. per annum; gone to England, gone East, gone to China — gone from our sight and beyond our benefits. Can we thrive under such a condition of things? Thrive! It is impossible; but the evil will in time correct itself: but how much better it would be for us to correct the evil? It will correct itself by spreading greater poverty and creating more distress — by the poor becoming poorer and the rich richer; by suicides, insanity and ruin of every interest which makes a stable and prosperous State.

But where is the remedy, says one? It is in one universal effort to crush out this illegitimate, idling, non-producing, gambling spirit, so rampant among all classes. It is in business men confining themselves to their legitimate pursuits. It is in our men of wealth throwing off a little selfishness, and in trying to build up others, who are trying to build up themselves. It is in extending the advantages of capital to such pursuits as give labor to the masses, even at lower rates of interest, and feel a little that, as Carlyle says, "He is the true king of men who can *do* the most." It is in understanding the fact that interest above eight per cent. per annum, is ruin within itself. It is in considering ourselves as one of a Union of States, and not the financial centre of the world. It is in the Press of the coast, making a general onslaught against all this stock-jobbing, stock-gambling way of business generally. This universal, non-producing, idle spirit, which is too prevalent in the city and out of it. The whole country wants invigorating in a new channel—wants industry infused into it—wants encouragement—wants to be made *to go to work* and bring forth the vast riches spread before us, and gather back the trade that has traveled from us—open up a commerce—in fine we want to commence *business*. Californians ought to be the richest people on God's earth—rich in gold, rich in comforts, rich physically and mentally, rich in arts, rich in science, rich in institutions of learning and charities. We have all to make it, and heed not our advantages.

Popular Science.

Whatever book, magazine or newspaper we read; whatever lecture we listen to; with whomsoever we converse even, we are confronted with this inevitable phase. What is its exact meaning? Does it mean science for the people, or is it intended to convey the idea that it is science made generally interesting—or are both meanings to be included in the term? We strongly suspect that in many cases the name only serves as a cloak to cover what might be described as appreciation of the hackneyed experiments performed by the typical lecturer on scientific topics. This personage, in unveiling the hidden things of science, certainly lays claim to the title of entertaining expounder, and deserves it, in view of his strenuous efforts in securing it; though frequently his frantic endeavors to command attention fall so far short of the dignity of his theme, that the effect is truly laughable. Can it be that a love for science consists in, and is limited by, a curiosity to see whether those two colorless liquids really will produce a blue one, as the Professor has so confidently stated, and an anxiety as to when his next startling explosion will take place? It certainly is a fact that this affectation of "popular" science serves to attract many, to whom its hard, rigidly mathematical laws might have proved repulsive, and it is impossible that it should fail to impart many interesting, and oftimes useful, bits of information. And then in the "popular" science books, too, we are treated to the same sugar-coated prescriptions; and, to complete the simile, the doses are also homeopathically infinitesimal.

What is really needed, is the dissemination of scientific knowledge respecting the numberless issues of every-day life, the perpetually recurring question of relation between greatest effect and least labor, and the all-important matter of utilizing waste products—which, after all, is where we gain most in comparison with the inaccurate and wasteful processes employed by our fathers. Science brought down to the wants of common existence, the science which is applicable in what are termed small things, the science which is intelligible to the masses, is what should be properly, the definition of "popular" science. It is encouraging to note that this desideratum is being more and more felt, day by day, and the knowledge that heretofore has been locked, so to speak, in the arcana of the initiated only, and regarded as the sacred mysteries peculiar to a privileged class, is becoming ever more wide-spread as the means of acquisition are multiplied.

Still, we protest against the calm serenity with which complacent admirers (from afar) proclaim their devotion, and against so palpable a misuse of terms as that to which we have alluded.

A BUSY RAILROAD.—The Virginia and Truckee Railroad is only 51¼ miles long, and used principally for conveying ores from the Comstock mines, to the reduction works on Carson river. For the six months ending June 30th they carried 224,088,500 pounds of ore and 12,096,000 of tailings over the road. The *Enterprise* tabulates the tonnage statement as follows:

Articles.	*In Pounds.*	*Lumber in feet.*	*Wood in Cords.*	*Totals in Tons.*
Mdse	42,020,604			21,010
Lumber	70,915,872	23,638,624		35,457
Wood	108,420,000		43,368	54,210
Coal, stone	39,068,860			19,534
Ore	224,088,500			112,044
Tailings	12,096,000			6,048
Live Stock	220,000			110
C. Bullion	160,474			80
Totals	496,799,310	23,638,624	43,368	248,495

This is a very good showing for such a crooked, steep and short road. Hereafter, the number of tons of coal brought to the mines, will probably increase and the amount of wood proportionately decrease. The *Enterprise* says, that the weight of the crude bullion only is given; that is, the bullion in the rough, as it is taken from the retorts at the mills and sent to Virginia for melting, assay and molding into bars. Much of this crude bullion is brought to Virginia by the stages and by teams belonging to the mills where it is produced, therefore the table above given shows hardly half of the bullion produced. Did the table show the weight of the bars shipped, a better idea of the bullion product could be obtained.

COAL NEAR VALLEJO.—The Vallejo *Independent* of yesterday has the following: Matras Driscol, a resident of Vallejo, brought into this office, last evening, several specimens of coal he had just brought down from the Suscol Hills, some nine or ten miles north of Vallejo. Driscol represents that the coal in question came from the ranch of Thomas Morgen, where there are large deposits of the same. A piece of the mineral taken from near the surface of the ground contains considerable earth intermixed with it, but another piece coming from a depth of twenty-five feet in the bowels of the earth, is of a very pure quality of coal, heavy and of a shining dark-blue color, denoting its purity. Driscol also states that there are large deposits of various qualities on the ranch above mentioned, but that it is not being mined, and is waiting for capital to develop it.

Useful Information.

Resins.

By the action of the oxygen of the air most of the essential oils are gradually thickened, and at length converted into a substance termed resin. Resins are frequently met with in the vegetable kingdom; in some instances, as with coniferous trees, resin flows spontaneously from the wood in combination with an essential oil, so called Venice turpentine, which hardens by exposure to air. Some resins are extracted from vegetable matter by means of alcohol, this solution being either precipitated with water or evaporated to dryness. Resins are either soft, and are then termed balsams, chiefly solutions of resins in essential oils, or hard. To the former belong Venice turpentine, Canada balsam, balsam of Peru, Capaiva balsam, etc.; to the latter, amber (a fossil resin,) anime, copal, gum dammar, mastic, shellac, asphalte. The gum resins are obtained from incisions made in certain kinds of plants, the milky juice of which hardens by exposure to air; these substances are partly soluble in water, and yield with it in many instances, an emulsion; for instance, assafœtida, gum gutti, etc. Many gum resins possess a very strong odor and contain essential oils. Although it is customary to treat of caoutchouc and gutta-percha under the head of resins, these substances are not related to resins at all, but belong to a separate class of bodies, among which, according to Dr. G. J. Mulder's researches, the so-called drying oils must be enumerated.—*Cabinet Maker.*

Putting Old Saws in Order.

Laborers in the rural districts are not always aware how much unnecessary time and muscle are expended in the sawing of a few logs with a saw that is not in good order.

We have in mind two men who said they labored faithfully for two hours in sawing off one white-wood log less than four feet in diameter. Two men in Steuben county recently sawed off a hard curled maple tree, which had been down about one year, three feet one inch in diameter, in exactly ten minutes. They used the Champion saw, and had been sawing all day before coming to this cut.

It matters but little what kind of a saw is used, if the teeth are correctly filed and set. The very points of the teeth are the parts to be put in order. When the filing is finished the points of the teeth should all range as accurately as if they had been dressed off with a jointer. Then a saw will run through a log like a heated knife through a roll of butter. If four teeth are filed very fleam-like, and every fifth tooth be filed square across on both edges or sides and be about one-sixteenth of an inch shorter than the fleaming teeth, a saw will operate beautifully, provided the teeth are not set too much.—*N. Y. Herald.*

Rusting.—The slow combustion of metals is called rusting, and the oxide formed is called rust. All the familiar metals, except silver gold and platinum, are tarnished on exposure to the air; that is they become covered with a film of rust, or oxide. That heat is developed by rusting, as by other slow combustion, is shown by the fact that if a large pile of iron filings be moistened and exposed to the action of the air so that they rust rapidly, the temperature rises perceptibly. A remarkable case of heat developed by rusting occurred in England during the manufacture of a submarine electric cable. The copper wire of the cable was covered with gutta-percha, tar and hemp, and the whole inclosed in a casing of iron wire. The cable, as it was finished, was coiled in tanks filled with water; these tanks leaked, and the water was therefore drawn off, leaving about 163 nautical miles of the cable coiled in a mass 30 feet in diameter (with a space in the center six feet in diameter and eight feet high.) It rusted so rapidly that the temperature in the center of the coil rose in four days from 66 to 79 degrees, though the temperature of the air did not rise above 66 degrees during the period, and was as low as 59 degrees part of the time. The mass would have become even hotter had it not been cooled by pouring on water.—*Hand-Book of Chemistry.*

The Silk Worm.—The delicacy and fineness of the thread spun by the silk worm is one of the marvels of nature. The size of the threads is not uniform, but the smallest fibres wrought into the cocoon by the worm are so exceedingly minute that from 200 to 400 of them are sometimes required to make a single strand of the smallest sized sewing-silk. One ounce of the thread measures about 1¼ miles, and the silk fibres of which it consists would therefore reach about 400 miles. The fibres in four pounds of such thread, if stretched out as originally spun by the worm, would make a girdle round the earth.

Chinese Method of Mending Glass.—Take a piece of flint-glass, beat it to a fine powder, and grind it well with the white of an egg, and it joins the china without riveting, so that no art can break it in the same place. You are to observe, that the composition is to be ground extremely fine.

The Chinese grind shells to powder and use this powder in the way we do flock on paper-hangings.

Intensity of Frost in the Arctic Regions.—In the interesting account of the McClintock expedition to the Arctic regions, which appears in the first number of the *Cornhill Magazine* it is stated that the spirits in the thermometer occasionally descended as low as forty degrees below zero of Fahrenheit's scale, thus indicating (40+32) seventy-two degrees of frost! At a point above this, viz: seventy-one degrees of Fahrenheit, quicksilver is frozen; spirit, however, is never congealed by the intensest cold. It appears from the voyage of the Fox, that eighty degrees of frost, or forty-eight of Fahrenheit, was registered by Captain McClintock and his crew at the beginning of 1859.

Drowning in Lake Tahoe.—We believe that it is a well established fact that the bodies of persons drowned in Lake Tahoe have never been recovered, the clear, cold waters of the lake absolutely refusing to give up their dead. This circumstance, which at first thought appears strange, is accounted for upon the hypothesis that the waters at the bottom of the lake are so icy cold as actually to arrest decomposition and consequent expansion of the dead body, one of the conditions under which it would be expected to return to the surface.—*Gold Hill News.*

Acid in white lead may be detected by putting a small portion of the lead in a cup, pouring a little warm water over it, and stirring the lead in the water. Then add a few drops of a solution of iodide of potassium; and if the lead is acid, or contains acetate of lead, the water will turn yellow.

Flame is one of the most beautiful things in the world. Not a sunset sky in summer, not a full-blown tropic flower, is more brilliant than flame; flame is the *flower* of fire. The ivy has no splendor like the mantling flame; it reddens like the thyrsus of the god.

The abestos of New York and Vermont yields fibres up to 40 inches in length. Handkerchiefs of this material might be "washed" in the fire instead of by the launderess.

Good Health.

Drinking at Meals.

As to when and how much a person may drink, it depends somewhat upon the constitution of the person, the nature of the food, and the character of his occupation. A thin, dark-complectioned, cool organization generally does does not incline to drink much, especially if the exercise taken is not violent or laborious, or not calculated to promote perspiration. In a plump, rosy, warm nature, with light hair, blue eyes, large lungs, and of active or laborious habits, inviting perspiration, more liquid is required and generally taken.

Then again, the kind of food eaten is to be considered. If one eats fish, or dried salted provisions, dry bread and little or no fruit, and a large amount of sugar, fatty matter, and other heat-producing articles, the desire and necessity for a considerable amount of fluid is indicated. If a person have a medium constitution, and is not exposed to heat and violent exercise, and his food be normal and hygienic, he will be surprised how little drink he will require. A person who eats freely of vegetables and fruit, and moderately of beef and mutton, not cooked dry, will not need much moisture as drink.

No person should "wash down" food with any kind of beverage. Those who drink tea and coffee should let it stand until cool, and this should not be taken with the food, but at the beginning or nearly the close of the meal—mind you, *we* do not *advise* their use. Nature has provided the mouth and throat with salivary glands, which produce moisture and will sufficiently moisten dry bread or crackers, or parched corn, if one do not eat too fast. Many a dyspeptic has cured himself by avoiding drink during meals and eating dry food slowly, masticating it thoroughly, and moistening in the mouth. If people would learn to eat bread without butter, using nice, fresh stewed food instead, they would avoid biliousness, dyspepsia, headache, pimples, a greasy and leathery skin, and *also* the supposed necessity for drinking much either at or after meals.

Animals never drink while eating (unless kept in a pen and fed on semi-aqueous food.) The worked horse or ox, with water at his manger, will, if thirsty and hungry, drink when he comes to the stable, but he will then eat dry hay or oats for an hour or two and not approach the water meanwhile. Grass in the field being moist, cattle at pasture drink but little—sheep and goats very rarely. Sheep feed early, when the grass is covered with dew, but for weeks together will not descend from the lofty hill-top to drink from the springs which flow from its base.

The food of man, as it is ordinarily cooked, is likely to contain about as much moisture as does the grass in hill pastures. Men are made thirsty by the condiments they eat, and by the heat-producing articles which constitute the bulk of their food. Beef steak and roast beef, eggs, poultry, fresh fish, and ordinary table vegetables contain from 75 to 90 per cent. of water. The drinking of water and other beverages is largely the result of habit, and no little disturbance of the health is the consequence. If one takes no drink but water, he is not very likely to drink too much in the course of twenty-four hours if he eats the right kinds of food and has no bad habits. We would, even with right habits of eating, discourage much drinking during a meal or immediately after it.

Years ago, when many drank cider as a common drink, an old farmer in our neighborhood often ate bread and cider as we do bread and milk, and he always insisted on having a mug of cider alongside of the dish, saying he wanted cider to drink when he ate bread and cider as much as when he ate other things. We have seen hungry boys, when eating bread and milk, take up their bowl and drink between times, as if a meal of bread and milk, like bread and cider, were too dry for health and comfort without intermediate drinking. We think people should drink less than they do even of that only proper drink—pure water.—*Phrenological Journal.*

Cure of Dyspepsia.

Dr. Dio Lewis gives the following advice to a dyspeptic, with the promise of a cure if it is faithfully followed for three months.

1. Rise early, dress warmly, and go out. If strong, walk; if weak, saunter. Drink cold water three times. After half an hour come in for breakfast.

2. For breakfast eat a piece of good steak, half as large as your hand, a slice of coarse bread, and a baked apple. Eat slowly. Talk pleasantly with your neighbors. Read the cheerful comments of loyal journals. Avoid Copperheads as you do hot biscuits and strong coffee. Drink nothing.

3. Digest for an hour, and then to your work. I trust it is in the open air. Work hard till noon, and then rest body and mind till dinner. Sleep a little. Drink water.

4. For dinner (two or three o'clock) eat a slice of beef, mutton or fish as large as your hand, a potato, two or three spoonfuls of other vegetables, and a slice of coarse bread. Give more than half an hour to this meal, Use no drink.

5. After dinner play anaconda for an hour. Now for social, pleasant games. Have a good time.

6. No supper. A little toast and tea even, for supper, will make your recovery very slow.

7. In a warm room bathe your skin in cold water, hastily, and go to bed in a well ventilated room before nine o'clock.

A Variable Diet Necessary.—Man being omnivorous, his food must be varied frequently for the full development of those mental and physical powers which give him dominion over the earth.

If only one kind of food is supplied for a considerable time, as that of potatoes for example, there will be strong muscles but a feeble brain force. A varying diet, one thing one day and something the next, not on the table at every meal, has a wonderful influence on the harmonious manifestations of both mind and body. Varying the diet furnishes elements essential to health. It conduces to the moral well-being of an individual who is both peevish, dissatisfied and a grumbler if the same dishes appear invariably at breakfast and dinner. Coffee and tea, properly prepared, are not loathed, but are always welcome; but nothing else is, on a boarding house table. In keeping house we provide what we like. That is the difference.

A positive reason why such multitudes fail of success in keeping boarding houses is because they serve precisely the same articles all the time. A devoutly christian stomach rebels against that system. On the other hand, hotels or boarding houses having the reputation of an admirable table have more patrons than they can accommodate. That is the whole secret of having no vacant rooms. Starving is no economy, as the cost of advertising for lodgers is vastly more expensive than a generous variety every day in the week, which would keep the house full.

Living well simply means not to subsist on the same kind of food, cooked always in the same manner. The laws of physiology demand a varying diet, and those hoping for good paying boarders should profit by the suggestions of science.

Fat and Lean.—Meat eaters and vegetarians show in their persons the effects of the diet. The first has the most brain force and nervous energy. A mixed food of animal and vegetable rations developes the highest intellectual powers. A strictly vegetable living ordinarily gives a fair complexion and amiability and extreme pugnacity when the vegetarian's views in regard to that one engrossing thought of his life are discussed. They are annual-meeting reformers, without ever setting a river on fire.

Arabs are a sober, frugal race, rather slender, not tall, conscientious and contentious on religious subjects. They largely subsist on rice, pulse, milk and kemac, something similar to a whipped cream, through a vast region of an arid country where they are indigenous. They are not destitute of mutton, goats, camels and game; but they manifest no disposition to feed upon meats, as is necessary in temperate zones or in high northern latitudes.

An intellectual man, one of their kindred, who rises to distinction by the grandeur of his mental status, is extremely rare.

The beer and ale drinkers expand and grow fat, but they are not much given to profound researches in science.

Domestic Economy.

Good Cookery.—In summer, particularly, health depends considerably upon untroubled digestion, and to secure this happy state of affairs good cookery is essential. In order to acquire health, beauty, strength, and spirits, we need nourishing food; and we will further say that we do not acquire those faculties or conditions of the mind and body, because our digestive apparatus gets out of order by reason of the indigestible nature of the food crowded into it. The greater part of the truly nutritive and digestible food is spoiled in the cooking, and so rendered unhealthy. It is the business of the cook to know what is to be cooked and how to cook it; and to do this well, vigilance and precision are indispensable requisites Again, in order to encourage the machinery of mastication, food must not only be well cooked, but put on the table in the neatest and most elegant manner. The good opinion of the eye is the first step toward awakening the appetite. Decoration is much more rationally employed in rendering a wholesome, nutritious dish inviting, than are the elaborate embellishments which are crowded about trifles such as custards, cakes, etc. Food to be eaten in perfection must be put into the mouth immediately after being cooked—anything overdone cannot be mended, but if a little underdone, the stew-pan, gridiron, or oven even will rectify the mistake. If overdone the best juices of meat are evaporated, and will serve merely to distend the stomach, and if the sensation of hunger be removed, it will be at the price of an indigestion. We repeat that the art of good cookery lies in perfect neatness, precision, and can be acquired by any one.

Dry Method of Cleaning Soiled Fabrics. Great progress has been made of late years in the method of cleaning soiled articles of dress, by removing tar, grease, etc., from wool and other raw material, this as it appears, being accomplished best by the so-called dry method rather than by the use of a watery solution of soap or other alkaline substance. This originally consisted in subjecting the articles in a proper apparatus, to immersion in benzine, gasoline, bisulphate of carbon, etc., with continued rotation of the apparatus. More recently, however, it has been ascertained that the vapor of these substances, caused by distillation, is more efficient than the liquid substances themselves, the articles thus treated being much more thoroughly penetrated, and more rapidly than in the old way.

The articles are placed upon a grating over the liquid, the vapor from which permeates them completely as it is carried over into the reservoir, where it is condensed and is collected. In this form it contains grease in solution, which may be removed by a second distillation, while the hydro-carbon is obtained in a form for further use.—*Harper.*

Mutton Hams.—This method of curing mutton like hams deserves notice. The meat should be fat. Mix two ounces of raw sugar with one ounce of common salt, and half a spoonful of saltpetre; rub the meat with this mixture and place it in a deep tureen; let it be heaten and turned twice daily for three consecutive days. The scum having been removed, it is to be wiped and again rubbed with the mixture. Next day it should be again beaten, and the two operations ought to be repeated alternately during ten days, the meat to be turned each time. Let it then be exposed to the smoke for ten days. The meat should be eaten cold. To cure German hams, as in Westphalia, let them be placed in tubs and covered with layers of salt and saltpetre; a few laurel leaves should be added. At the end of five days they are covered with brine. At the end of three weeks afterwards let them be taken out and left to soak for twelve hours in clear well water. Let them be exposed for another three weeks to smoke produced by juniper branches, in November and March.

Preserving Fruits.—It is generally known, that boiling fruit a long time, and *skimming* it well, *without* the sugar, and *without* a cover to the preserving pan, is a very economical and excellent way—economical, because the bulk of the scum rises from the fruit, and not from the sugar, if the latter is good; and boiling it without a cover, allows the evaporation of all the watery particles therefrom; the preserves keep firm, and well-flavored. The proportions are, three-quarters of a pound of sugar to a pound of fruit. Jam made in this way, of currants, strawberries or raspberries, is excellent.

To Pickle Whole Tomatoes.—Prick each tomato with a fork to allow some of the juice to exude, put them into a deep pan, then add vinegar, pepper, cinnamon and cloves, sprinkle some salt between each layer, and let them remain for three days covered, then wash off the salt and cover them with a pickle of cold water which has been boiled with the spices. It will be ready for use in ten or twelve days, and is an excellent sauce for roast meat of any kind.

Pig's Head Baked.—Let it be divided and thoroughly cleaned; take out the brains, trim the snout and ears; bake it an hour and a half; wash the brains thoroughly, blanch them, beat them up with an egg, pepper and salt, and some finely chopped or pounded sage, and a small piece of butter; fry them or brown them before the fire; serve with the head.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, July 26, 1873.

Legal Tender Rates.—S. F., Thurs., July 24.—buying 86⅛; selling 87.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—An Improved Truss Bridge; Academy of Sciences, 49. Riches vs. Poverty; Popular Science; Spice Plants, 54. Hydraulic Mining; The Blowpipe and Its Use, 56. Grout's Balanced Slide Valve; The Emperor at Vienna Exposition, 57.

ILLUSTRATIONS.—An Improved Truss Bridge, 49. Spice Plants, 54. Sectional View of Grout's Balanced Slide Valve, 57.

CORRESPONDENCE.—Notes of Travel in Eureka County, Nevada; Milling at Mineral Hill, 50.

MECHANICAL PROGRESS. — Ancient Construction; Safety Lamps in Mines; A Novel Railroad Stove; Station Announcer; To Distinguish Iron from Steel, 51.

SCIENTIFIC PROGRESS.—Sympathetic Vibrations in Machinery; Progress of Astronomy in the United States; Does the Sun Influence a Fire; Non-Chemical Analysis, 51.

USEFUL INFORMATION. — Resins; Putting Old Saws in Order; Rusting; The Silk Worm; Chinese Method of Mending Glass; Intensity of Frost in the Arctic Regions; Drowning in Lake Tahoe; Acid, 55.

GOOD HEALTH.—Drinking at Meals; Cure of Dyspepsia; A Variable Diet Necessary; Fat and Lean, 55.

DOMESTIC ECONOMY. — Good Cookery; Dry Method of Cleaning Soiled Fabrics; Mutton Hams; Preserving Fruits; To Pickle Whole Tomatoes; Pig's Head Baked, 55.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 52.

MINING SUMMARY from various counties in California, Nevada and Utah, 53-60.

MISCELLANEOUS.—Mount Diablo Coal Mines, 50. A Busy Railroad; Coal Near Vallejo, 54. Inventors among Kings (Poetry); Eureka Consolidated Company's Mines; Gold in Indiana; The Geology of Nevada; Opening of a New Mining Region; Cortez District; Carson River and Its Waters, 58. Patents and Inventions, 60.

THE TAYLOR MILL, at Mineral Hill, which cost $135,000, is offered for sale by the company. It has 20 stamps, nine pans and settlers, a fine, large engine and a Stetefeldt furnace. The furnace is of no value, as experiments proved that as high a percentage of assay value could be obtained by working raw pulp in pans as by using a chloridizing furnace.

THE ST. JOHN'S Quicksilver mine has shipped another lot of 50 flasks to this city. The present production of this mine is nearly equal to one-third of all the mines in Lake and Napa counties. It turns out 50 flasks per week. The Oakville mine produces about 15 per week.

THE BALDWIN Exploring Expedition has left Salt Lake City. The expedition is fitted out to search for minerals and to locate mines. There are eight men in the party. They do not expect to get back to Salt Lake before next December.

THE "*Cottonwood Observer*" is the name of a new paper published at Alta City, Little Cottonwood, Utah. We wish it better success than its predecessor, the "*Independent*," and hope it will give us all the mining news of its locality.

OREGON MINERS are doing pretty well this year as they have more water than usual at this season on Clark's creek, Shasta, and other places. Rye Valley is spoken of as likely to be one of the best mining districts in Oregon.

A SALT LAKE paper says that Smith & Earle, of that place, are about commencing suit against Wm. M. Lent *et al*, to recover $10,000, alleged to be due them out of the celebrated Arizona diamond enterprise.

THE Eureka Consolidated Mining Company are putting up a machine shop, to repair their machinery when it becomes necessary.

THE Portland ice factory makes ice and sells it at 2½ cents per pound.

Hydraulic Mining—Working Abandoned Claims.

In traveling through the mining counties of California, one sees partially depopulated towns, abandoned diggings, and old and dilapidated cabins. The conclusion naturally drawn is, that the mines are worked out, and that there is no longer any inducement for men to remain. This may, to a certain extent, be true, but as a general proposition is incorrect. It will be remembered that in the early years of California mining, the rush was to the rivers, cañons, gulches and ravines, where the gold had concentrated, so to speak. Then diggings were located of a different nature, and in some localities quite early, deep diggings were worked by drifting and bringing the ground to the surface and washing, with good results.

The early mining was principally done by main strength and awkwardness, a system which lasted several years, and gave employment to large numbers of men, who had to be supplied with all the necessaries of life and as many of the luxuries as possible; hence the large towns were built. In a few years the State was "cleaned up," so to speak, in places where gold had concentrated by the action of the elements for ages, and the miners found themselves working back into deeper and less productive ground, following the pitch of the bed rock and cutting down the "rim rock" to get fall and washing off what is known as "brow ground." In doing this a different system of mining, more economical, careful and systematic, had to be pursued. The reckless waste of the first few years was checked in part and improved appliances and methods adopted to save the gold.

From this has grown up the great system of hydraulic mining for which California is famous, with all its improvements and appliances for handling enormous streams of water with ease, and breaking up and washing off vast extents of ground with comparatively little labor. The demand has been, and is, for water, not men. This fact, together with the mining excitements in neighboring States and Territories, drew miners from our gravel mines. For this reason many towns and mines were abandoned. While it is true that the kind of mines worked in early times are few and far between, it is also true that the great, deep gravel deposits of California are comparatively untouched or but slightly worked, and may be considered as practically inexhaustible. This class of mining will for a long time be the leading source of our gold product. It requires, however organized capital and labor to develop these mines, but fortunately capitalists are beginning to turn their attention in this direction. They are, however, doing it cautiously as yet, for most of them have been making money from stocks, rather than legitimate ventures, and they have not become accustomed to *bona fide* mining. The gold that has been produced from these mines forms but a small fraction of what remains locked up in these vast mountain deposits, waiting the energy and enterprise of man to set it free and send it into the commerce of the world.

In support of the proposition that our abandoned and neglected mines are not really exhausted, we may cite a few cases from Sierra county alone. Gardner's Point, two miles below the town of St. Louis, was many years ago quite a mining district, but was abandoned for hydraulic mining 12 or 15 years since. This property, embracing over 50 acres of ground and a small ditch with a capacity of about 400 inches of water, was sold to Colonel Baker two years ago for *three thousand dollars*. This gentleman fitted the property up in good shape with all modern improvements, and in the spring of 1872 took about $28,000 out of less than two claims of one hundred feet square each; or say about 20,000 square feet of bedrock worked over, the average depth of gravel being about 30 feet, capped with volcanic ashes ten feet in depth. Then last spring with a very limited supply of water he has taken out a little over $20,000 out of less than 1¾ claims, or about 17,000 square feet of bed-rock worked over; thus making the average for two years, about $1.30 per square foot of bed-rock, or $1.30 to 30 cubic feet of gravel washed; or $1.16 per cubic yard, and upwards of $50,000 to the acre. Very fair this, for ground sold for $3,000 and a ditch thrown in. Next to Baker's ground on the south and east, are some 200 acres of ground, 100 acres of which may be classed as good ground for hydraulic mining, and can be opened by a short tunnel.

Next in importance as a hydraulic mine, in the district referred to, is the Empire company's ground. It embraces about 280 acres; about 100 acres of this location is good hydraulic ground and can be opened by tunnel. The owners of this property have driven in a drain tunnel in search of drift diggings. This tunnel proved to be at too high a level, as it left bed-rock soon after striking gravel for 1,800 feet; but the owners having washed the gravel taken out of the tunnel have proved conclusively that it does not vary materially in richness from that worked by Col. Baker. Here then are over 250 acres of ground containing more than ten millions of dollars.

A little further up the ridge and near Howland Flat, Mr. George Coe bought up the ground on Granite Hill, last fall, and has completed an old tunnel (already begun), through which he has worked with good results. He has taken out some $25,000, and is probably now cleaning-up generally. This ground was also abandoned for hydraulic diggings for many years. The ground pays about 30 cents per square foot of bed-rock, and about the same per cubic yard, as the bank is only about 25 feet in depth. It will be deeper as he works back; he has several years' work ahead.

What we have said of these localities may be said of many other mining districts in the State. One serious drawback to the mines in the upper ranges of mountains is the limited supply of water. Yet the miners spoken of in Sierra county, are not as bad off as those in some other places, as many of them have been piping until quite recently and are now cleaning up.

The Blowpipe and its Use.

The use of the blowpipe has grown from a small beginning to an important place in mineralogical and chemical research. Originally confined to a few mechanical processes of limited sphere, it now has become an invaluable assistant in the laboratory. To Swedes, Von Cronstedt, Bergmann and Gahn, is due its first employment in science; and in the hands of Germans and an American, Berzelius, Harkort, Plattner and Richter, it became one of the most important aids in certain branches of science which we possess.

Although the blowpipe has been proved invaluable in chemistry, metallurgy and mineralogy, many still look upon it rather as a toy and apply it only in the simplest reactions; and others who acknowledge its usefulness in qualitative work, deny its value for quantitative analysis. Yet we possess hardly anything which enables us to obtain so correct results with so little material and so little expense of time and money.

But the blowpipe is an instrument which demands thorough preparatory instruction in its use. It is undoubtedly the want of this which has caused the underestimation of its value. A person cannot use it to advantage unless he has studied carefully the preliminary steps under competent instruction. He must have learned to produce properly the different flames—the oxidizing and the reducing—and to distinguish between the different reactions. How often we have been shown "bismuth" ore, because the miner could not distinguish between the bismuth and the lead sublimates; and sublimates of different metals which were merely the ash of the charcoal support.

The book which has been used generally in this part of the country as a manual for the blowpipe, is Elderhorst's reproduction of Von Kobell's publication. This book is very good for reference by persons who have had proper experience, but as a guide for beginners is unreliable. It is, however, of convenient size and contains convenient tables, two qualities which, in the absence of other satisfactory works, have made it popular. The best work on the subject, and the only one which gives complete satisfaction, is Prof. Plattner's Blowpipe Analysis, edited by Prof. Richter. Plattner was, and Richter now is, the best authority on the subject in the world. The work is now attainable by all of our readers through an excellent translation* published by Prof. Cornwall, of Princeton College, N. J., and to this translation we wish to call attention.

Extent of the Use of the Blowpipe.

The blowpipe is of especial use to the miner and the metallurgist, and with it he can determine the presence and amount of any metal of value to him. To the chemist it is also most valuable. Let us consider how far it may be used.

Of the sixty generally recognized elements (we do not consider here oxygen, hydrogen or nitrogen) all but thirteen can be readily detected by the blowpipe, and these thirteen, with one exception, are all of but little importance to the miner and of very rare occurrence. They are calcium, erbium, glucinum, iridium, lanthanum, palladium, platinum, rhodium, rubidium, ruthenium, thorium, yttrium and zirconium. Even in regard to these the mineralogist will find rules for their detection, with the exception of one or two, whose properties (on account of their rarity) have not yet been satisfactorily investigated.

The blowpipe is also of use, but only to a very limited extent, in qualitative *organic* analysis.

Quantitative assays can be made of gold, silver, copper, lead, bismuth, tin, cobalt and nickel, iron, chromium and mercury. (The last is added to Richter's work by Mr. Cornwall.) Moreover, the hygroscopic moisture, coke production, amount of ash and absolute heating power of coals can be readily determined. These quantitive assays are not merely approximate; many of them are as accurate as, and even more accurate than, the methods commonly employed. To these we must add the employment of quantitative assays with the blowpipe for determining various substances in quantitative chemical analysis, a method which can be applied with accuracy for phosphorus, chlorine, the earths, copper, iron, manganese, arsenic, chromium and perhaps other metals.

Preparatory Instruction.

While it is true that the blowpipe is a simple instrument, easily manipulated, and readily giving excellent results, it must not be imagined that anybody can become a good analyst without proper preparation. The trowel and the saw are simple tools, yet no one would think of claiming that a person could become a skilled mason or carpenter without due apprenticeship. On account of its very simplicity the greatest need exists for proper introductory study. This need is supplied by Plattner's manual as by no other work, and the difficulties which beset the beginner are thoroughly explained. It may be useful here to note the general course of instruction pursued by Prof. Richter.

The professor carries the student through the various tests with simple substances, which best illustrate the various reactions, and no complex materials are handled until the student has learned to distinguish these reactions and to produce them successfully. His proceeds in the following order: 1. Testing on charcoal for odors, coats, flames, etc. 2. Testing in the matrass for phosphorescence, decrepitation, change of color, evolution of gases, etc. 3. Testing in closed tubes for sublimates. 4. Testing in open tubes for sublimates, sulphurous acid or other gases. 5. Testing in the platinum forceps as to fusibility, color of flame, etc. 6. Practice in roasting (with copper pyrites). 7. Examination with borax bead and, 8, with salt of phosphorus bead. 9. Test for sulphur and for manganese. 10. Test with cobalt solution. After an hour's practical instruction, at least, has been given in each of these tests, and the student has had opportunity to repeat all the reactions by himself, then the Professor gives substances to illustrate the regular course of examination, and finally the student is introduced to quantitative assaying. Before each hour's practice the Professor has lectured on the subjects which are to follow.

The English translation of Plattner's manual has been carefully prepared by competent hands and is to be recommended to those wishing to know something about the blowpipe. The translator has remained closely by the original and has thereby done well, for the original is remarkably well and clearly written. We notice a few minor mistakes and several omissions in the index, which we hope will be attended to, should the translation reach a third edition—an evident possibility, as the *second* edition has already appeared. Prof. Cornwall has added to the original some valuable matter, notably the quicksilver assay and Prof. Egleston's scheme of analysis for common substances. As the latter will be useful for many of our readers, we reproduce it with some omissions and modifications.

We give the schemes with some alterations partly for the sake of simplification and partly because it could not be transferred in its exact form to our paper. As it stands in the book it guards more accurately against possible errors—as in the coatings; but by merely giving references to other parts of the book, the student is given considerable trouble to find exactly what he wants. Our modified scheme will be found sufficient for the requirements of most of our readers whom we refer with pleasure to the book in question for more information.

* Plattner's Manual of Qualitative and Quantitative Analysis with the Blowpipe. From the last German edition, revised and enlarged by Prof. Th. Richter. Translated by H. B. Cornwall, A. M., E. M., assisted by John H. Caswell, A. M. New York: D. Van Nostrand.

THE material for the military telegraph to be built in Arizona, between Maricopa Wells and Prescott, has been shipped to Fort Mohave, and operations will soon be commenced on the line from Fort Yuma to Tucson by way of Maricopa Wells. The section from San Diego to Fort Yuma, the *Union* thinks, will not be commenced until an additional appropriation is made by Congress.

THE Leviathan Mining Company has commenced suit against the Segregated Belcher Mining Company, to obtain possession of 2,000 linear feet of ground on the lode. The former company claims a possessory right to the ground which the Segregated Belcher did not have when it applied for a patent to part of the ground in dispute.

Grout's Balanced Slide Valve.

Balanced slide valves are very important improvements over the old fashioned slide valves for steam engines, and several varieties of them are in use, all working on the same principls, the only differences being in modifications of detail of construction. One now being introduced on this coast is Grout's Balanced Slide Valve, which is highly spoken of, and which we herewith illustrate.

Fig. 1 is a sectional view, centrally of the valve and the steam-chest, in the direction of the valve motion; Fig. 2, a section centrally of the same, transversely of the motion; Fig. 3, the upper face view of the valve and wire-bar; and Fig. 4, the under face of the steam-chest cover; *A A* being the sides of the steam-chest, *B* the cover, *C* the valve, and *a a* the port face on the cylinder. The valve fills the space between the inner face *b b* of the cover, and the port face *a a* on the cylinder, Figs. 1, 2, and is so adjusted to these faces that it moves both steam-tight and freely between them.

Its steam-tight yet free movements are dependent upon the following artifices:

1st. The inner face of the cover is made inclined toward the port face on the cylinder, transversely to the valve motion, and the upper face of the valve is inclined in like manner, Fig. 2.

2d. Such inclination gives unequal areas to the sides of the valves which it connects, that side toward which the inclination tends being the smallest. More force of steam must therefore constantly act upon the other or larger side, and press the valve in the direction of the side. And

3d. Such pressure is there met and carried by the steel bar *l*, laid at the heel of the smallest side, parallel to direction of the valve motion, which bar is firmly held and moved by the adjusting screws *m*, these being tapped through the side of the steam-chest, and operated from the outside.

From these arrangements it is apparent that, while the steam keeps the valve thus steadily up against the bar, the bar, adjusted by the screws, keeps it sufficiently easy at its connection with the cover, to move steam-tight and free; and further, that only slight changes of the bar are required to regulate this connection, under the requisite inclination. It is also manifest that the valve, being so held in connection with the cover and bar when the steam is on, is relieved from that connection when the steam is shut off. It then falls away from the bar and cover, moving independently of them; and on its seat, as does the ordinary slide-valve. It is therefore exactly adapted to engines running with steam shut-off—as the locomotive in descending grades—returning again to its close connection with the bar and cover, when the steam is let on.

The unequal action of the steam upon valves at the cylinder ports is overcome in the following manner. Chamber *h*, Figs 1, 2, 3, is made in the upper face of the valve, over or opposite the exhaust chamber *g*, and of the same superficial area; also the open ways, *i i*, Figs. 2, 3, are made through the valve to connect these chambers. Recesses *f f*, Figs. 1, 4, are made in the inner face of the cover, over or opposite the steam ports c c, and of the same superficial areas; also openings *p*, Fig. 3, through the valve, for communication of steam between ports and recesses. From this arrangement of ports it is manifest that the exhaust steam, passing through the open ways into the chamber *h*; acts upon the upper and under faces of the valve with equal pressure at the same time; and that the steam acts at the ports, on the under face of the valve and at the recesses, on the upper face, with equal pressure at the same time; that it acts equally so at the suppression and compression periods of the stroke, through the communication openings *p*; and finally, that it can act upon no part of the valve, without at the same time acting upon an equal and opposite part—thus making it practically a perfectly balanced valve.

The weight of the valve is overcome by making the area of its upper face larger than that of its lower face, which is done by slightly increasing the width of the valve at the former. The increase must be the amount which, multiplied by the average pressure of the steam, shall give in pounds the weight of the valve, The upward pressure of steam then lifts the valve, and relieves it from the friction of its weight.

It will be seen from the foregoing that the valve is so adjustable as to move, whatever be the pressure of steam, perfectly steam-tight and free. The pressure of steam on every part is perfectly counterbalanced by its pressure at the same time on an equal and opposite part, and is so made as to give a lifting pressure to the steam that balances its weight. Joseph Wasseth, engineer of the Wyandotte Rolling Mills, who recommends it, says it is handled with perfect ease, is simple in construction and does not get out of order. James W. Bartlett, Superintendent of the Detroit Locomotive Works, in a testimonial speaks of an engine on which it is placed, and says it has a link motion, which can be reversed, either running or stopped with the throttle wide open, by taking hold of the eccentric rod. Mr. G. W. Reder Martin, mechanic of the Detroit and Lake Superior Copper Co., says "the faces of the valves and those it touches, polish, but do not wear." We have been shown several other testimonials of like nature, but as the practical utility of the science is so apparent it is needless to refer to them. Wiester & Co., No. 17 New Montgomery street, are agents for the valve, for this coast and will furnish further information. A model can be seen at this office.

Fig. I.

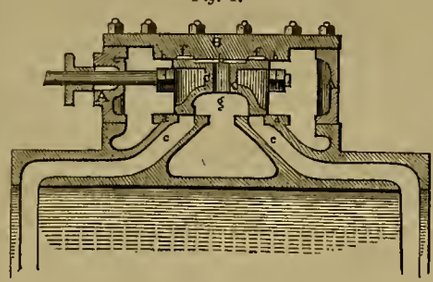


Fig. II.

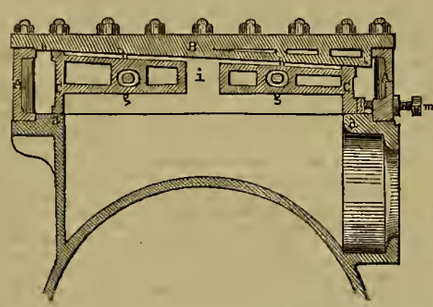


Fig. III.

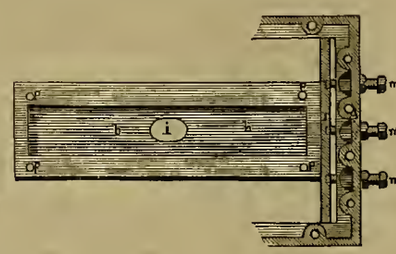
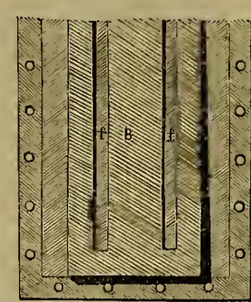


Fig. IV.



SECTIONAL VIEW OF GROUT'S BALANCED SLIDE VALVE.

The Emperor in the American Department at Vienna.

We see by a dispatch to the Associated Press that the Emperor has made a visit to the American Department of the Vienna Exposition, and expressed himself well pleased with what he saw there. We are glad of this, because nobody else has seen fit to express themselves to that effect, and it is refreshing to know that an individual could be found, if he is only an Emperor, who could visit "our Department" without making fun of it. All the newspaper correspondents have more respect for themselves—or public opinion, rather—than to have said a word of encouragement. But then, newspaper correspondents have to strike a popular vein, and be careful what they say on account of their reputation for veracity (which, generally speaking, is well known); perhaps an Emperor is not controlled by any such considerations.

The Emperor seemed to manifest much interest in the sewing machines, and saw the original machine made by Elias Howe, asking what additions had been made. Here we might call attention to an oversight made by our Commissioners. They ought to have provided a real, live American sewing machine agent to have explained these matters to the Emperor. We could easily have spared a few thousand, and as there would have been considerable competition, they could have chosen the most efficient by turning them all into a room until the best man had "solicited" and explained all the others into a state of exhaustion. It is seldom men of this class have such "game" as an Emperor to talk to, and they would doubtless have improved the occasion and impressed his majesty with a high appreciation of our institutions, and sold him a machine at the same time. The chance, however, is lost. The Emperor is also said to have glanced at the map of Philadelphia and made inquiries concerning the location of the Centennial Exhibition Building. Undying fame for Philadelphia! it is not stated that he made any remarks about the Chicago fire, the Boston Jubilee, or the New York "Rings," so Philadelphia is ahead.

A model of the excavations at Hell Gate was shown him, which elicited the remark—"The engineering feats of these Americans are incredible." Well, really, quite complimentary. We think, however, he would have been surprised if the "engineering" feats of some of the Directors of our railroad and mining companies or political rings, had been so explained to him; for after some of them have been fully understood by parties interested and who thought they knew all about it, they surprised even them. The Hell Gate operation—was man the kind the Emperor saw the model of—would have been eclipsed. "The Emperor also visited the dental display." There, we knew we would'nt read far in that dispatch without seeing something about the "dental display." All the correspondents write about it and the editorials all mention it; and even we, who have dodged the subject systematically are obliged to speak of it Although teeth are appropriate in everybody's mouth, in connection with an exposition—especially at Vienna where everything is dear—some other subject might be touched upon than them. Nobody ever jokes about it in a dentist's chair, certainly. If the dentists of America have had the interests of their profession more at heart and have manifested a desire to have a more complete display than mechanics and others, they ought to be praised, not made fun of. If other parties had done as well, we would have something to be proud of in our Department at Vienna.

The Emperor examined the cotton, sugar and rice from the Southern States, and the Ohio, Missouri, New York and California wine exhibition; he smilingly declined a glass of American champagne, which was not complimentary to the champagne. But then he probably had better in the Imperial cellars, or else was afraid some enterprising wine manufacturer would immediately copyright a label with the Emperor's arms thereon, stating the wine was the favorite beverage of His Imperial Majesty. As they like beer better in that country, it would'nt have done to "go back on" the national drink. Among other things which are said to have interested him were a map of the Northern Pacific Railroad country, and the accompanying collection of wheat, furs and minerals; the display of American bank note engraving; the chromos; ores from Michigan, Tennessee, Pensylvania, Illinois and Indiana (California not mentioned); blocks of coal, American organs, boots and shoes, arms, etc. The arms specially interested him, as also the military saddles, accoutrements, cannon, sanitary cars, etc. Finally he said to Mr. Garretson, "For improvements and new inventions since the last exposition, America is without comparison in the entire building." In leaving, when Mr. Jay remarked that he was sorry the American Department did not fully represent the capabilities and resources of the United States, the Emperor said: "America makes a more valuable, instructive, and interesting display than she has shown in any previous foreign exhibition. Beyond that, the most noticeable feature in your display of industry and art is the constant evidence that the artificers are thinking men, and that your labor seems to increase by constant and active experience."

After the interminable muddle and fuss in the American Department of the Vienna Exposition, and the much-to-be-deplored circumstances connected with the first Commission appointed, it is gratifying to know that the Emperor was "impressed" with what he saw there. The Britishers have been trying to "impress" another potentate—the Shah—by showing him their own country, manufacturing industries in full blast, magnificent fleets of vessels fully equipped; their systems of all kinds of things and their palaces and magnates, even to the Queen; and he wouldn't be impressed; and here has an Emperor, ruling a people of far more power and better intellectual and mechanical abilities, become "impressed" with an exhibition of American products which everybody in America has made fun of. We venture to say, however, that if any others than Americans had run down the American Department, they would have been mercilessly written down as prejudiced and bigoted foreigners, and our Department would then have been lauded to the skies. That a more magnificent and expansive display of our products would have been productive of good, there is little doubt. But if the people of monarchical governments can be convinced that "good can come out of Nazareth;" that a Republic covering a territory larger than all Europe, and which has existed nearly one hundred years under that form of government, has made most rapid progress; that our people are skilled mechanics and artizans, and want more skilled mechanics and artizans; that there is a large extent of country abounding in latent riches and needing population; that we can manufacture certain things they need and can make them better and cheaper than any one else; that our machines are in advance of those of older countries, and our implements, labor-saving and economical, —then will we have reaped some reward from our show at Vienna, meagre as it is.

Cuproscheelite.

At the last meeting of the Academy of Sciences in this city, Mr. H. G. Hanks presented a specimen of the mineral Cuproscheelite, and read a paper describing its peculiarities. The mineral was found in the Green Mountain mine, Kern county, Cal. The mineral looks like sulphate of baryta colored by an admixture of some foreign substance. The analysis made, however, by Mr. Hanks, proves it contains no baryta. Although the mineral strongly resembles Scheelite, yet the presence of copper and its inferior specific gravity separats it widely from that species. A microscopical examination was made by Mr. Hanks to ascertain if the copper might not be a mechanical mixture, but it was found to be perfectly homogeneous. It was described by the State Geologist in volums 3 of the Academy's proceedings, page 287. Although not new, it is quite interesting to science as coming from a new ocality and being found in abundance. As a sourcs of Tungstic acid it will be valuable to the Arts, as according to the analysis of Professor Whitney it contains 79.69 per cent. of thet rare acid and is easily decomposed.

Mr. Hanks presented also a sample of Tungstic acid, obtained by simply boiling the mineral in hydrochloric acid. This is the first ever made in the State. Scheelite has been observed in the Memmoth District, Nevada, and Cuproscheelite in several mines in Lower California, but we are not aware that there is any known locality in which Tungstate of Lime in either form is found in any considerable quantity. According to Professor Whitney, Cuproscheelite has the following composition:

Tungstic acid	79.69
Oxide of Copper	6.77
Lime	10.95
Protoxide of Iron	.31
Water	1 40
	99.12

ENTERPRISE. — The Enterprise Company, operating at Smartsville, says the Grass Valley *Union*, will soon have the great tunnel completed, and be ready for washing rich gravel. The flume is a mile and a quarter long, the greater portion of it being in the tunnel. The flume is four feet wide and thirty inches deep. It will be paved with stone. The tunnel is eight feet high, and seven feet wide at the bottom. The tunnel has cost something like $100,000. In its construction about $12,000 dollars worth of Giant Powder was used. The work has been in progress about three years. When the flume is completed it will require $10,000 worth of quicksilver with which to charge it. The Enterprise has a great body of gravel, which prospects well from surface to bed-rock.

A DIAMOND DRILL, belonging to the South Aurora Mining Co., of White Pine, is to be put at work on Chloride Flat to ascertain whether ore exists at any depth in that locality.

THE new mill at Mineral City, Robinson District, Nev., will shortly be completed and ready for crushing.

THE White Pine Office of Wells, Fargo & Co. shipped, during the month of June, $71,071 in bullion.

Inventors Among Kings.

By George W. Bungay.

Welcome inventors; step aside,
Ye sons of sloth and empty pride:
Open the doors of welcome wide,
Escort inventors to the seat
Where royal guests sit side by side,
And princes amid plandits meet.

They shorten weary hours of care,
They lift the hurdens that we bear,
They speed us on the thoroughfare,
They multiply our hours of rest,
They give us leisure hours to spare:
The inventor is a regal guest.

There is no head that wears a crown,
Though lifted high, that should look down
On faces bronzed and fingers brown
Of men of skill and genius rare;
For they have won a grand renown
Kings might be proud and glad to share.

Inventors are the kings to-day,
Uncrowned, they hear a regal sway;
Their mandates winds and waves obey,
And gases yield obediently;
The lightning on its wiry way
Their message takes o'er land and sea.

Where is the prince in purple horn,
Where is the head a crown has worn,
Where is the king, bright as the morn,
That has devised a noble plan
To ease the hurdens we have borne,
And elevate the race of man?

Is there a genius on a throne,
One crowned Inventor, to atone
For mediocre men, who soon
Must put aside the crown and stave?
What shall we write upon the stone
That stands above a monarch's grave?

Who taught the rivers how to spin,
And weave the varied colors in,
With fabrics manifold and thin,
So that the pulsing shuttle flies
Fast as a heart that beats to win
A living, loving, mortal prize?

Who made two blades of grass to grow
Where one before was faint and slow?
Who sent the engine out to mow
The verdant meadows smooth and clean?
Was it a noble duke whose brow
Has won the wreath of fadeless green?

Who taught the millers how to find
The finest flour in grains they grind,
So that the mill obeys the mind,
As it did not in days of yore—
No starch, no gluten left behind,
And men are fed on husks no more?

Eureka Consolidated Company's Mines.

We yesterday visited Ruby Hill, for the purpose of taking an internal view of some of the leading mines of tbe district, which are thereon located. We bad miscalculated the task, and, after several hours of climbing throngh the laharyntbs of drifts, cuts, winzes, etc., of tbe Eureka Consolidated mine, we found onrselvee considerably exbausted, and the afternoon far advanced. We were therefore obliged to give over the investigation of the merits of any other claims till another day, and to slight a considerahle portion of the mine which we were permitted to enter. We also made a lamentable mistake in not donning our commoneet attire, for we carried away on and about our garments a larger quantity of red oxide, chloride, bromide and other "idee" than we had any use for.

When the men bave heen lowered to their respective stations, after 12 o'clock lunch, we entered the

Lawton Shalt

In company with Mr. Lamb, the gentlemanly foreman, in whoee care Mr. Ellsworth had given us. Thie shaft is down a depth of 300 feet, with four main dritts. Descending to the hottom, we entered the first of these, which is run a distance of 230 feet, but which developee nothing of interest tbus far, except some very flattering indications at its extremity. Work upon its prolongation is heing continued. The first cross-cut is in about fifty feet. Nothing particularly noticeahle has heen bronght to view here, hut, from mathematical calculation in relation to the body of ore, the whereabouts of which ie already known, it is expected that something of consequeuce will he found in the next twenty-five teet. The second cross-cnt, counting from the main shaft, has been pnshed forward somewhere near seventy feet, and shows fine prospects, but nothing in particular beside. The third is the most important cut from thie level. It has a lineal measurement of 200 feet, with

A Fine Body ot Ore

at the furthermost working, which has been brought to light within the past few days, and which assaye considerably into tbe hundreds. Its extent, of course, has not yet heen ascertained; but developments hy an eight-hour ehift are going on with speed. Already a face of fine miueral, which measures, laterally, perhaps twenty feet, hae heen exposed. A small winze is being driven from the mouth of this cut, to connect with the level above, for the purpose of ventilation. It has already been carried up sixty-five feet, at an angle of eighty degrees from a horizontal, or ten degrees from a perpendicular. At present air is forced in through a small ruhher hose from the vicinity of the main shaft hy a hellows worked by hand. After completing our eurvey of the lower workings, we stepped upon the cage and were hoisted to

The Third Level,

which is 220 feet from the surface, and which is carried in horizontally ahout 300 or 400 feet. Tho work of ite continuance is being carried on, with encouraging prospscte ae explorationo proceed. Tbe workmen are coming into iron indications, which ie considsred a favorable prospsct for silver, ae the former metal ie an inevitable accompanimsnt of the lattsr, but tbe latter not necessarily of the former. Ths first cross-cut from this drift is about fifty feet in length, from which high grade ore ie heing taken in large quantities. There is no estimating the extent of the argentiferons deposit which this cut has tapped. Ae far as ths developments have proceeded, nothing hnt ore has beon encountered. Ths second cut from this drift has heen completed for abont 400 feet, and is dsaigned to intercept the workings from the Windsail shsft. It is daily anticipated that ore will he met with in the explorations here, the indicatione upon tbe snrface ahove thie point leading to or warranting that expectation. Three ors shntes come into this drift from ths level ahove, from whicb the metalliferous suhstance is taken in ahundant quantities.

This finishes onr observations in this locality, and we ascend to

The Second Level,

Wbich ie 170 feet from tbe surface. The work upon this drift is going rapidly forward, the Superintendent and foreman being incited by the prospect of exposing something worthy of a vigorous effort, from the indicatione which appear upon tbe surface perpendicnlarly above. The first exploration at right angles with thie has been abandoned. The eecond cross-cut has been carried in 200 feet, with the double desigu of prospecting the vicinty of the Buckeye and Mammotb grounde, and of affording increased ventilation. The fourth cnt measures thirty feet, and exposee one of the moet perfect walle anywhere to be seen. It presents a surface ae smooth as that of tbe hard-finished wall of a huilding, and nearly as perfect a plane.

The first level possessee no interest at all, being nsed for carrying the ore from the point of its intereecting the main shaft to the surface below the hoisting works.

We next visited the

Windsail Shaft.

This hae a perpendicular exteut of 225 feet. Buckets are ueed instead of a cage in hoieting and lowering, although the latter more convenient apparatns is upon the ground, and will be in place in a few days.

The first level is 86 feet from the surface, ie 75 feet in extent, and throngh ore the whole distance. Tbe formation is very irregnlar, aud the workinge also in consequence. An immense body of rich ore is presented to the view of the spectator in this level. A new station is being opened here. Another drift ie run in upon the same plane as the first, which also develope nothing but a high grade of argentiferous formation. Another drift ie carried in from the eame level, which, like the other two, is run through nothing but ore. This immense hody eeems to have a dip to the eastward, so far as the explorationo will allow such an inferences, and a strike north and south, or very nearly so. It ie impossible to give a comprehensihle delineation of the maze of irregular shaped cavitiee that are met with in climbing through the workings of the Windsail. Incredibly large bodies of ore are met with on every hand, and, to the nnaccuetomed one looking throngh, eeem to have no tangible heginning or end. Some drifts are run below this one, which are also intended to investigate in the direction of the Buckeye and Mammoth locatione. These latter claims we did not see, hut were told by the foreman that they are of promieing merit.

We cannot couclude our account of this splendid piece of property withont remarking the sagacity and untiring vigilance of the Superintendent, Mr. Ellsworth, in the management of the mines and furnaces of the company which he represents. The most perfect syetem is everywhere to be noticed in the conduct of affaire, both at the Hill and at the furnaces in town. The number of men employed at the mines is in the neighborhood of 225.—*Eureka Sentinel.*

Gold in Indiana.

A correspondent of the Indianapolis *Journal*, gives the following glowing account of tbe new diecoveries in Morgan County, Indiana. An hour's ride over tbe Vincennes road brought us to Centreton, where we disemharked and took paseage in a spring wagou which we found waiting at the depot.

A jolting ride of three hours over hille, along and through Sycamore Creek, past steep, perpendicular cliffe of eolid rock, brought ue to the mouth of Gold Creek, the entrance to the El Dorado of Indiana, the Stafford farm. In reaching this spot we pasa what is called the Landers farm, wbich the company owning the mines have leased for a term of years. There we first hegan to discover unmistakable gold signs in innumerable pocket collections of emery or black sand washed from the gulches hy tbe late raine.

The Stafford farm embraces 130 acres, through which runs Gold Creek, while Sycamore Creek horders it on the left and a deep gulch on the right.

As we disembarked from the wagon we were introduced to Dr. Voilee, of Kokomo, who ie an old California miner and part owner and snperintendent of theee mines. Under hie gentlemanly supervision we partook with a keen relish, of a hountiful repaet, and then began our investigation.

Tbe first thing that Captain Tinkbam'e eye lit npon, wae a magnificent specimen of roee qnartz, the possession of which we all eecretly envied him. Our atteution was first given to the washings.

Every pan of soil produced grains of gold ranging from ten to fifty in number, and averaging abont the sizs of a pin head, forcing the conclneion into the mind of the most eceptical that gold was there, not tbrough the agency of man, hut through the workings of Naturs, and that in eufficient quautitiee to richly compensats those who sek for it. Dr. Voiles informed us that he has been prospecting most of the tims since last April, and his lowest estimats is that miners can make from six to ten dollars a day, with a glowing prospect in view of strikiug pockets that will yield almost fahnlouea monnts.

An aged native of that section, who epende mnch of hie time eeeking for gold, ehowed ns a nnmber of pieces which he had picked np that day, and which were of sufficient value to fully justify tbe tims expended. Captain Tinkham and Rev. Mr. Walker took a stroll up the gulch; the former picked up two good sized pieces, ths largest, in fact, tbat were found that day, one of which wae lying on a naked rock, in plain sight.

The Geology of Nevada.—On the trial of the miniug euit involving tbe Richmond and Enreka Coneolidated, a short time ago at Eureka, Prof. Clarence King was examined at length tonching the location and character of the ledge or deposits. His idea of the geological structure of the interior baein is shown in the following extract: The geological formation of Ruby Hill is quite a simple one, the main mass of the hill being formed of an underlying bed of quartzite, which is capped by transition etrata of silicions limestone, and followed upward by heavy bede of crystaliue metamorphic limeetone. Thie hill, from its evident connection with the other mountains of the region, is the eroded fragment of a fold or mountain uplift. The etrata of which it is composed are eubmarine in origin. They belong, as ie shown by fossils discovered here in them by assistants of my own, to the silurian and devonian period of the stratified rocke. These fossils also show that it was an oceanic desert. Other geological evidencee gotten in here, and throughout the Great Basiu, sbow tbat these strata were lifted from their eubmarine position at the close of the triassic period, and folded into mountains and permanently lifted above the level of the sea; in fact, at tbat time they reached their present attitude above the level of the Pacific. Suoh an immense uplift ae thie, with the consequent pressure in tbe axes of tbe folde, produces two great effects; the metamorphism of the strata and the fiseuring of the strata. Conuected with such deep-eeated fieeuring as must neceeearily take place in the folding of beds, whicb onr survey hae proven to be 30,000 feet thick, the fissures must necessarily penetrate to a great deptb, and that tbey have heen penetrated to a great depth is proveu by the deep-seated chemical action which has made itself evident througb these fiseuree, resultiug partly in mineral veine, partly in metalic mineral veins of lodes. In this especial instance, the evidence of uplift is present in the inclination of the main hede of the formation. The evidence of fissuring is present in the dislocation of strata, tbe presence of planes of fiseuring, of cavities and of striation of surface, indicating actual faulting. So far as that goes, we have them up to that point of the euhmarine deposit lifted high into tbe air, metamorphosed and riven with fissuree.

Opening of a New Mining Region.

It is eaid that within the past year an important mining enterprise has bsen planned, and is now almost eousummated, eo far ae the acquieition of the mines and water-rigbte is concerned. Tbe project involves the damming of tbe watere of the Middle Fork of the American River, near its source; tbe huilding of large reservoirs, and a ditch sixty miles in length. The water is to he carried down to Iowa Hill, Yankee Jim's, Wisconsin Hill, Little York, etc. The region is eaid to he very rich in auriferous deposite; but scarcity of water bas hitherto prevented the development of its resonrcee. By means of the main ditcb and its hranches 5,000 inches of water per day can be introduced, which will admit of a sufficient nnmber of claims heing worked hy bydraulic and other processes in which water is the chief element used, to give work to from one to two thousand men. The result will be a permanent revival of mining. The Central Pacific Railroad rune within some tbirty miles of tbe locality to which the water is to he brought. Toll to the amount of nine dollars ie now levied on a two-horse team on the fifty-mile drive between Anburn and Iowa Hill, and etill higher rates are charged on heavier freight teams. To avoid theee chargee, wbicb amount to ahout one cent per pound on all goods shipped from Auhurn, it ie proposed to huild a wagon road from Summit Valley, which is only fifteen miles from the Middle Fork of the American River, at tbe point where the reservoirs are to he built.

Some $250,000 has been already expended in the purchase of various watei rights and mining claims. It ie anticipated that the ditch and reservoire will cost abont $450,000, and that they can be completed within ahout a year and a half. The firet gang of lahorere and mechanice will be put to work in ahout three weeks.—*Call.*

Cortez District.

Tbie district is situated in Eureka county nsar the Lander line, and ahout twenty miles eouth of Bsowawa station, on the Cantral Pacific Railroad. J. E. Lucas, who has jnst returned to Piochs from Cortez district, givse the editor of ths *Record* some particulars relativs to the minee of that important camp. The first mile in ths district wae found in 1863, in which Tom McMastsrs and Winburn wsre original locators. A company wae organized soon after, and machinery brought from Sau Francisco at the rate of 37½ cents per ponnd. Tbis, with other expensee and the various "perquieitss" exacted, ewamped the company, and the members were compslled to abandon the mine. Every one left ths camp except Winbnrn, who, with his family, hae weatbered the etorm for ten ysars. At intervals, howevsr, the chloridizing procees has heen engaged in by differsnt parties since the minee were first discovered. In early days ores were taken to Auetin, 75 miles dietant, and converted into bars and bullion. For three yeare or over Winburn has been running a ten-stamp mill, which hae been found ample to accommodate the few who made the experiment in that district. With anything approaching a development of this camp'e resources, the mill-power will have to he increased ten-fold in order to rednce to bullion and bare the yield of these mines. Wood and water are fonnd close at hand, and in the greatest abundance. The moet prominent mines in the district are the Garrison, Nevada, Giant, St. Louis and Taylor, and Passmore, besidee those owned and worked by J. E. Lucas, Amos Johnson and John Hanrehan, all of Pioche, from tbe former of whom we ohtained eome interesting data concerning Cortez district. The minee owned by Lucas and his partners are the Modoc and Richmond eilver mines, and the Mammoth, a copper mine. Enough work has been done on the Modoc and Richmond to hold them under the law of Congress and tbe mining laws. The Modoc has yielded ore aeeaying from $100 to $500, and the Richmond about the same. The Modoc ledge ie 28 incbes wide, and the Richmond 33 inches. The Mammoth (copper mine) showe a hody of ore ten feet wide on the surface, and experts aesert that tbe yield will be from 25 to 80 per cent. The silver minee, however, engage the greatest attention. It is the purpose of Mr. Lucas and hie companione to return to Cortez district at once, being now eatisfied that the minee are rich, and having secured the required capital for their complete development. The Cortez district will be heard from again.—*Eureka Sentinel.*

Carson River and Its Waters.

Dnring the past few daye the water in Careon River has heen failing very rapidly, though a eufficiency etill remains to run all the mille. There is said to be an abnndance of water flowing from the monntaine to keep the mille running constantly all through the enmmer and fall, if it were not wasted by many of the ranchmen, who let it run away npon eterile lands, where it sinke into the eands and never finds its way hack into the river. The millmen do not object to the ranchmen making uee of all the water they require for the irrigation of the fields they have under cnltivation, as the supply is ample at all seasons for both that nse and for the driving of the mills, but they do not like to eee tbem turn water away from the river and never tnrn it back. Only euch persone as owu lands lying along and hordering on the river have a rigbt to its waters for the purpose of irrigation, yet it is said that some of tbese fnrnish water to those pereone who are farming far inland, ae it were, and tbe water thns taken away never gete back into the river. Now that the rights of the ranchmen are recognized, they should waete ae little water as possihle, and, after using what they require, ehould do all that lies iu their power to keep the mills going. Up to 1855 and 1856, and even later, tbe decisions of the Courte on tbe Pacific Coast always favored the minere and fostered the mining intereet, often greatly to thc inconvenience, and much to the discomfiture of the ranchmen; since that time, however, these decisions have been mucb modified, and the rights of the tillers of tbe soil have been recoguized. It is to the interest of the ranchmen tbat the mines and mills shonld be kept going, and it ie also for tbe good of the miners and mining population that as much arahle land ae poseible ehould be cultivated in their neighborhood. Tbere has prohahly been eome increaee in the volume of water flowing in the Careon during the past day or two, as the cool weather, by checking its evaporation, always prodnces a noticeable augmentation of the eupply; yet should a ecarcity occur, the ranchmen located up toward the headwaters of the stream should do all in their power to keep every stamp of every mill in uninterrupted operation.—*Enterprise.*

At the Thompson mine on Pine Flat, eeven milee south of the Geysers, owned by Thompeon Brothers, a tunnel is in 140 feet, and fine ore and a rich prospect are already developed. It takes a good deal of money to open a mine; tbe Reddington Company, it ie eaid, have epent $100,000 on theirs before they got any return. The money comes back now, however, as it will from many others of our local minee with a little more development.

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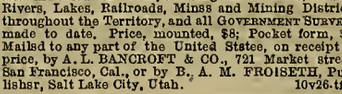

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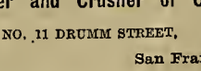
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(Continued from Page 53.)

and stringers of quartz are frequently encountered that give rich assays, and expectations are entertained that a body of good milling ore will be developed soon.

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LOWER COMSTOCK.—Sinking the shaft is making good headway. The rock in the bottom blasts well, and the hoisting will soon require steady hoisting works, which are now ready for erection.

JACOB LITTLE.—Work in the lower tunnel is steadily progressing, the drifts from the second cross-cut in the ledge developing some good ore, assaying well in both gold and silver.

DANEY.—Sinking the shaft is making excellent progress, the rock in the bottom working well, and no water to interfere. It is now down a depth of 110 ft.

PICTOU.—Driving the main tunnel is making good progress, occasionally cutting feeders and stringers of rich ore, which indicate a near approach to the main ledge.

OVERMAN.—The prospecting drifts west at the 1000-ft. level are still driven energetically ahead.

YELLOW JACKET.—Prospecting the 1400 and 1500-ft. continuee, without change of interest to chronicle.

GREEN.—Work progressing steadily, with some favorable indications of good ore developmente soon.

CROWN POINT.—Daily yield, 400 tons of ore. The north winze, on the 1,300-foot level is down 20 ft., the whole distance through rich ore, the assays running as high as $149 to $154 per ton, nearly one-half being gold. The middle winze, 1,300-foot level, is down 18 ft. also in good ore. The south winze, same level, is down 14 ft. in rich ore, and strong indications of water. The drill holes in the face of the east cross-cut, from the main south drift on the 1,400-foot level, have been driven 19 ft. into the face, the flow of water steadily increasing until it is all that the pumps can do to handle it. The machinery is working well, and a steady increase of the daily yield may be expected.

BELCHER.—Daily yield, 500 tons. Incline down 199 t. below the 1,200-foot ft level; still sinking. Stopes looking remarkably well. Cross-cutting east and west; n 10 ft. on west side and 11 ft. on the east, making a width of 21 ft. General appearance of the mine more flattering than ever. The second cross-cut south, 305 ft. feet from the Crown Point line, is in 9 ft., encountering fine ore all along. The ore supplies are holding out wonderfully; could take out more ore daily, did the working capacity of the mills warrant so doing.

CONSOLIDATED VIRGINIA.—Sinking the shaft was suspended some four days during the week for the purpose of making some necessary changes and repairs to the machinery, but was again resumed yesterday. No progress whatever has been made with the main north drift on the 1,167-foot level since our last report. The strong flow of water continuing from the face of the drift, keeping the men husy taking away the sand and other matter forced down by the flow.

KNICKERBOOKER.—Cross-cutting from the main southwest tunnel, on the 400-ft. level, is making excellent progress, the face of the drift still in quartz, which show some excellent indications of good future ore developments.

BALTIC CONSOLIDATED.—A strong force of men are employed, and the work being driven ahead in an energetic manner. Driving the main tunnel is making good headway, from which some ore was taken during the week that gave excellent assays, and promises some good developments. Sinking a new shaft has been commenced and is making good progress.

NEVADA.—Work on this mine progresses well, the rock in the new shaft is hard but works well; the shaft is thoroughly timbered and is one of the best three-compartment shafts on the Comstock. Some ore worked at the Ramsdell & Thompson mill last week, from the old works milled over $17 per ton. The compsny anticipates putting up a mill on the claim; they have plenty of water and every facility for crushing the ore and making it a dividend-paying mine.

HALE & NORCROSS.—The north winze on the 1,700-foot level is down 110 feet, having encountered no ore of value to that depth. Bad air greatly interferes with the progress of the main south drift on this level. Daily yield 40 tons of ore, mostly from the second station, 800-foot level.

WOONVILLE.—The winze in the main south drift at the third station is down 40 ft. on the ledge, which is gradually widening, and the ore improving in quality as a greater depth is attained. The ore stopes at the first and second stations continue to improve in both the quantity and quality of ore produced. The lone mill is kept steadily running on ore from the mine.

GOULD & CURRY.—Daily yield 15 tons of ore from the old upper working. The main northwest drift on the 1500-ft. level is still driven ahead in quartz of a very promising character. Prospecting on the other levels continues with unabating vigor, nothing new to report.

WHITE PINE.

THE EDGAR MINE.—White Pine *News*, July 19: Still maintains its reputation as an ore producer, and is constantly increasing in richness and extent.

THE MILL AT ROBINSON.—We learn that the new mill at Mineral City will soon be finished and ready to commence the crushing of ores.

BULLION SHIPPED IN JUNE.—We were informed by George Haight, Wells, Fargo & Co.'s agent at this place, that bullion amounting to $71,071 88 had been forwarded through their office during the month of June.

FROM MONTE CRISTO.—We met Capt. Merriam in town during the week from Monte Cristo mill. He informs us there is no prospect of starting the mill this season.

TRENCH MINE.—In this mine the prospect for a large and productive property was never better than now. At the present writing, quantities of magnificent ore are being extracted, and work is being pushed steadily shead.

THE SOUTH AURORA Company intend putting their diamond drill at work on Chloride Flat immediately. Mr. Jeffries will assume charge of the drill. Great expectations were formerly indulged in respecting the result of the experiment and we trust that this trial may prove the fact that ore exists at a depth at this point.

REPAIRING.—We notice a move towsrd the repsiring of the Big Smoky mill during the past week. It is ssid that the mill will be put in complete running order. We also hear that a start will be msde within s short time on ore from the Edgar mine.

Utah.

NORTH STAR DISTRICT.—S. L. *Tribune*, July 11: HICKORY MINE.—In this mine the drift west is looking very fine, with about 7 ft. of good ore. The connection between this level and the Oakland east drift will be made during the coming week;

The ore in the Oakland drift is from 4 to 5 ft. wide, and is of the same high grade as heretofore. So soon as the connection is made, the Superintendent says that he will sink a winze upon the main body of ore, which widens in places to a width of 12 ft., and he will then commence stoping. On the various dumps there are between 700 and 800 tons of ore ready for treatment so soon as the mill is in operation, the machinery for which is already ordered, and is expected to leave the foundry by the end of July.

At Shanties Springs, a distauce of 6 miles from North Star, 10 smelters, of a capacity of 10 tons each per day, are in couree of erection and nearly completed. They were expected to be finished this week, and will furnish a market for ores from this and surrounding camps.

OPHIR MINING DISTRICT.—S. L. *Tribune*, July 16th: Mr. Edward S. Blackwell, manager of the Ophir Mining and Smelting Co. of Utah (Limited), yesterday showed us a very rich specimen of ore from a new discovery in the Defiance mine, on Lion Hill. It is composed of chlorides, sulphurets and native silver, and assays ss high ss $7,000 in silver to the ton,

Time Tests the Merits of all Things.

1840 For Over 30 Years, 1873

PERRY DAVIS'

PAIN-KILLER

Has been tested in every variety of climate, and by almost every nation known to Americans. It is the constant companion and inestimable friend oi the missionary and the traveler, on the sea or land, and no one should travel on our *Lakes or Rivers without it.*

Since the PAIN-KILLER was first introduced, and met with such extensive sale, many Liniments, Reliefs, Panaceas, and other Remedies have been offered to the public, but not one of them has attained the truly *enviable standing* of the PAIN-KILLER.

WHY IS THIS SO?

It is becanee DAVIS' PAIN-KILLER is what it claims to be, a Reliever of Pain.

Its Merits are Unsurpassed.

If you are suffering from Internal Pain, Twenty to Thirty Drops in a Little Water will almost instantly cure you. There is nothing to equal it for

Colic, Cramps, Spasms, Heart-burn, Diarrhea, Dysentery, Flux, Wind in the Bowels, Sour Stomach, Dyspepsia, Sick Headache, &c., &c.

In sections of the country where

Fever and Ague

Prevails, there is no remedy held in greater esteem. Persons traveling should keep it by them. A few drops, in water, will prevent sickness or bowel troubles from change of water.

From foreign countries the calls for PAIN-KILLER are great. It is fonnd to

CURE CHOLERA WHEN ALL OTHER REMEDIES FAIL.

WHEN USED EXTERNALLY, AS A LINIMENT, nothing gives quicker ease in Burns, Cuts, Bruises, Sprains, Stings from Insects, and Scalds. It removes the fire, and the wonnd heals like ordinary sores. Those suffering with RHEUMATISM, GOUT, or NEURALGIA, if not a positive cure, they find the Pain-Killer gives them relief when no other remedy will.

It Gives Instant Relief from Aching Teeth.

Every Honse-Keeper shonld keep it at hand, and apply it on the first attsck of any Pain. It will give satisfactory relief, and save hours of suffering.

Do not trifle with yourselves by testing untried remedies. Be sure you call for and get the genuine PAIN-KILLER, as msny worthless nostrums are attempted to be sold on the great reputation of this valusble medicine. ☞ Directions accompany each bottle.

PRICE—25 cts., 50 cts., and $1 per bottle.

THE NEW U. S. MINING LAWS.

The new Laws of 1872, governing the location snd purchase of Placer and Quartz Mines and Agricultural Lands in Mining Districts of the U. S., printed in circular sheet, for sale at this office. Single copies, 25 cts. Usnal discount to the trade.

NO LIFE INSURANCE COMPANY has a better record of more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B. Roberts, 315 California Street, San Francisco, is general agent for thie Coast. Send to him for circulars and information of this reliable, first-class company.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Angels Quartz Mining Company---Principal

psl place of business, 408 California street, San Francisco. Locstion of works: Angels Mining District, Cslaveras County, California.

NOTICE.—There are delinqnent upon the following described stock, on account of assessment (No. 35), levied March 4th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T D Mathewson	3	300	$450 00
T D Mathewson	4	314	471 00
T D Mathewson	5	500	750 00
T D Mathewson	17	26	39 00
T D Mathewson (not issued)		325 5-7	488 57
J H Fish (not issued)		342 6-7	574 29
J H Fish, Trustee	20	50	75 00
J H Fish, Trustee	21	50	75 00
J H Fish, Trustee	22	50	75 00
J H Fish, Trustee	23	50	75 00
Mrs E B Fish	9	1000	1500 00
R M Anthony	18	100	150 00
R M Anthony (not issued)		45 5-7	68 57
R M Anthony	19	60	90 00
E H Sawyer	11	800	1200 00
E H Sawyer (not issued)		228 4-7	342 86
Geo. Osgood	12	400	600 00
Geo. Osgood (not issued)		114 2-7	171 43

And in accordance with lsw snd an order made by the Board of Directors, on the 4th day of March, 1873, so many shares of each parcel of such stock ss may be necessary, will be sold at public anction, at the office of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on Monday, April 21st, 1873, at 2 o'clock P. M., of such day, to pay said delinquent assessment thereon, togethar with costs of sdvertising and expenses of sale. GEORGE CONGDON, Secretary.

Office, Room No. 1, 408 California Street, San Francisco, California (up stairs). a5-3t

POSTPONEMENT.—Angels Qnartz Mining Company. The above sale is hereby postponed for thirty days, at the same hour and place.

ap19 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, June 18, 1873, at the same hour and place.

m17 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Oompany. The above sale is hereby postponed until Wednesday, July 16, 1873, at the same hour and place.

jl4 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, August 13, 1873, at the same hour and place.

jy19 GEORGE CONGDON, Secretary.

Alpine Gold Mill and Mining Company—

Location of principal plsce of business, San Francisco, California. Location of works, Tuckerville Mining District, Amador County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 21st day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain nnpaid on the 25th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. jy26

Beckwith Mining Company---Location of

works, Ely Mining District, Lincoln county, State of Nevada. Principal place of bnsiness, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directore, held on the 7th day of July, 1873, an assessment of fifteen (15) cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on Monday, the 11th day of August, 1873, will be deoemed delinqnent and advertised for sale at public auction, and nnless payment is made before, will be sold on Tuesday, the 2d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors WM. H. WATSON, Secretary.

Office, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, California. jy8-td

Bunker Hill Quartz Mining Company—Location of works: Amador, Amador County, California.

Principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock on account of assessment, (No. 10) levied June 5th, 1873, the sevaral amounts set opposite the names of the respective shareholders ss follows:

Name.	No. Certificate.	No. Shares.	Amount.
Wales L Palmer	113	20	$200 00
Wales L Palmer	120	20	200 00
Wales L Palmer	121	20	200 00
Wales L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmer	125	20	200 00

And in accordance with law and an order of the Board of Directors, made Jnne 5th, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the company, No. 19 First street, San Francisco, Csl., on Monday, Jnly 28th, 1873, at 12 o'clock noon of ssid day, to pay ssid delinquent assessment thereon together with costs of sdvertising snd expenses of sale.

WALES L. PALMER, Secretary.

Office—No. 19 First St., San Francisco, Cal. jy19

POSTPONEMENT.—The above sale is postponed until Monday, August 11th, 1873, at the same hour and place. By order of the Board of Directors, made July 22, 1873. WALES L. PALMER, Secretary.

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at No. 402 Montgomery Street, room 23. Any stock upon which this assessment shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for ssle at public auction, and nnless payment is made before, will be sold on Monday the 8th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francisco. jy 12

Cincinnati Gold and Silver Mining Company.

Principal place of business, San Francieco, California. Location of works, Kelsey Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 7th day of July, 1873, an assessment of five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the company, No. 331 Kearny street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 1st day of September, 1873, to pay the delinquent assesement, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office—Room 14, No. 331 Kearny street, San Francisco, Cal. jy23

The Central Land Company—Location of

office and principal place of business, No. 338 Montgomery street, Room 5, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of Assessment levied on the ninth day of June, 1873, the several amounts set opposite the nsmes of the repective shareholders as follows.

Names.	No. Certificate.	No. Shares.	Amount.
P L Weaver (Executor,	37	150	$187 50
Edward McLean, and F Warner.	36	100	125 00
F B Haswell	35	100	125 00
F B Haswell	34	100	125 00
F B Haswell	33	100	125 00
F B Haswell	30	50	62 50
F B Haswell	29	50	62 50
Edward McLean	12	50	62 50
Edward McLean	11	50	62 50
Edward McLean	10	50	62 50

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June, 1873, so msny shares of each parcel of said stock as may be necessary, will be sold at public auction, by the Secretary, at the said Room 5, 338 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

F. B. HASWELL, Secretary.

Office, No. 338 California street, Room 5, San Francisco, Cal. jy12

The California Beet Sugar Co.—Location of

principal plsce of bnsiness, San Francisco, California. Location of Works: Alvarsdo, Alameda County, California.

NOTICE.—There are delinqnent upon the following described stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Name.	No. Certificate.	No. Shsres.	Amount.
W. T. Garratt	2	125	$1250
W. T. Garratt	40	63	630
Ephraim Dyer	6	63	630
Ephraim Dyer	39	62	620
H. G. Rollins	9	63	630
H. G. Rollins	35	25	250
H. G. Rollins	36	12	120
Wm. B. Carr	23	250	2500
Wm. B. Carr	62	38	380
E. H. Dyer	27	5	50
E. H. Dyar	71	245	2450
Austin D. Moore	60	50	500
T. G. Phelps	68	53	630

And in accordance with law and an order of the Board of Directors made on the 25th day of May, 1873, so many shares of each pareel of said stock as may be necessary will be sold at public auction at the office of the company, No. 314 California street, San Francisco, California, on Tuesday the 22d day of July, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS FRANCONI, Secretary.

Office, No. 314 Csllfornia street, San Francisco, Cal.

POSTPONEMENT.—The above sale is postponed until Tuesday, the 12th day of August, 1873. By order of the Board of Trustees.

jy26 LOUIS FRANCONI, Secretary.

Notice—The Annual Meeting of the

Stockholders of the Cerbat Consolidated Gold and Silver Mining Oompany for the election of Trustees for the ensning year and the transaction of such other business as may properly come before the meeting will be held on Monday the eleventh day of August, 1873, at the office of the company, 507 Montgomery street, San Francisco, California, at 1 o'clock, P. M.

jy26td T. E. JEWELL, Secretary.

Dutch Flat Blue Gravel Mining Company.

Place of business, San Francisco, Cal.

NOTICE.—There are delinqnent upon the following described stock, on account of assessment (No. 2) levied on the 13th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Booth, L A	13	2000	$1000
Booth, L A	14	1000	500
Booth, L A	15	1000	500
Cope, G W, Trustee	67	100	50
Cope, G W, Trustee	68	100	50
Cope, G W, Trustee	69	100	50
Cope, G W, Trustee	70	100	50
Dorsey, E B	37	500	250
Dorsey, E B	42	200	100
Dorsey, E B	43	100	50
Dorsey, E B	44	100	50
Dorsey, E B	45	100	50
Dorsey, E B	46	100	50
Dorsey, E B	47	100	50
Fry, J D	17	500	250
Forbes, Alex, Trustee	52	2000	1000
Gashwiler, J W	36	800	400
Heydenfeldt, S	16	2000	1000
Haggin, J B	5	1000	500
Haggin, J B	6	1000	500
Roberts, G D	18	500	250
Roberts, G D	20	1000	500
Roberts, G D	21	1000	500
Roberts, G D	22	1000	500
Roberts, G D	25	1000	500
Roberts, G D	26	1000	500
Roberts, G D	27	1000	500
Roberts, G D	28	1000	500
Roberts, G D	29	1000	500
Raymond, W H	3	1000	500
Raymond, W H	4	1000	500
Richardson, E A, Trustee	32	1000	500
Richardson, E A, Trustee	33	1000	500
Richardson, E A, Trustee	34	1000	500
Richsrdson, E A, Trustee	35	1000	500
Richardson, E A, Trustee	49	500	250
Richardson, E A, Trnstee	50	200	100
Richardson, E A, Trustee	51	100	50
Richardson, E A, Trustee	54	1000	500
Richardson, E A, Trustee	55	1000	500
Richardson, E A, Trustee	55	1000	500
Taylor, H W	60	180	90
Taylor, H W	61	20	10
Taylor, H W	64	500	250
Whitcomb, C A	63	100	50

And in accordance with law and an order of the Board of Trustees, made on the 13th day of May, 1873, so many shares of each parcel of said stock as may be necessary will be sold at the office of the company, room 11, 401 California street, San Francisco, Cal., on Monday, the 14th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. W. M. HELMAN, Secretary.

Office—Room 11, No. 401 California street, San Francisco, Cal. jn28

POSTPONEMENT.—The above sale is hereby postponed to Saturday, the 29th day of July, 1873, at the same hour and place. W. M. HELMAN, Secretary.

jy15-td

Excelsior Silver Mining Company—Principal

place of business, San Francisco, California. Location of works, Yellow Pine District, Nye County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 18th day of July, 1873, an assessment of Forty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 540 Washington street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.

Office, 540 Washington street, San Francisco, California.

Great Blue Gravel Range Mining Company.

Location of works, Placer County, State of California. Location of principal place of business, San Francisco, California.

NOTICE.—There are delinqnent upon the following described stock, on account of assessment (No. 3) levied on the 12th day of June, 1873, the severel amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shsres.	Amount.
Babcox, J T	145	25	$2 50
Babcox, J T	248	25	2 50
Babcox, J T	249	25	2 50
Babcox, J T	270	100	10 00
Babcox, J T	273	100	10 00
Babcox, J T	356	50	5 00
Babcox, J T, Trustee	94	100	10 00
Babcox, J T, Trustee	116	200	20 00
Babcox, J T, Trustee	117	100	10 00
Babcox, J T, Trustee	118	100	10 00
Ballie, Margaret	1	5	50
Berry, Mrs Julia A	159	40	4 00
Dowdy, Mrs Sarah S	333	20	2 00
Evers, Wm	393	30	3 00
Garfield, Carrie	394	5	50
Horn, Mrs Eliza	384	135	13 50
Hunt, F F, Trustee	114	25	2 50
Josselyn, L M	332	67	6 70
Kahn, Paul	367	733	73 30
Larue, James	83	500	50 00
Larue, James	229	1000	100 00
Morken, H F	60	100	10 00
Morken, H F	155	100	10 00
Murphy, M A	163	20	2 00
Murphy, M A	223	100	10 00
Murphy, Mrs M A	168	85	8 50
Mills, Mrs Phœbe S	368	25	2 50
Peck, E S	309	1420	142 00
Peck, E S	364	420	42 00
Plummer, M D	208	125	12 50
Plummer, M D	377	2000	200 00
Plummer, M D	378	3000	300 00
Peck, E T	47	200	20 00
Rose, Mary E	152	20	2 00
Reed, S M	381	100	10 00
Reed, S M	382	100	10 00
Snell, Geo P	184	50	5 00
Thompson, E F	399	100	10 00
Thompson, E F	400	20	2 00
Thompson, E F	401	30	3 00
Thompson, E F	402	50	5 00
Thompson, E F	403	15	1 50
Wilson, John B	395	15	1 50
Yeomanns, A B	318	50	5 00
Yeomanns, A B	319	50	5 00

And in accordance with law, and sn order of the Board of Directors, made on the 12th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, Room 5 and 6, No. 302 Montgomery street, San Francisco, California, on Tuesday, the 5th day of August, 1873, at the hour of 2 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale. WM. H. WATSON, Secretary.

Office, Room 5 snd 6, No. 302 Montgomery street, San Francisco, Csl. jy15-td

Equitable Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the fifth day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cook, M M	241	10	$1 00
Esten, John	81	25	2 50
Esten, John	86	50	5 00
Hickox, B F	144	25	2 50
Jameson, Alexander	167	25	2 50
Jameson, J S	97	50	5 00
Lezinsky, H E	598	50	5 00
McLean, John H	592	100	10 00
Mead, L G	101	10	1 00
Sutton, Jr, Charles	151	10	1 00
Woolley, L H	192	10	1 00

And in accordance with law and an order of the Board of Directors, made on the second day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the company, No. 35 New Merchants' Exchange, San Francisco, Cal., on the eighth day of August, 1873, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, Cal. jy19

Office of the Frear Stone Company of California.

San Francisco, July 15, 1873.

The annual meeting of the stockholders of the Frear Stone Company of California will be held at their office, No. 414 California street, San Francisco, California, on Friday, the 1st day of August, 1873, at 1 o'clock P. M.

jy16-td R. WEGENER, Secretary.

Globe Mining Company — Location of works, Gold Hill, Nevada.

Natice is hereby given, that al a meeting af the Board of Directors, held on the 7d day of July, 1873, an assessment (No. 3) af seventy-five cents per share was levied npon the capital stock of the Corporatian, payabls immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 25 Hayward's Building, No. 419 California street, San Francisco, Cal. Any stock upon whiah this assessment shall remain unpaid on the 4th day of Angnst, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 25th day of August, 1873, to pay the delinquent asse-sment, together with aosts of advertising and sspenses of sals. By order of the Directors.

JOSEPH MAGUIRE, Secretary.

Office, Room 25, Rayward's Building, No. 419 California treet, San Francisca, Cal. jy5

Heckerdorn Gold and Silver Mining Company.

Principal place of bnsiness, San Francisco, California. Location of works, Bius Mountain District, Calaveras County, Cal.

NOTICE.—There are delinquent upon the followlng described stock, an account of assessment levied on tho 0th day of June, 1873, tho several amounts set opposite the names of lho respoctive shorcholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Louis Roiff	174	400	$100 00
Frank Lyon	156	40	10 00
Ieidore Lyon	168	20	5 00
Borson	181	100	25 00
Marin	157	100	25 00
A Mayer	161	100	25 00
Hanson	110	60	15 00
Savvysur	03, 107, 156, 840		210 00
Louis Ny	157	400	100 00
Louis Ny	158	400	100 00
Louis Ny	201	800	200 00
Louis Ny	207	400	100 00
Louis Ny	208	200	50 00
Louis Ny	209	100	25 00
Saintat	189	20	5 00
Saintat	04	20	5 00
Saintat	05	20	5 00
Saintat	06	20	5 00
Saintat	07	20	5 00
Catorine Ny	130	100	25 00
E Guntrio	159	200	50 00
E Guntrie	190	200	50 00
E Guntrie	103	280	65 00

And in accordance with law, and an order of the Board of Directors, made on the 9th day of Jnne, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, No. 734 Montgomsry street, San Francisco, California, on the 28th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS TERME, Secretary.

Office, 734 Montgomery street, San Francisco California. jy12

POSTPONEMENT.—At a meeting of the Board of Directors, hold this day, the above sale was postponed to the 28th day of August, 1873, at the same place and hour. LOUIS TERME, Secretary.

San Francisco, Jnly 24, 1873. jy26

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No.3) levied on the sievonth day of Juno, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Barton, Charles C	48	20	$1 00
Black, W W	281	57	3 35
Black, W W	282	100	5 00
Black, W W	284	100	5 00
Black, W W	285	100	5 00
Black, W W	286	100	5 00
Black, W W	287	100	5 00
Esten, John	75	20	1 00
Esten, John	78	20	1 00
Esten, John	77	10	50
Fenton, Wakefield	247	133	5 65
Fenton, Wakefield	248	100	5 00
Fenton, Wakefield	261	100	5 00
Fenton, Wakefield	263	100	5 00
Fenton, Wakefield	264	100	5 00
Fenton, Wakefield	264	100	5 00
Fenton, Wakefield	255	100	5 00
Fenton, Wakefield	268	100	5 00
Fenton, Wakefield	257	100	5 00
Fenton, Wakefield	268	100	5 00
Fenton, Wakefield	209	100	5 00
Fenton, Wakefield	270	100	5 00
Fenton, Wakefield	271	100	5 00
Galland, J	300	50	2 50
Owens T C	385	3	15
Owens T C, Trustee	385	180	0 00
Santiff, Nicholas	63	50	2 50
Taylor, M L	5	10	50
Theller, Saml L	300	50	2 50

And in accordance with law and an order of the Board of Directors, made on the eleventh day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, Cal., on the sixth day of August, 1873, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary

Office—No. 35 New Merchants' Exchange, San Francisco, Cal. jy10

Greenhorn Gold Mining Company.---Location af principal placa af business, San Francisco, California. Location af works, Grass Valley Mining District, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held an the 11th day af July, 1873, an assesment af one dollar and fifty cents per share was levied upon the capital stock of the Carporation, payahls immediately, in United States gold aoin, to tha Secretary, No 438 California street, San Francisco, California.

Any stock upon which this assessmsnt shall remain unpaid an the 18th day of August, 1873, will be delinqnent, and advertised for sale at public auction, and, nnless payment is made before, will be sald on Wednesday, the 10th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco California. jy12-td

Lady Franklin Gold and Silver Mining Co.

Principal place af bnsiness, City and County of San Francisco, California. Location of works, Silver Menutain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of July, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon whiah this assessment shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 15th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office—507 Montgomery street, San Francisco, California. jy19

Manhattan Marble Company of California.

Location of principal place of business, San Francisco.

NOTICE.—There are delinquent on the following described stock, on account of assessmeut levied ou the 23d day of June, 1873, the several amounts set opposite the names of the respectiv shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C Black	75	25	$25 00
C Black	70	25	25 00
C Black	77	25	25 00
C Black	78	25	25 00
C Black	79	10	19 00
Irad Cochran	125	119	119 00
Theron R Hopkins	not issued.	110	110 00
P F Mohrhardt	not issued.	110	119 00
Nion R Tucker	87	30	30 00
E Tripp, Trustee	42	110	119 00
George Tait	134	50	50 00
George Tait	135	50	50 00
George Tait	138	19	19 00
H P Wakelss	not issued.	110	119 00

And in accordance with law and an order of the Board of Directors, made on the 23d day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of company, on the 11th day of August, 1873, at ths hour of 1 o'clock P. M. of said day, to pay said delinquent assessment theroon, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office.—319 Pine street, San Francisco, California.

Notice---the Annual Meeting of the

Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held at the office of the company, 507 Montgomery street, San Francisco, on Satnrday, the 9th day of Augnst, 1873, at 1 o'clock, P. M.

jy25td T. E. JEWELL, Secretary.

Orient Silver Mining Company—Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 14th day of June, 1873, the several amounts set opposite the names of the respective sharsholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Atkins, Robt C	34	50	$5 00
Apel, John	17	50	5 00
Apel, John	32	50	5 00
Apel, John	34	50	5 00
Apel, John	261	50	5 00
Blake, Geo M	75	50	5 00
Brackett, J G, Trustee	281	25	2 50
Chase, A K, Trustee	57	100	10 00
Chase, A K, Trustee	108	10	1 00
Carrick, G W	14	100	10 00
Coburn, S A	270	5	50
Clapp, G W, Trustee	60	100	10 00
Clapp, G W, Trustes	102	100	10 00
Clapp, G W, Trustee	03	100	10 00
Clapp, R S	172	200	20 00
Clapp, R S	178	200	20 00
Clapp, R S	179	200	20 00
Clapp, R S	180	200	20 00
Clapp, R S	181	200	20 00
Clapp, R S	182	200	20 00
Clapp, R S	183	200	20 00
Clapp, R S	184	200	20 00
Clapp, R S	185	200	20 00
Clapp, R S	186	200	20 00
Clapp, R S	187	200	20 00
Clapp, R S	188	200	20 00
Clapp, R S	189	200	20 00
Clapp, R S	190	200	20 00
Clapp, R S	191	200	20 00
Clapp, R S	192	200	20 00
Clapp, R S	193	200	20 00
Clapp, R S	194	200	20 00
Clapp, R S	205	100	10 00
Clapp, R S	205	100	10 00
Clapp, R S	207	100	10 00
Clapp, R S	208	100	10 00
Clapp, R S	209	100	10 00
Clapp, R S	211	100	10 00
Clapp, R S	212	100	10 00
Clapp, R S	215	100	10 00
Clapp, R S	215	100	10 00
Clapp, R S	217	100	10 00
Clapp, R S	218	100	10 00
Clapp, R S	219	100	10 00
Clapp, R S	220	100	10 00
Clapp, R S	221	100	10 00
Clapp, R S	222	100	10 00
Clapp, R S	223	100	10 00
Clapp, R S	224	100	10 00
Clapp, R S	248	50	5 00
Clapp, R S	249	50	5 00
Clapp, R S	250	50	5 00
Clapp, R S	251	50	5 00
Clapp, R S	252	50	5 00
Clapp, R S	253	50	5 00
Clapp, R S	254	50	5 00
Clapp, R S	255	50	5 00
Elwell, Frank	33	33	3 30
Elias, Hugh	22	200	20 00
Fletcher, A T	115	50	5 00
Finley, R	127	34	3 40
Fish, Chas H, Trustes	118	100	10 00
Fish, Chas H, Trustee	119	100	10 00
Fish, Chas H, Trustes	120	100	10 00
Fish, Chas H, Trustee	123	100	10 00
Fish, Chas H, Trustee	125	100	10 00
Fish, Chas H, Trustee	126	100	10 00
Glazier & Seligsberg, Trustee	150	50	5 00
Glazier & Seligsberg, Trustee	151	50	5 00
Harding, John	86	100	10 00
Hyneman, Saml	188	10	1 00
Hyneman, Saml	169	20	2 00
Hyneman, Saml	170	20	2 00
Hyneman, Saml	173	100	10 00
Hyneman, Saml	175	100	10 00
Jenkins, L C	30	40	4 00
Jackson, A, Trustee	147	50	5 00
Knight, W H	131	50	5 00
Kent, R F, Trustee	156	50	5 00
Klumpke, J G, Trustee	282	100	10 00
Lee, J S	80	100	10 00
McFadden, E, Trustee	146	100	10 00
Peck, C M	15	200	20 00
Pritchard, Jas A, Trustee	99	200	20 00
Pocock, W R T, Trustee	142	50	5 00
Patridge, H C, Trustee	268	50	5 00
Palmer, S R, Trustee	283	100	10 00
Palmer, S R, Trustee	284	100	10 00
Palmer, S R, Trustee	285	100	10 00
Raymond, S A	260	100	10 00
Raymond, Henry, Trustee	65	100	10 00
Raymand, Henry, Trustee	87	100	10 00
Raymond, S A, Trustee	162	50	5 00
Richardson, E A, Trustee	88	200	20 00
Richardson, E A, Trustee	89	250	25 00
Richardson, E A, Trustee	90	50	5 00
Richardson, E A, Trustee	158	50	5 00
Rosenblatt, S, Trustee	289	50	5 00
Stoddard, W J	38	15	1 50
Snowball, R Y, Trustee	144	50	5 00
Sieeper, Geo, Trustee	157	40	4 00
Stephens, Chas, Trustee	276	100	10 00
Stephens, Chas, Trustee	277	100	10 00
Stephens, Chas, Trustee	272	25	2 50
Tibbey, E S, Trustes	273	25	2 50
Upton, M	257	50	5 00
Warshauer, A	113	25	2 50
Waldron, H S, Trustee	3	100	10 00
Waldron, H S, Trustee	49	100	10 00
Waldren, H S, Trustee	101	100	10 00
Waldron, H S, Trustee	103	100	10 00
Waldron, H S, Trustee	166	25	2 50
Waldron, H S, Trustes	278	50	5 00
Waldren, H S, Trustee	279	50	5 00
Washburn, C A	115	100	10 00
Walbet, Max, Trustee	105	25	2 50

And in accordance with law, and an order of the Board of Directors, made on the fourteenth (14th) day of June, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Compsny, No. 28 Hayward's, Building, No. 410 California street, San Francisco, California, on Monday, the eleventh day of August, 1873, at the hour of ons o'clock P. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sals.

JOSEPH MAGUIRE, Secretary.

Office—Room 26, Hayward's Building, No. 419 California street, San Francisco, California. jy23

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 5th day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&s

Placer Gold Mining and Canal Company.

Location of principal place of business, San Francisco, California. Location of works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Directors of said company, held on the eighth (8th) day of July, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 411 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Monday, the eleventh (11th) day of August, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Saturday, the thirtieth (30th) day of August, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

GEO. W. R. KING, Secretary.

Office—411 California street, San Francisco, California. jy12

Rising Star Mining Company.---Location of

principal place of business, San Francisco, California. Location of works, Nevada County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 11th day of July, 1873, an assessment (No. 5) of six cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, room 37 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 30th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order af the Board of Directors.

J. M BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco, Cal. jy12-td

Spring Mountain Tunnel Company—Principal place of business, No. 37 New Merchants' Exchange, California street, San Francisco, Cal. Location of works, Ely Mining District, Lincoln County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of June, 1873, an assessment (No. 5) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, 37 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of July, 1873, will be delinquent, and advertised for sale at public anction, and unless payment is made before, will be sold on Monday, the 18th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses af sale. By order of the Directors. J. M. BUFFINGTON, Secretary.

Office—37 New Merchants' Exchange, California street, San Francisco, Cal. jn28

Stanislaus Water Company of California—

Principal place of bnsiness, 525 Kearny street, San Francisco. Location of works, near La Grange, Stanislaus County.

Notice is hereby given, that at a meeting of the Board of Directors held on the 2d day of July, 1873, an assessment (No. 2) of two cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, 526 Kearny st. Any stock upon which this assessment shall remain unpaid on the 10th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 26th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CLINTON C. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal. jy 5

Starr King Silver Mining Company—Location of principal place of business, San Francisco, California. Location of works, Spruce Mountain Mining District, Elko County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 3) levied on the tenth day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Booth, L A, Trustee	5	500	$250 00
Bush, Hyman P, Trustee	82	1000	500 00
Bush, Hyman P, Trustee	152	50	25 00
Bush, Hyman P, Trustee	154	50	25 00
Cornell, R H, Trustes	9	166	83 00
Cornell, R H, Trustee	180	100	50 00
Cornell, R H, Trustee	181	84	42 00
Drinkhouse, J A, Trustee	51	100	50 00
Drinkhouse, J A, Trustee	62	100	50 00
Drinkhouse, J A, Trustee	68	100	50 00
Drinkhouse, J A, Trustee	69	100	50 00
Drinkhouse, J A, Trustee	70	100	50 00
Drinkhouse, J A, Trustee	71	100	50 00
Drinkhouse, J A, Trustee	72	100	50 00
Drinkhouse, J A, Trustee	73	100	50 00
Drinkhouse, J A, Trustee	89	100	50 00
Drinkhouse, J A, Trustee	101	100	50 00
Drinkhouse, J A, Trustee	103	100	50 00
Drinkhouse, J A, Trustee	104	100	50 00
Drinkhouse, J A, Trustee	105	100	50 00
Drinkhouse, J A, Trustee	138	25	12 50
Drinkhouse, J A, Trustee	137	25	12 50
Friedlander, I, Trustee	124	500	250 00
Johnson, R P	206	173	88 50
Kaplan, Louis, Trustee	8	125	62 50
Kozminsky, H, Trustee	157	400	200 00
Moore, W H, Trustee	20	500	250 00
Nicol, Wm, Trustee	194	50	25 00
Nicol, Wm, Trustee	195	100	50 00
Nicol, Wm, Trustee	196	100	50 00
Richardson, E A, Trustee	108	250	125 00
Sutliff, H, Trustes	42	100	50 00
Sutliff, H, Trustee	40	50	25 00
Sutliff, H, Trustee	57	50	25 00
Schmitt, M, Trustee	107	250	125 00
Sharp, Wm H, Trustee	165	500	250 00
Trask, A Y, Trustes	18	250	125 00
Trask, A Y, Trustee	19	62	31 00
Weedon, J H	30	150	75 00
Whitlatch, J W, Trustee	197	100	50 00
Whitlatch, J W, Trustee	198	100	50 00
Whitlatch, J W, Trustee	199	100	50 00
Whitlatch, J W, Trustee	200	100	50 00
Watson, Wm R, Trustee	171	1875	937 50

And in accordance with law, and an order of the Board of Directors, made on the tenth day of June, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, rooms 26 and 27, Merchants' Exchange, California street, San Francisco, Cal., on Monday the fourth day of August, 1873 at the hour of 12 o'clock, M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the salo.

LOUIS KAPLAN, Secretary.

Office, Rooms 26 and 27 Merchants' Exchange, California street, San Francisco, Cal. jy15

Sanderson Gold Mining Company—Location of works: Railroad Flat, Calaveras county, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 5) levied on the 20th day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Thomas Derby	59	500	$75 00
Thomas Derby	70	200	30 00
A Rosenfeld	34	500	76 00
A Rosenfeld	35	500	75 00
Jules Greenhood	74	300	45 00
E A Denicke	49	2000	300 00

And in accordance with law, and an order duly made by the Board of Directors, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, 113 Leidesdorff street, San Francisco, California, on Monday, the 4th day of August, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WILLIAM STUART, Secretary.

Office—113 Leidesdorff street, San Francisco, California. jy23

Umpire Tunnel and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., or to W. A. Beal, President. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal. jy25

Yule Gravel Mining Company---Location of works: Viola Clsima, Township No. 8, Placer County, California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment, (No. 3) levied on the 4th day of June, 1873, the several amounts set opposite the names of the respectiv shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baker, Henry	353	20	$4 00
Bryant, A J	379	5	1 00
Cutter, S L	317	10	2 00
Conners, John	420	70	14 00
Dore, Benj, Trustee	95	50	10 00
Dore, Benj, Trustee	110	100	20 00
Dore, Benj, Trustes	114	50	10 00
Dore, Benj, Trustee	115	50	10 00
Dore, Benj, Trustes	117	50	10 00
Dore, Benj, Trustee	237	100	20 00
Gummer, W P	304	10	2 00
Hynemann, S, Trustee	382	20	4 00
Higgins and Green, Trustees	377	10	2 00
Higgins, W L, Trustee	398	20	4 00
Hill, John, Trustee	428	200	40 00
Hull, G W	400	100	20 00
Middleton, S P	433	100	20 00
McInerney, M J	406	155	31 00
Richardson, E A, Trustee	333	50	10 00
Richardson, E A, Trustee	390	10	2 00
Richardson, E A, Trustee	401	30	6 00
Romer, J L, & Co., Trustees	342	40	8 00
Romer, J L, & Co., Trustees	376	40	8 00
Schmidell, H, Trustee	307	25	5 00
Schmidell, H, Trustee	387	10	2 00
Sears, Wm H	319	25	5 00
Voight, Dr C	385	40	8 00
Watson, Wm H, Trustee	153	100	20 00
Watson, Wm H, Trustee	155	50	10 00
Watson, Wm H, Trustee	172	50	10 00
Watson, Wm H, Trustee	182	100	20 00
Watson, Wm H, Trustee	183	100	20 00
Watson, Wm H, Trustee	189	100	20 00
Watson, Wm H, Trustee	196	50	10 00
Watson, Wm H, Trustee	199	50	10 00
Watson, Wm H, Trustee	250	100	20 00
Watson, Wm H, Trustee	257	100	20 00
Watson, Wm H, Trustee	258	100	20 00
Watson, Wm H, Trustee	260	100	20 00
Lowenberg, S, Trustee	437	50	10 00
Lowenberg, S, Trustee	438	50	10 00
Logan and Edelen, Trustee	399	20	4 00

And in accordance with law, and an order of the Board of Directors, made on the 4th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the company, room 5 and 6, No. 302 Montgomery Street, San Francisco, California, on Tuesday, the 29th day of July, 1873, at the hour of 2 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. H. WATSON, Secretary.

Office—Room 5 and 8, No. 302 Montgomsry St., San Francisco, Cal. jy12

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

JEREMIAH P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Particular attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

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FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

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THE RISDON

Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

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Wm. Norris,	Wm. H. Taylor,	Lloyd Tevis,
	James D. Walker.	

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS B. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,

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ROOT, NEILSON & CO.,

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CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

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Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

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HAMMERED IRON

Of every description and size.

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Machinery and Castings of all kinds.

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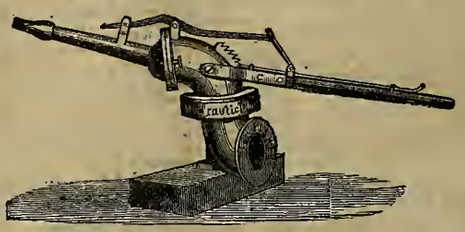
FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



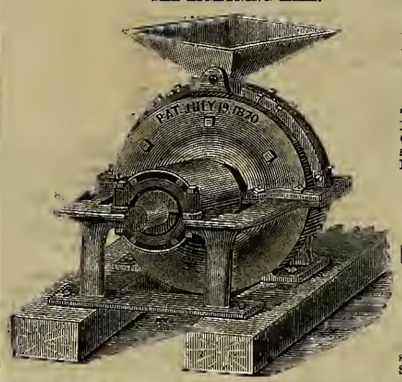
MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

THE LIGHTNING MILL.



THE

LIGHTNING MILL

For Pulverizing Quartz,

"Charleston Rock," and all Native Phosphates, Flint, Feldspar, Iron Ore, Manganese, Antimony, Carbon, Corundum, Old Crucibles, Barytes, Brimstone, Slate, Soapstone, Graphite, Glass, Marble, Plaster, Anthracite and Bituminous Coals, etc.

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Patent Bone Mills and Crushers.

For Grinding Bones, Rock, Quartz, and all hard substances; also, Corn, Wheat, Oats, Barley, Coffee, Spices, etc.

WALKER BROS. & CO., Twenty-third and Wood Streets, Philadelphia, Sole Manufacturers of Stewart's Celebrated Patent Bone Mills and Crushers, A. W. Straub & Co.'s Patent Revolution French Burr Mill and A. Duval's Patent Centrifugal Pumps.

ASBESTOS ROOFING.

Over 15,000,000 Square Feet in Use.

THE ASBESTOS ROOFING IS A SUBSTANTIAL AND RELIABLE MATERIAL,

Which can be Safely Used in Place of Tin, Slate, etc.,

ON STEEP OR FLAT ROOFS, IN ALL CLIMATES.

It can be Cheaply Transported and Easily Applied.

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THOMPSON BROTHERS,

EUREKA FOUNDRY,

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LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

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MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punchee made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

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Plans, Specifications, and Estimates for Machinery of all Kinds.

We also design machines to meet particular demands and secure and assign the patents on the same.

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PRESCOTT, SCHEIDELL & CO.,

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Corner of B and Fourth streets, Marysville, Cal.

MANUFACTURERS OF

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STATIONARY AND PORTABLE

SAW AND GRIST MILLS,

Hydraulic Machinery,

Quartz Crushing and Amalgamating Machinery

Of every description, constantly on hand.

Plans and estimates furnished upon application. Repairs upon all kinds of Machinery promptly made, and at moderate charges.

Having unrivalled facilities, we are prepared to make to order, at short notice, anything required in our line.

Specimens of our work may be seen in all the mining regions on this coast.

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IRON CASTINGS of all descriptions at short notice.

Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

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15-HORSE POWER PORTABLE THRESHING ENGINE—Nearly new made by Wood & Mann. Cylinder 9 inches diameter, 12-inch stroke. Boiler large and well proportioned, has all the mountings, is mounted on wheels, in first-rate condition, and will be sold cheap. This is the very thing for opening a new or working a small mine. Price, $1,350.

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THREE 35-HORSE POWER BOILERS, each 50 inches diameter, 16 feet long, containing 42 tubes 3½ inches diameter. These boilers have been entirely rebuilt, and are in thoroughly good condition. Will be sold together, or separately, at a low price.

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Build all kinds of Boilers, Water Pipe, Pump Column, Buckets, Tanks, etc. jy12-1m

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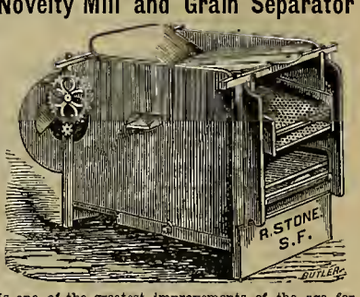
THE PATENT

Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to

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TRIP HAMMER QUARTZ BATTERY.

The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

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Patent Self-Operating Brake

For Vehicles—simple, powerful, durable. Pronounced by competent judges to be just what is required. Rights for sale. MUNSON G. PIOKETT, Patentee.

Newburyport, Mass., June 26, 1873. jy12-4t

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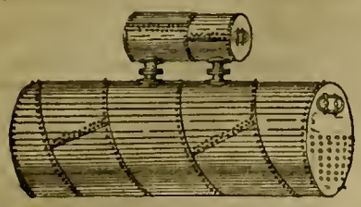
123 and 125 Beala Street.....SAN FRANCISCO

F. I. CURRY,

(Late Foreman of the Vulcan Iron Works,) Proprietor.



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SOLE MANUFACTURERS OF THE CELEBRATED

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SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

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—OF—

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Oregon street, below Front, San Francisco.

All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

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BOILER MAKERS

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Howard st., between Fremont and Beale, San Francisco.

BURLEIGH ROCK DRILLS

—AND—

Air Compressors.

The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Shafting, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

They are to be used on the St. Gothard Tunnel, Switzerland; Tunnel 13 miles long. We refer to the following gentlemen and works:

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MILL SAW FILES A SPECIALTY.
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The undersigned, owners of LESCHOT'S PATENT for DIAMOND-POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices. Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

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Particular attantion paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

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☞ BUY BARBER'S BIT BRACE. ☜

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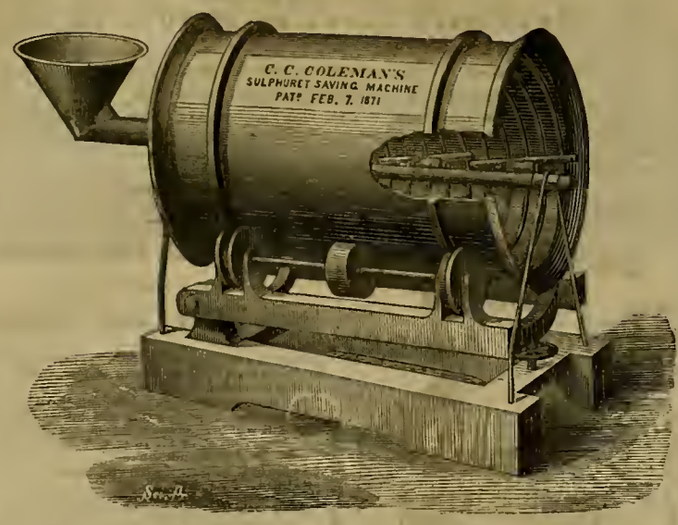

ILLUSTRATED IN MINING AND SCIENTIFIC PRESS MAY 13, 1873.

Send for Circulars Containing Description.

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Noe 18 and 20 Fremont street, San Francieco.; care of F. A. HUNTINGTON.
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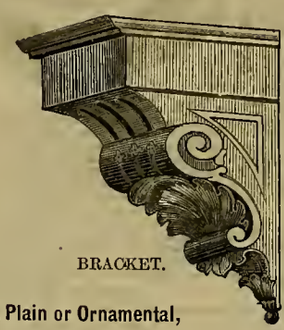
Frear Stone Company.

KEYSTONE.

CAPITAL.



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WE ARE PREPARED TO FURNISH BUILDING STONE, Plain or Ornamental,

At greatly reduced prices from the cost of natural cut stone, fire-proof and enduring

Ashler, Coping, Steps, Monuments, Gravestones, bases for Marble Monuments

And Cemetery Work of all kinds, at one-half the cost of other cut stone. Vases, Urns, Fountains, Tiles, Bridge Piers, Foundation Stone, in fact work of any and all descriptions usually made in stone or marble.

In colors we imitate Red and Yellow Sandstone, White and Black Tiles, French Grey, etc.

Architects and Builders are particularly invited to examine our stone and prices before engaging other building material.

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V. CUSHING, General Superintendent.
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PATENT SELF-CLEANING SLUICE.

This new and useful invention is designed to collect all the gold as fast as it is set free from the dissolving earth, and conduct it into a receptacle of mercury or safety pocket, under lock and key, from whence it may be removed in a few moments, without either checking the flow of water or interfering in the least with the washing.

The invention, if properly placed in our rivers, will also collect the gold which is yearly traveling down their channels, thus affording an annual income with a trifling expense for attending.

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THE

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Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.
24v22-3m JOSEPH MOORE, Superintendent.

SAN FRANCISCO

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PHELPS BROTHERS, Proprietors

MANUFACTURERS OF ALL KINDS OF

Machine Bolts, Bridge Bolts, and Ship or Band Bolts,

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AGENTS FOR

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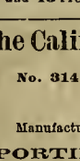

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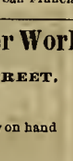

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No. 314 CALIFORNIA STREET,

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Manufacturers and have constantly on hand

SPORTING,

MINING,

And BLASTING

POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

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RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention PAID TO

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We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

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Chemical Apparatus and Chemicals,

Druggists' Glassware and Sundries,

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We would call the special attention of Assayers, Chemists, Mining Companies, Milling Companies, Prospectors, etc., to our large and well adapted stock of

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—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

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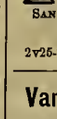
Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.



Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco

Nevada Metallurgical Works.

RIOTTE & LUCKHARDT,

Consulting Mining Engineers and Metallurgists, No. 21 First St., S. F.

WORKING TEST MADE BY ANY PROCESS —TESTING OF PROCESSES.

Plans furnished for the most suitable Process for Ores.

Assaying in all its Branches.

Analysis of Ores, Minerals, Waters and all other substances.

☞ Special attention paid to the mining and metallurgy of Quicksilver. 25v11-5m

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.

For all Laboratory and Manufacturing Purposes

H. M RAYNOR,
25 Bond street, New York.

Platinum Scrap and Ore purchased.

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS]

By Special Diepatch, Dated Washington, D. C., July 22d, 1873.

FOR WEEK ENDING JULY 8TH, 1873.*

TRANSMITTING TIME MOVEMENT TO DISTANT DIALS.—H. J. Wenzel, San Francisco, Cal.

SCREW POST FOR ELECTRICAL PURPOSES.—Stephen D. Field, San Francisco, Cal.

COMBINED SCRUBBING BRUSH, MOP AND WRINGER. John D. Smith, Sacramento, Cal.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

SILVER CITY MINES.—The latest intelligence from Silver City, Idaho, reports the mines to be looking remarkably well in that section. A great many new mines are being opened, and business of almost every branch is flourishing. Wells, Fargo & Co. shipped, per to-day's express to San Francisco, three bars of Red Jacket bullion, valued at $15,000, three bars of Minnesota bullion, value $9,135, and four bars of Golden Chariot, valne $7,540.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's office, San Francisco:

BLODGETT ROAD SCRAPER MANUFACTURING CO., July 17.—Object: To manufacture and sell all sizes and atyles of patent road scrapers, known as the Blodgett Patent Dump Cart, for grading of every kind. Capital stock $200,000, in shares of $100 each, of which $110,000 have been subscribed. Directors: H. K. Moore, Jos. Curle, A. Gerberding, Wm. Holdredge and Chas. G. Yale.

BANDARETA G. & S. M. & M. Co., July 16.—Location: Mariposa. Capital stock $1,000,000, in shares of $50 each. Directors: John Whalen, D. W. Taylor, Robert Hannegan, M. Gately and J. W. Tripp.

AMERICAN NEVADA M. Co., July 16.—Location: Gold Hill Mining District. Trustees: Chas. E. McLane, B. F. Sherwood, Joseph Clark, A. M. Gilman and M. C. Hillyer. Capital stock, $4,800,000, in shares of $100 each.

PACIFIC NEEDLE MANUFACTURING Co.—July 21. Object: To manufacture all kinds of needles for sewing machines; also, to manufacture sewing machines and sewing machine fixtures and to purchase and sell materials for the same. Capital stock, $1,000,000, of which $50,000 has been subscribed. Trustees—Milton Andros, Benj. Smith, Jas. T. Boyd, H. G. Rollins and Geo. W. Chapman.

CRYSTAL SODA MANUFACTURING Co.—July 21. Object: To manufacture soda water and other mineral waters and syrups. Capital stock, $25,000. Trustees—Frederic Clay, Adolph Weske, John J. Meaburn; Ashly S. Taylor and Noah Moses.

Meetings and Elections.

BELMONT MINING COMPANY, July 11.—Directors: J. F. Boyd, (President,) M. J. McDonald, J. B. Haggin, J. W. Gashwiler, V. Fernbach. Secretary, O. H. Bogart; Superintendent, John F. Hacwell.

TECUMSEH GOLD, SILVER & COPPER M. Co., July 17.—Trustees: B. A. Becker, Ed. F. Ohm, George Lawlor James Assion and J. Greifs.

WASHINGTON & CREOLE M. Co., Ely District, July 15.—Directors: Geo. D. Roberts, (President,) M. S. Kelly, (Vice President,) T. Forde, A. J. Bowie, Thos. R. Hays. Secretary, Frank D. Oleary. Superintendent, Martin Tarpey.

DARDANELLES M. Co., Gold Hill, Nevada, July 19.—Directors: Jas. A. Pritchard, (President,) O. C. McCracken, (Vice President,) and James J. Robbins. Secretary, James L. King. The capital stock of this company has been increased two and a half shares for one, and parties holding the old stock are requested to change it for the new.

ECLIPSE, WINTERS & PLATO GOLD HILL CONS. M. Co., July 21.—Directors: H. H. Flagg, President; James H. Dobinson, Geo. W. Beavor; W. W. Stetson and Ed. F. Stone. Mr. Jos. Marks was retained as Secretary.

UNION CONS. M. Co., July 23.—Trustees: J. J. Hucks Geo. D. Roberts, S. W. Lee, M. J. McDonald, and F. M Freunde.

THE MINING AND SCIENTIFIC PRESS.—This miners' journal has entered upon its twenty-seventh (half-yearly) volume, and in every department and arrangement shows a decided advancement. In its particular sphere, or spheres, rather, the PRESS is unquestionably a very valuable paper to every branch of the mining interest from the Rocky Mountains to the Pacific Ocean. —[Inyo Independent, July 19, 1873.

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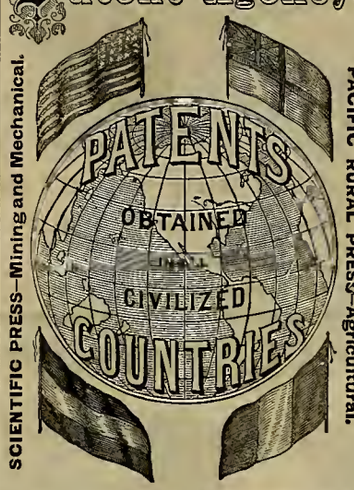

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FOR A PORTION OF THE
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OFFICE OF BOARD OF CITY HALL COMMISSIONERS, corner of Leavenworth and McAllister streets, San Francisco, July, 1873.
SEALED PROPOSALS for furnishing certain Material for a portion of the New City Hall Building and Hall of Records will be received at the office of the Board until 12 o'clock, noon, of FRIDAY, the 22d day of August, A. D., 1873, for the following:
6,000,000 BRICKS, 4,000 BARRELS LIME, 8,000 BARRELS CEMENT;
And until 12 o'clock, noon, of WEDNESDAY, the 1st day of October, A. D. 1873, for the following:
ROLLED IRON JOISTS, WROUGHT IRON GIRDERS
All according to Specifications, Schedule, Plans and Drawings, to be furnished by the Board.
For further information apply at the Office of the Board.
F. H. CANAVAN,
JOS. G. EASTLAND,
CHAS. E. McLANE,
jy19-4t Board of City Hall Commissioners.

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The Farmers and Mechanics Bank of Savings.
The Farmers and Mechanics Bank of Savings has declared a dividend for the half year ending June 30th, 1873, at the rate of ten per cent. per annum on term deposits, eight per cent. per annum on class one, ordinary deposits, and six per cent. on class two, ordinary deposits, free of Federal Tax. Payable on and after July 14th, 1873. By order.
jy19-1m G. M. CONDEE, Cashier.

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4v27tf G. MAHE, Director.

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HALLIDIE'S
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IMPORTANT TO
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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in conatruction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most chcerfully accept the work tor the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wegon roads, etc. Respectfully,
L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in the distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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MINING AND SCIENTIFIC PRESS.

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SAN FRANCISCO, SATURDAY, AUGUST 2, 1873.

VOLUME XXVII. Number 5.

Cheek.

The nnmber of individuals in this city and in the mining districts, fortnnate enough to be possessed of the title of M. E., is sometbing startling, and is increasing at a rate which is becoming really alarming.

We need many more mining engineers than we have. There is ever a demand for men of thorongh, practical ednoation and skill, to condnct onr mines. We wonld enconrage in every way snch men to come among ns. They are greatly needed and always warmly welcomed. Bnt we do protest most earnestly against the cool assurance with which every snrveyor or assayer, who so pleases, takes to bimself the mystic snffix, M. E., and, armed with this, misrepresents so cruelly a noblo profession.

The title of Mining Engineer is like those of M.D., Ph.B., A.B., LL.B., etc., in this respect: it is conferred hy a school of science, indicating that the stndent has pnrsued a fnll conrse in mining engineering, and has graduated therefrom in a creditable manner. No one is entitled to the name, who bas not fnlfilled the conditions. He may call himself assayer, snrveyor, expert, if he chooses so to do; bnt, legitimately, not mining engineer. In the medical profession the title is most jealonsly guarded, and any one who assnmes it wrongly is denounced as a quack. There are qnacks in the engineering profession as well. These shonld he exposed. The object of the title of M. D. is to protect onr health; that of M. E. should, in the same way, be in a measure a safeguard for the purse. The one wards off patent medicine qnacks; the other shonld defend from speculative qnacks.

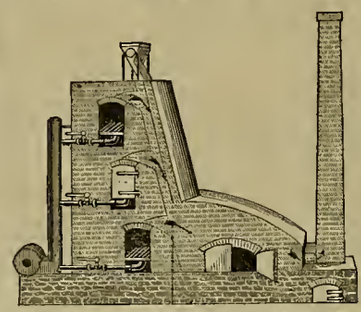
The truth is that there are in reality very few mining engineers at all. Only note how few gradnates there are, annnally, from onr mining schools. The most prominent of these are the School of Mines, Colnmbia College, New York; and the Rensselaer Polytechnic School, Troy, N. Y. There are also the Lawrence School, Harvard College; the Stevens Institute of Technology, Hoboken; the Sheffield School, Yale College; and a few others of less importance. The graduating class in each of these institntions is always very small—from Colnmbia, acknowledged to he the leading school, ont of a total membership of two hundred, only six, we believe, this year. Besides these American schools, those of Freibnrg and Breslan send us perhaps two in a year. From this it will be seen that, the demand heing in advance of the snpply, we are, as in other things, treated to a spurious article. We do not wish to he understood to imply that a man is any the less competent to take charge of a mine simply becanse his name happens to be wanting in two letters. But if he has the fitness, let his ability he its own herald, and he will not find his success (if deservedly won) impaired becaase he honestly refrains from poaching on what is not his own.

We have seen reports on mines from self-styled mining engineers that were perfect curiosities of illiteracy and pseudo-science, and which shonld, properly, have heen monnted in the cabinet hy the side of other distorted specimens forwarded at the same time. Ahounding in long and nsnally misapplied geological and mineralogical terms, they were constructed with the most snpreme indifference to rnles of grammar and common decency. They might, by their apparent scientific research, dazzle and mislead a few; but with most persons wonld only have the effect of hringing discredit upon a useful and highly cultivated class. It is a moral impossibility that any grsdnate of a reputable school, in this country or elsewbere, shonld fail in the rndimentary branches of edneation. The curriculum of a school of science bas much the same formative inflnence as has tbe nniversity conrse. The presence of bad spelling, inacenrate pnnctnation and garbled scientific phraseology in a report is in itself *prima facie* evidence that the writer is destitnte of thorongh scientific training.

Give ns a little more honesty, and a great deal less *cheek*.

The Eagle Chlorinizing Furnace.

We give this week a small cut showing a new form of furnace, recently patented throngh our Agency, by Thomas McGlew, of Anstin, Nevada. It is called the Eagle Chlorinizing Fnrnace, and is intended for roasting all ores to be snbjected to amalgamation. The claims of the inventor may be summed np as follows: cheapness in bnilding, cheapness in running, and simplicity of construction — the entire cost not exceeding $3,000. The fnrnace reqnires hut three men to run it twenty-four hours, one man on each shift of eight hours. The heat can easily be increased or dimiaished, as reqnired, to snit the different qualities of ore.



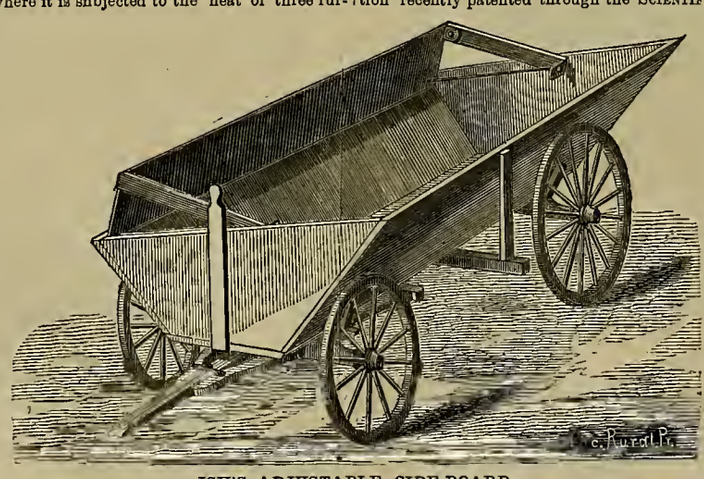
EAGLE CHLORINIZING FURNACE.

It will he seen, by referring to the engraving, that the ore, after leaving the feeder, or hopper, on top, falls down an inclined flue, where it is snbjected to the heat of three furnaces. It meets the flames issuing from the npper furnace, in the direction indicated hy the arrows, and then is snhjected to the heat of the two others in sncccssion, the heat heing angmented with the descent. The fines in size No. 1 are three feet long hy twelve inches deep. As the pulp passes down the incline or main flue (shown by lines on the exterior of the furnace) to fine No. 1, it there becomes heated and separated by the blast issning from that flue; thence to flue No. 2, where it is treated in the same manner, as also at fine No. 3. The incline, or main flue, is three feet wide, hy fifteen inches deep, to the main arch. After passing the three fines on its way it falls on to the receiving floor and there remsins with the three fires passing over it, and giving an opportunity for the chlorine fnmes to pass off with the smoke. The fines are five feet apart. The blower which makes this a hlsst fnrnace is shown on one side of the ont.

Size No. 1. has a capacity of eighteen tons. From the calculations made, the cost of roasting will not exceed $4 per ton, the present cost being double that, and varying with the locality. The inventor states that the cost of building is abont one fifth that of any other roasting furnace in the market. One of its principal features claimed hy the inventor is that it is the only furnace for chlorinizing ores where the heat can be regulated to snit all kinds of ores. It is stated that one of these furnaces will shortly be erected near Columbns Nev. for Mr. Bateman, one for G. W. Fish of Monitor District, and one will shortly he put up in Colorado for James Dawley. If tbis furnace rednces the cost of roasting ore as is expected, it will be a great boon to the mining community, and come into very general nse. Either Thomas McGlew or Clark E. Johnson of Anstin Nevada, will answer inqniries relating to the right to use the furnace, details of construction, etc.

Ish's Adjustable Side-Board.

The accompanying cnt represents an invention recently patented through the Scientific Press Patent Agency hy James T. Ish of Monticello, Napa county, California. By reference to the cut it will he seen that the side-board is secnred to iron hinges. The hinges are fastened to the center of each end of the box hy holts, upon which they work easily up and down. The side-hoard is holted to a small plate, which works on a loose rivet at the onter end of the main har of the hinge. The lower edge is secnred from sliding heyond the edge of the box hy a small rod, which works easily through a hole in the inner end of the main har. Pnll the lower edge of the board inward till it passes inside the edge of the box, and it slides down inside the wagon, entirely ont of the way of the spont, thns secnring it from danger of being broken or split. When the hox is fnll, and the loader ready to get ont, the driver takes hold of the hinge at the forward end, and the loader at the rear end of the wagon, and raise the board to its place. The straw resting on the side-board, which lies in a slanting position, inclines to pnsh the lower edge ontward to its position, as it is being raised up. The head on the small rod prevents the lower edge from being pnshed ontward beyond the edge of the hox. This enables the farmer to haul more straw at a load, without the least danger of its sliding off while passing to the stack or thresher, than it would be possible to haul without a side-board.



ISH'S ADJUSTABLE SIDE-BOARD.

Let alone hauling a bigger load, the amonnt of grain saved will more than repay the farmer for the expense of these side-hoards. It is nnnecessary to call attention to the loss of grain sliding off the lower side of the wagon; all who have been in the harvest field have seen this; bnt the adjnstable side-board prevents this, and none can feel the necessity of its nse more than the farmer with short crops.

Fools not all Dead Yet.

A short time since a man in the northern part of the State lighted a capped fuse in a cartridge of Giant Powder, which he held in his hand. His intention was to throw it into the river to kill fish; but, keeping it in his hand too long after the fuse was lighted, the fish escaped and the man was killed.

At the Hoosac Tunnel, a short time since, some fifty ponnds of Giant Powder were placed in a box, and on the powder was pnt a number of Electric Exploders, nsed for firing the powder with electricity. This box was pnt into the tender of the steam engine, a good supply of men packed aronnd it and the whole started into the tnnnel. As any sensible man might have expected, the sparks from the engine set the powder on fire, the fire set off the electric fnses, which in turn exploded the halance of the unburnt powder. The blaster left for Canada in the night to avoid arrest for placing powder and exploders in the same hox, amongst a lot of men, in a shower of sparks from a steam engine.

At Virginia City, a man of enterprise and ambition desires to get up a new explosive. He procures an assortment of "sample" explosives — innocent, harmless things, it wonld seem, in his estimation, or he would not have taken nitro-glycerine, gun-cotton, black powder, etc., to his sleeping-room, which was situated under a lodging-house filled with lodgers, and in the immediate vicinity of a bank, express-office, numerous large stores, etc. In the midst of these interesting articles he keeps a pet monkey. Under the circumstanoes, was an explosion anything unreasonahle?

The great saving in hlasting with these new, powerful explosives is forcing them rapidly into use all over the world. It is, therefore, of great importance, when there is an accident, that the pnhlic should nnderstand how it was produced and where the hlame should lie. In the above cases, it is evident the fanlt lies in the carelessness or imprudence of the men, and not with Giant Powder at all. The sensational report of an explosion at Catesville, Bedford County, Pa., proves to be false. No explosion has occurred there of any acconnt.

Vienna.—A dispatch from Vienna says that there is no donht that many of the higbest prizes for goods exhibited will be awarded to Americans. The Vienna correspondent of the *Tribune* says that the trial of mowers and reapers, which took place on the 9th instant, was a complete triumph for America.

The Guadalupe Quicksilver Mines are again in operation, under the same company and superintendency as formerly.

CORRESPONDENCE.

Notes of Travel in Eureka County, Nevada.—Concluded.

[By Our Traveling Correspondent.]

In the latter part of March, 1872, Geo. W. Kinney, then Mining Recorder of Enreks district, and M. G. Kavanangh found some rich silver ore on the northerly end of old New York Hill. They at once made several ledge and sqnare locations, and called the locality

Coy Hill.

There being no mille nearer than White Pine or Austin, miners and prospectors, for two or three years prior to thie time, were seaching for smelting oree only, and this section of the district hsd heen overlooked or forgotten; certain it is, thst for the period named no work had been done at this point.

The formation of the hill ie what is here called qnartzite and lime-qusrtz,—porphory would probably be nearer correct,—and is the noithern terminns of the quartzite rsnge extending sontherly to, and heyond Bald mountain, on which the splendid Hoosac mine is located.

The veins on Coy Hill are numerous, and have a general eest and west conrse, cutting the mountain at right angles through the quartz and porphyry. The Paul Jones mine liee between qnartz and decomposed porphory, and is a very clearly defined ledge, dipping to the south.

The Principal Mines

Are the Bob, Dick, Joe, Selden, Wild Rover and Paul Jones; the latter mine having produced as much fine ore to the hand ae any mine in Eaetern Nevada, without exception. Some twelve or fifteen other locstions were made by the eame parties. A controlling interest in all of the ahove locations is owned by Mr. Kinney, who has endeavored, during the past year, to develope them to the best of hie ability and meane.

The Ores

Are chlorides, horn and chloro-bromide of silver heing quite common, especially in the Bob and Paul Jones minee, and can and have heen worked by mill process without roasting. Virgin eilver, in fine psrticles, has also been found in the Selden and Boh mines.

Aeeaye running from $1,200 to $3,000 per ton have heen common. Over one huudred tons of ore have heen worked at mill snd furnace, aversging over $100 per ton; that from the Paul Jones being over $150, without any assorting.

The lowest depth on the Paul Jones is about one hnndred and twenty-five feet below the top of the hill, while ore ehows in a tunnel at ahout the eame dietance, etill lower.

On the south side of the hill is the Eureka Giant, a fine mine, belonging to Major W. W. McCay, who is developing his location ae rapidly as possible. The Winnemucca and Vermont Chieftsin are aleo fine looking prospects.

The minee on Coy Hill, located on the west eide of Eureka Valley, at the mouth of New York Cañon, are favorably eitusted for successful working and orea can be delivered at mill or furnace at emall coet. Seaton & Co.'e line of pipes, conveying water to Ruby Hill, cross the hill immediately above the Paul Jonee mine.

This dietrict is attrscting much attention, and cspital cannot fail to look at Coy Hill soon.

What is it?

Some, at present, unknown euhstance, mineral or chemical has been recently found in the Hoosac mine on Bsld Mountain. The suhetance is whitish, eemi-traneparent and reeembles frosted ice. On exposure to the air it is converted to a liqnid, something like kerosene; a burning seneation is imparted on tonching it to the tongue, and a gas ie evolved which inetantly takee five on touching it with a ooal of fire, as doee powder. A sample has heen forwarded to the Academy of Sciences for examination.

K. K Consolidated Mining Co.

A. S. F. incorporation; J. B. Haggin, Prest.; B. B. Minor, Sec.

Location of mine, on S. E. end of Ruby Hill, 2½, miles from Eureka, adjoining the Eureka Conecl. claims, the following mines constitute this incorporation: "Marcelona," "K. K.," "Surplus," "Loughborough," "Caron," "Endeavor," "Seek and ye shall find it" and one or two othere.

They have a fine 17-horse power engine, with safety cage, large ehaft house, with etore-room and hlacksmith shop attached—have a sheet iron powder house on the east side of the ravine, two ore dumpe for the 1st aud 2nd class ores, connected with the ahaft house hy means of oar way and ore ehutes.

Main shaft is 200 feet in perpendicular depth; has two main galleries driven in or near the hanging country rock, with car track throughout. Vein from 20 to 50 feet thick; working 60 men per day; raiee 50 to 60 tous of ore averaging (grose,) $50 to $60 per ton; recently struck a new ore body at the bottom of ehaft, particularly rich in lead, gold and silver; Clark's water worke enpply water in main building. Hae alresdy shipped eomewhat less than 1,000 tons of lead hullion.

For the laet two months hae been selling all the ore raised, on the dump, to the Ruhy Consol. M. Co. (Lim.) An English Co. contract will he finished preeent month.

K. K. Co. has in anticipation rented the large furnace of the Silver West Co., and are now hard at work getting it in order to run; expect also to he able to continne supplying Ruhy Consolidated.

K. K. psid its first dividend of $12,500, or 25c. per share (total shares 50,000) laet month —will pay again the present month and everything is favorahle for a continuance. There are many thousand tons of first-class ore in eight —the proepectings are kept well ahead so that there is no fear of running short for meny months to come. W. S. Keyee, formerly Supt. of the Eureke Consol., is the msnager.

The Ruby Con, M. Co., (Limited.)

Of London, England; H. Heynemann, Gensrsl Agent at San Francisco; O. H. Hahn, Superintendent.

The cornoration owns 5 mines in different parte of thie district.

The Bullwhacker mine, about 2⅛ miles north of town, located in the foot-hills, hss yielded a large amount of lead ore, assaying $35 in eilver and from 30 to 60 per cent. in lead. The explorathone consist of two shafts of respectively 240 and 130 ft. in depth, and numeroue levele and cross-cuts.

The Dunderherg mine, 2½ miles south of town, on a spnr of Prospect monntain, is a fine N and S etrata-vein, and has also yielded a large amount of lead-ore of a very good grade. Ite average assay value is about $50 silver and $10 gold, and its contents in lead varies hetween 20 and 30 per cent. Hoisting-works have been erected recently, which will be started soon, to open up the mine properly.

The Lord Byron and Valentine mines on another epur of Prospect mountaiu yield only small quantitiee of high-grade silver-ore at present, owing to their undeveloped state.

The same may be eaid of the El Dorsdo mine, which ie located on Proepect Mt., proper. This mine has yielded about 200 tons of ore, averaging $230 in gold and silver, and 15 per cent. lead.

Smelting Works.

The smelting worke of this company are situated in the eouthern psrt of town. and comprise two blast-furnaces of a capacity of 40 tons of ore per day, each; one 35 horse power steam engine, with two boilers; two of Root's blowers, No. 4; one of Cameron's steam pumps, No. 3; one Brodic crusher; eubstantial ore and coal hins; office-building, etore-houses, etc.

Theee works do a large amount of custom work, as the present supply of ore from the company's own mines is inadequate to their capacity. Both furnaces produce from 7 to 12 tone of lead bullion per day, assayiug on an average $56 in gold snd $193 in silver, making a total of $249 per ton.

Pritchard's Fast Freight Line.

This freight line carries wares over an extent of country 300 miles in length, from Palissde to Pioche, via Eureka and Hamilton; and hrings into requisition 28 eight-mule tesms, 15 eighteen-mule teams, and occssionally run a twenty-four-mule team ueing six wagons, making a team with wagone 300 feet in length; a novel eight to look upon.

This line runs on three kinds of time, making the distance from Palissde to Pioche in five daye, fast time; in eight daye, medium time; and in fifteen days, slow time. Five cents per pound ie the charge for freight on fsst time to Pioche from Palisade, and four cente for elow time. R. Carter is agent at Palisade; George Coules, at Eureka; J. Sherburne, at Hamilton; and T. F. Lawler, at Pioche.

Lumber.

The amount of lumber consumed in this district annually, ontside of mines, and for bnilding only, will exceed 1,500,000 feet. There are three firme in the business, and the price of this article ie from $90 to $120 per thousand.

Some 18 milca north of Eureka, a new district hae been opened up, and known as

Diamond District.

It is eituated on the road leading to Elko, from Eureka, and ie creating eome etir in Eastern Nevada. I ohtained the following particulars about one of the principal mines of that district, known ae the

Champion Con. M. & L. Co.,

The principal office of which is at 332 Montgomery street, San Francisco. William Paul ie President, H. C. Howard, Secretary, and E. P. Elzy, Superintendeut. This corporation hae one shaft down upon the mine 170 feet in depth, and at a depth of 100 feet levels are ruu hoth north and south in good ore, and show an average thickness of five feet, running from three to eeven feet thick. A tunnel now in course of conetruction, to connect with the hottom of this shaft, will probahly he completed before thie appears in print. The ore of thie mine ie galena (or smelting ore.) They have ahout 600 tons upon their dump, that they estimate will go from $100 to $250 per ton; they have also in course of coustruction, a fine smelting furuace, that is to smelt 45 to 50 tons per day. From White Pine in my next.

L. P. MC.

Gravel Mines.

EDITORS PREEE: Seeing that you have broached the gravel question by an article in your issue of July 5th, and one in that of July 26th, and feeling as you do, that it is a very important one to Cslifornis, I am induced to contribute my mite towards caneing a general agitation of this matter.

In 1856, I think it was, the yield of gold dust in California reached ite maximum. Since then a graduel falling off hae reduced the annuel product to ahout one-fifth, (excluding gold quartz.) When the shallow diggings began to fail, it was thought hy many thst the placer mines were heing rapidly exhausted, and that feeling still prevails to some extent; but a careful eurvey of the queetion will prove its fallacy.

A New Era

Hee already dswned on placer mining in this State. Instead of eeeking in the ravines, small streams and gulches for the shsllow depoeits as of yore, the miner now prospecte for the precious treasure on the low hills and elevated ridgee; and when fonnd, it is in more extensive deposits and deeper heds. By the receut improvements in hydraulic mining, he is enabled to realize large profite from whst then was conaidered worthless ground. Wherever an ample eupply of water can be obtained and brought to bear with eufficient pressure, ground containing only a few cents per ton paye well. But the miner need not content himself with this poor ground, for there are still to be found deposits as rich, and in much greater quantities then heve ever yet been diecovered; for the ehallow placers of former times were merely washings or out-pute from the main sources that exist in the lesds or ancient river heds which are now being opened as deep gravel mines.

Opinions are various as to the origin or

Formation of these Deposits.

Some contend that they were formed hy glacial action, othere that the surf of the eea which once covered the whole country formed these gravel beds. But the most populsr, and I think the most reaeonahle one, ie that they are the channels of dead rivers. There csn be no doubt that in many of them, at leaet—if not all—unmistakable evidences are found to estshlish thie theory. Take, for example, the Table Mountain of Tuolumne county. Here is a water worn channel for forty miles or more meandering through the foot-hills of the Sierrae from north-eaet to south-west, filled with smooth boulders, pehbles and river sand, and bordered on either side by "rim rocks." This old channel has been cut in numerons places by the modern streams that crose it, and hy the miners who have driven tunnels, suuk shafts and run drifts and has in every case shown the eame characteristics. Thie stream, like sll othere of its clase is cspped with lava and volcanic aeh. It eeems that at some period of the paet these water sourcee were filled to the brim with molten lava which after cooling hecame harder than the surrounding couutry rock and now remaius intact, while the country has worn away leaving these mountains or ridges of bassIt many hundred feet in elevation, forming a flat tsble land their entire course save where they are cut by the streams; hence the uame Tsble Monntain. In Butte county is a eimilar formation terminsting at Oroville. The Feather river has cut its way through it at Cherokee flat, exposing its deep gravel bede at thie point, and for years has been a eource of great profit to the ownere of claims in that locslity. This stream hse aleo been tapped in many plscee hy the enterpriciug miner, and has proved of the same formation and character, establishing beyond a douht not only the fact of their once having heen flowing rivers, hut that they are storehouees of immense wealth, which are soon to be unlocked to the world.

Some of these Ancient River Deposits,

Althongh at one time capped with the nniversal lavs, have either worn away with the country rock or softened sufficiently to yield to the hydraulic pipe. At all events the denudation has kept psce with the eurrounding country, and they are now merely ridgee or dividee in which the moet valnable hydraulic minee are eituated. Almost every mining county poesesses one or more of these gravel rangee. I have examined a great many and am forced to conclude that they all mark the conree of ancient rivere. The ueual direction of these streams ie northerly and southerly, but in some localities east and west courses are met with, bnt this system seems to he of a more modern formation. In Eldorado county, for example, the hed of the blue gravel lead running from north to south is several hundred feet helow thoee running from east to weet, which eeems to take its riee in the Sierra Nevadae near the head of Wehher Creek, paeeing down the divide between the north fork of the Cosmos river and Wehher Creek, some forty miles, and after spreading out over the lower foot-hille around Latrobe and Folsom, looses itself in the Sacramento valley. Thie ie considered one of the richest and most extensive gravel deposits in the State, and when sufficient water ie obtained will be as productive as any.

The ridge lyiug hetween the Middle and South Yuha, in Nevada county, is another depoeit of a similar character, heing eome thirty miles from east to west and several milee in width. Professor Silliman estimates the probahle yield in gold in this section at $534,610,000, not takiug into account the gravel which underlies the volcanic formation. But prohably the

Great Blue Gravel Lead

Is the grandest gold deposit in the world. It hae been cleerly defined for more than 100 miles in length. From the upper end of Plumas county, far north of Qninoy, to south of Placerville in El Dorado county, it hae heen opened in numerons places. At the foot of Pilot Peak, Sierra county, the celebrated North America mine has been worked for many years; it is now owned and operated by an Englieh company. The Pilot Consolidated, adjoining, is just heing opened and promieee to rival the North America in its yield of gold duet. From this point this great lead seems to divide, one channel, trending more southerly, crosses Slste Creek above Gibeonville, and has heen opened at Howland's Flat, St. Louis, Morrietown, Craigs, Eureka North and st Poverty Hill, where it unites again with the northern branch which passes under Whiekey Digginge, Gibeonville, Laport, Secret and Burn's Diggings to Poverty Hill. Here at the junction is known to exist msny hundred scree of very rich gravel from 40 to 200 feet deep. Some of the claims have heen in euccessful operation for several years and others are being prepared for work at great expense and within a few months will he completed. A consolidation of the whole hill is about to he effected, when it will be worked under one management, forming one of the most valuable properties in the State. Scale's Diggings comes next going south. The Boyce Brothers own the Fairplsy mine, two miles further south, and have the most complete hydraulic worke I have ever seen. This mine has yielded large dividende for several years and but a small portion of the ground has heen removed.

Brandy City, Camptonville snd Smartsville, are prominent pointe on this great gravel rsnge. The latter place is in Yuba county and is widely known to posseee more exteneive operations than any other section of like extent in the State. Among the most prominent mines locsted here may he mentioned, Pactolas, Blue Gravel, Blue Point, Babb and Smsrtsville, all of which are being worked by the most approved hydraulic procese and are paying enormous profits to the owners. The grsvel deposit varies from 125 to 200 feet in depth and is worked throngh bed-rock tunnels in which the "tail" flumes are laid. These flumes or boxes are from 6,000 to 15,000 feet in length costing lsrge sums of money and years of labor to complete. The gravel in many places is compactland hard, requiring the action of powder to break it up for the pipe, often a charge of 700 kegs being exploded at a eingle hlsst. Ample water ie at hand, and pay ground for a generation, North San Juan, Sweetland, Red Dog, You Bet, Little York, Nevada, Iowa Hill, Wisconsin Hill, Michigan Bluff, Forest Hill and on through El Dorado county, southward. Millione of dollars were eet loose by the cutting of the modern streame and numeroue hy-waehes along its course which, have heen gathered hy the miners of former yeare. Other millions have been extracted from its deep gravel beds along ite great leugth and yet it has not given up a tithe of its treesures; theee glitteriug heape still awsit the capitsl and energy of man to enrich the world.

Poesessing all these

Vast Resources,

Then, as California does, who dare ssy the gold placere are exheusted? I feel justified in eaying that the next decade will realize far more from thie source than has been done by the paet two. Gold mining is hut in its infancy: every eucceeding year will witnesa new fields opened; improved implements will come ino use; means will he adopted to save the lsrge percentage that is now lost through the tailings, and mining enterprieee will ceaee to be looked upon as a epeculative venture, but sdopted ae a eafe and reliable pureuit.

San Frsncisco, July 28th. J. P. C.

IRON ORE.—The Santa Cruz *Sentinel* saye: On the coast cliffe north of Laguna Creek, msy be eeen large hodies of magnetic iron ore, cropping out amid shale and ohalk rock, ae if blistered hy the hot eun. We have never eeen better indications of a good iron mine than in that vicinity, especislly ineide the creek baein on the northern bluff. There are aleo beds of bog ore in the hasin, as indicated by the ochre-yellow or dense red-iron rust ecum which oozes np through the boggy eoil. We noted several of these epringe. The whole coaet along, above and helow Pebbly Beach, ie veined with rich iron ores. At the Yellow Bank dairy the eulphurets of iron have diecolored the rocks and clay—hence the name. We believe that there is iron enough in the San Vicente Ranch to huild all the railroads required in the State, if worked up into rails, tiee, froge and epikes. It is certainly worth eome proepector's time, who ie competent to judge, to mine out some of the ore and have it assayed.

Another curioue feature of the land in that eection is the brilliant pebhlee—corueliane, rubies, garnets, etc.,—which ahonnd among other hright gravel stones on the heach. These pebbles are in a layer 18 inches thick and about two feet helow the surface of the eoil all along the plateau immediately above the beach. The encroachment of the eea and water floods from the hills wash them down into the eurf, where they are triturated and polished into modern hrilliants, much sought after by coaet scavengers who pick them up hy hushels and carry them away to work into jewelry, adorn vases and flower pots, or ornament garden walks. Some of the pebbles are very beautiful and of considerahle value.

SCIENTIFIC PROGRESS.

The Constitution of the Sun.

M. Faye has recently, at tha request of the editor of *Les Mondes*, furnished the readers of that jonrnal with a very interesting summary of his ideas as to the physical and mechanical constitution of the sun. The following is an abstract of his paper:—

The sun is perfectly spherical, and turns in less than a month about an axis with invariable direction. Its mean density is superior to that of water, but its surface phenomena show that it is at least gaseous in its extreme layers. And as, by means of heat, liquids subjected to very strong pressure may be entirely changed into vapor without altering in volume, it is very possible that the greater part, if not the whole, of the solar mass is, notwithstanding its density, in a state of gaseous fluidity. Where does this fluidity terminate? Is there a solid or liquid nucleus? This question is an insoluble one.

The spherical form and the rotation, regular in some respects, give the idea of a mass which has reached a certain stability. To discover the condition of its internal movements, one way only is open to us: the study of the rotation. If the sun turns like other bodies, so that the angular velocity is the same in all parallels, the internal movements should be reducible to a very gradual contraction—general and equal in all directions. Now, on the contrary, this study has led to the remarkable result, that the angular velocity of the superficial rotation, instead of being constant, decreases rapidly from the equator to the poles in a continuous manner, so that, at the latitude 39°, a point on the surface takes two days more than one at the equator to make a complete rotation. Moreover, this phenomenon is not accompanied by any movement of translation, any current from the equator to the poles, or from the poles to the equator; it is, then, impossible to attribute this surprising rotation to any superficial cause like that of our trade winds.

Such a rotation requires that the interior movements are reduced to simple vertical ascending and decending currents. Thus are explained the formation and maintenance of the atmosphere. The law of rotation which has been established, and from which it appears that successive streams of the photosphere in the direction of parallels, have not the same angular velocity, leads us to an important consequence. Such variations of velocity cannot exist between contiguous streams without giving rise to eddying movements ressmbling those in our waterconrses, and in our atmosphere from similar causes.

In currents of water, such phenomena are in general little developed, and of short duration. It is otherwise, however, in the atmosphere, where the eddying movements are met with in a great variety of forms, from the simple whirlwind, and waterspout, and tornadoes and cyclones. All these phenomena are essentially alike. They have the form of the trunk of an inverted circular cone with vertical axis; the whirling movement, slow at the surface, being immensely accelerated towards the interior or lower portion of the cone. If they meet any obstacle they divide into partial whirlwinds; ere long these disappear, having lasted for days or entire weeks, and had surprising mechanical effect.

Such a phenomenon is independent of the temperature of the gaseous mass in which it is produced. It may, then, be produced in the sun, and on a grander scale, for the gaseous masses there, are so to say, unbounded, while the whirling movements in our thin atmosphere are hindered by the obstacles of continents and oceans.

From the physical point of view, our cyclones produce singular effects, which are due to the aspirations, excited by violent gyratory movements, upon superior layers, in the direction of the axis. The cold air of the upper regions in which their orifice opens, is brought down, and produces at the lower part a sensible fall of temperature all round. It reaches the lower layers, through the cyclone, with a strong electric tension. It condenses the vapours of the more humid air, and produces storm clouds. Every cyclone is thus enveloped by clouds incessantly renewed, and travels over the earth's surface, throwing down rain or hail, leaving behind a state of coolness.

Viewed from above, from a point at some distance from our globe, the ordinary waterspouts would scarcely appear, except at single points; but the cyclones, whose diameter is sometimes hundreds of leagues, would have the effect of circular cloudy spots in the form of funnels, variously lit by the sun, and moving slowly over the earth. One might see them going in groups, or divided snddenly as they met some invisible obstacle, and forming two or several partial cyclones, which would separate from each other, following routes slightly different.

Evidently the special rotation observed in the sun should produce whirling phenomena similar, except for the purely physical circumstances dependent on temperature. It would have been natural, then, to study the photosphere from this point of view, and we should not have failed to perceive in the spots the equivalent of our cyclones.

This has not, however, been the mode of procedure. It has been necessary to examine, one by one, all the characters of spots, to study the laws of their movements and their mode of segmentation; to discover, in fine, the roseate layers of hydrogen, with its incessant eruptions, which envelopes the sun, before being able to establish an assimilation which might be anticipated *a priori*.

In fact, the spots are round, having the form of a funnel greatly widened at the upper part; their axis is very nearly vertical; their interior, filled with materials similar to those of the chromosphere (a roseate layer, formed in great part of hydrogen, which rests on the photosphere), reveals to the spectroscope, by phenomena of absorption, a notable lowering of temperature; in a word, the analogy with our cyclones, is complete from the chemical and physical point of view. Nor is it less striking from the mechanical.

The spots follow vigorously the current of the photosphere, exactly as our cyclones follow the greater currents of our atmosphere; and, what is still more curious, the spots in which one can perceive a movement of internal gyration turn absolutely like our cyclones. The latter turn in a direction opposite to the hands of a watch in our hemisphere, while, in the southern atmosphere, they turn in the direction of the hands. It is precisely the same in the sun. The phenomenon of segmentation of our atmospheric cyclones has also its distinct counterpart in the sun.

One of the most beautiful phenomena in nature, is the circulation of solar hydrogen. It is known that the chromosphere is incessantly furrowed by jets of hydrogen mixed with incandescent vapours, in which spectral analysis reveals the presence of certain metals, such as sodium, iron, magnesium, &c. These jets rise, sometimes with astonishing rapidity, to heights of ten, twenty and thirty thousand leagues, and fall back again slowly to the chromosphere. Now, these eruptions proceed assuredly not from the spots, the mechanical action of which is precisely the reverse, but from faculæ with which the spots are generally bordered. It is not said that the incandescent jets of the chromosphere belong exclusively to the faculæ; the whole surface is rough with small ascending flames; but it is to faculæ that the greatest protuberances and most violent eruptions correspond.

The hydrogen, more or less mixed with metallic vapours, is thus incessantly thrown above the chromosphere in enormous masses, in such a manner that the eruptions might double, triple, &c., the roseate layer which environs the sun, so great is their intensity and their frequency. The chromosphere retains a constant thickness of from 5,000 to 6,000 miles.

There is, between these phenomena, viz., the spots, the faculæ, and the hydrogenous eruptions, a connection easily understood.

We have seen that the solar cyclones must exert on the hydrogenous layer (relatively cold), which surmounts the photosphere, a down-drawing force, so that the hydrogen of the chromosphere is sucked into the deeper layers, the high temperature of which it soon takes. But this gas, in consequence of its specific lightness, cannot remain in these much more dense layers; it remounts to the surface, quite outside of the cyclone, immediately on its ceasing to be affected by the gyratory movements, and, under the powerful action of solar gravity, it leaps through the roseate layer, after having slightly raised in its passage the luminous clouds of the photosphere. It carries with it much heavier metallic vapors, which leave it at a certain height, and throws them on the chromosphere, where they show their presence by bright lines corresponding to the metals. The case, then, is not that of a continual eruption of hydrogen produced from the depths of the solar mass, and pouring continually into the roseate layer (which would then increase to the view); but it is a simple circulation of the exterior hydrogen, which, under the action of the solar cyclones, penetrates into the superficial layers, to return immediately to the surface.

If the solar surface is all over roughened with jets of this kind, and in parts where spots never appear, this is because the cyclonic activity of the sun is not limited to the spots alone. It appears in those small dark holes or pores which are found over the entire surface, and the real dimensions of which are by no means insignificant (300 to 500 miles). In certain regions comprised between the two parallels of 45° latitude, these small pores gradually enlarge more and more; they are then seen to become veritable spots—in a way similar to the growth of some of our cyclones. But at and near the two poles, the superficial movements of the photosphere do not favor this enlargement. The whirling movement there is undoubtedly troubled and variable, as it also is in a narrow zone situated at the equator.

Our cyclones always present the same peculiarities. The only essential difference lies in the fact that the solar cyclones remain in the regions where they are formed, and have hardly any movements of translation but those of currents parallel to the equator.

The following statement recapitulates the principal points in my theory:

1. A nebulous or chaotic fluid mass formed of gas and of mixed vapors, raised to a very high temperature, animated with a movement of rotation, and cooling by way of superficial radiation into space.

2. Formation of a photosphere through condensation of the vapors of the external layer, and, at the same time, separation of the chromosphere, formed of hydrogen relatively cold, but at a temperature superior to the point of dissociation of nearly all its compounds.

3. Maintenance of this dazzling photosphere by the play of vertical descending and ascending currents at all points of the surface.

4. Special modifications introduced into the rotation by the continual play of the vertical ascending currents.

5. Whirling phenomena (pores and spots), produced over all the surface by this special mode of rotation; the spots or cyclones being concentrated between the parallels of 40° north and south.

6. Circulation of solar hydrogen due to the action of these whirling movements in the red layer.

MECHANICAL PROGRESS.

Origin of Wire Ropes.

The invention of wire rope is to be credited to the late Mr. George Wright Binks, who, in the year 1830, was foreman ropemaker in the Woolwich Dockyard, England. During the English complications with Russia, a failure of the hemp crops, operated so seriously upon the price, that the Admiralty was paying 80*l.* per ton for hemp. The thought struck Mr. Binks of twisting together fine iron wires to form a rope, and he made a specimen—still preserved—which he submitted to the Admiralty officials, who, however, did not approve the idea. Captain George Harris, of the Royal Navy, alone thought that there was in this specimen the germ of a great and important manufacture, and taking Mr. Binks by the hand, established a manufactory on a small scale, at Grimsby, in the year 1835. Retiring with a good name on well-earned laurels, Mr. Binks was able to hand over to his sons the nucleus of the largest business in this line in the world, and the parent of all other similar manufactories.

Wire ropes were first conceived and used for the standing rigging of ships. The first vessel rigged with wire rope as an experiment was the "Marshall," of Great Grimsby. But now the uses of wire ropes are innumerable. Amongst the most prominent are—ships' standing and running rigging; submarine telegraph cables; suspension bridges; guide, incline and flat ropes for mining purposes; special forms of rope for engineering purposes; pneumatic telegraphs; traction ropes for tramways; steel plow ropes; coulippe ropes for transport of sugar canes, etc.; tent stay ropes; ropes for hoisting purposes; tow ropes; endless driving bands; bullock traces; telegraph running and stay strand; fencing strand; scaffold ropes; railway signal cords; clock lines; clothes lines; sash lines; lightning conductors; gilt and silvered cords for hanging pictures; and many other applications might be enumerated, whilst for all these purposes they are stronger, lighter, cheaper and more durable than any other article. They are made from cast, homogeneous, and Bessemer steel, from charcoal and common brands of iron, bright or annealed, and from copper and brass. They are made in a multitude of varied forms, with from one to very many strands, with hempen cords or without, or with covered wire, and in gauges of wire from those as fine as a hair to those of the thickness of one's finger. When we estimate that there are at least over thirty wire rope manufactories in existence, large and small, employing a very large number of hands, the importance of the trade will at once be recognized. It is evident that many important steps in modern progress, such as submarine cables, suspension bridges, etc., could not have been effected without the aid of this principle, whilst thousands of pounds and thousands of lives have been saved by the adaptability of wire ropes to shipping and mining purposes.—*Iron Age*.

Steel Boilers for Steamboats.—The steamboat Mary Powell, running daily on the North river, between New York and Rondout, has recently been fitted with steel boilers. We append the dimensions and weights, which may be interesting to our readers. There are two boilers, of the form known as flue and return tubular. Each boiler has 10 flues of different diameters, 9, 15, and 16 inches, and 80 tubes of 4¼ inches outside diameter. Each boiler is 11 feet front, 25 feet long, and the diameter of shell is 10 feet. The sheets of the boiler are of steel, having a tensile strength of 70,000 pounds per square inch. The sheets are 5-16 of an inch thick. The boilers weigh 28 tons each, the weight of the two being 7 tons less than that of the old iron boilers.

Artificial Magnets.—M. Jamin recently constructed a magnet, weighing four pounds, which carried 22 times its own weight, or 88 pounds. The usual carrying capacity of an artificial magnet is three or four times its own weight, although there have been isolated instances in which a much greater power has been obtained. In the construction, M. Jamin followed to its limit the plan of employing a number of plates—that usually adopted when a strong magnet is desired. The only variation in this case was the employment of much thinner plates than those usually made use of. Each plate was very thoroughly magnetised.

Best Preventive for Slipping Belts.

One of the most prolific sources of loss of power in transmitting from motor to work, is found in the slipping of belts. Careful experiments prove that in the best working, a pulley which makes 100 revolutions per minute, loses two full revolutions, or two per cent. The *Scientific American* appears to think that eight per cent. is oftener lost. This for a 200 horse-power means 16 horse-power thrown away in this manner alone.

Various devices are resorted to, to prevent or reduce such loss—such as covering the periphery of the wheel with resin or other adhesive matter, tightening the belt, and thereby bringing increased bearing and wear upon the journals, etc.; but probably the best plan yet devised is to stretch around and cement, or otherwise secure to the periphery of the same a flat band of elastic rubber and cloth, with its inside face not vulcanised.

Experiments have recently been made in New York, to thoroughly test the value of this device, and with most satisfactory results. The journal above named describes one as follows:

The tests made in our presence were conducted on a special apparatus, consisting of two 12-inch pulleys on a shaft in bearings, so that it could freely revolve. Upon one wheel the inventor had placed his cover; the other had a plain smooth face. Over the plain wheel was passed a four-inch belt, one end of which was secured to the floor; to the other extremity (the slack side of the band) were hung adjustable weights. Upon the covered pulley a two-inch belt was placed, which also carried a weight at one end, but at the other was attached to a hand lever. On suspending 29 pounds to the small band, and some 60 pounds to the large one, it was found, on applying a pressure to the lever, that the smooth wheel was caused to slip with great readiness. Without augmenting the weight on the small band, that bearing upon the smooth wheel was increased to 108 pounds, in spite of which the latter was easily and by the same means made to slip. Above this limit, however, the power of the covered wheel did not extend, and on the addition of more weight it also began to yield.

The result may therefore be summed up in the fact that friction of 29 pounds opposing the pressure of a hand lever on a two-inch belt, aided by the pulley cover, was sufficient to overcome the friction of 108 pounds, acting on a four-inch belt, opposing a solid support, but applied to a smooth though otherwise similar pulley.

A second test was made with a smaller apparatus, having an eight-inch pulley and a one-inch belt. The result was gained by the aid of a lever and steel yard suitably arranged. With the pulley smooth, the scale marked 3½ pounds, when the belt slipped freely. When, however, the cover was applied to the surface of the same wheel, the pointer indicated 19 pounds, or some five times the resistance. It would seem from the above that the claim from the inventor, that his device will transmit 100 per cent. more power than the smooth pulley, and consequently do twice the work before the belt will slip, is well founded, as such estimates are manifestly much below those obtained by actual trial.

So simple and effective an invention as this, is worthy of the attention of machinists generally. The expense is inconsiderable in comparison with the economy which its employment must produce.

Testing Machines.—The testing of metals to ascertain their quality before converting into manufactured articles is occupying the attention of the community interested in such matters to an extended degree. The *Iron Age* says a new machine of ingenious, but simple, device is now being made by a well-known firm in Philadelphia, the Messrs. Reihle Bros., which is a compact, powerful weighing machine, so adjusted as to ascertain with the utmost accuracy the strain required to break the test piece of iron, boiler plate, column, girder, bridge bolt, chain, wire rope, etc. The machine is as nicely balanced as any ordinary scale, having steel fulcrums at every friction point. The balance is so delicate that an ounce weight placed on the weight-holder throws it out of equipoise. It has already attracted the attention of the largest operators. One of 82,000 pounds capacity was shipped to Cincinnati lately, and subsequently a number of the most satisfactory experiments have also been made at the Baldwin Locomotive Works, with boiler plate particularly. A tool for holding the plate, so that it is subjected to a fair and square strain, is of novel device, and accompanies the machine. This firm has turned their attention to this branch of business, and are making preparations to engage largely in it. The remarkable nicety with which tests can be made with their machine will make experiments in testing material very interesting and useful.

New Method for Boot and Shoe Heels.—John Blakey, of Leeds, England, has lately patented in this country a method or process of forming heels or heel-lifts for boots and shoes, by first cutting, from waste scraps of leather, small pieces of appropriate size and shape; next, compacting and solidifying such pieces into a solid bar, with or without a wooden core, by means of adhesive material and pressure; next, drying the same, and then cutting or sawing the same into heel lifts of the desired thickness.

COMPARATIVE TABLE.

Showing Highest and Lowest Prices of Mining Stocks on the Board List of the S. F. Stock and Ex. Board, during the Last Twelve Months, and during Four Weeks, together with Number of Feet, Shares, Last Dividends and Assessments.

NAME OF COMPANY	FEET IN MINE.	SHARES IN MINE.	LAST DIVIDEND.	LAST ASSESSMT.	1873. WEEK ENDING WEDNESDAY July 9 High	July 9 Low	July 16 High	July 16 Low	July 23 High	July 23 Low	July 30 High	July 30 Low	1872. AUG. Highest	AUG. Lowest	SEPT. Highest	SEPT. Lowest	OCT. Highest	OCT. Lowest	NOV. Highest	NOV. Lowest	DEC. Highest	DEC. Lowest	1873. JAN. Highest	JAN. Lowest	FEB. Highest	FEB. Lowest	MAR. Highest	MAR. Lowest	APR. Highest	APR. Lowest	MAY. Highest	MAY. Lowest	JUNE. Highest	JUNE. Lowest	JULY. Highest	JULY. Lowest
WASHOE.																																				
Alamo Gold and Silver M. Co	300	6000		5, Mch. 1, '71	24	24	28	25½	75c	75c	20	17	66	35	47½	33	60	32½	58	44	50	37	33¾	3	4½	3½	5¼	5	3½	2	1	¾	75c	75c		
Alpha Consolidated	3600												48	33	44	38							40	20	50	25	29½	20	1½		35	27	28	15		
Alta		30000		2, July 22, '73	4¾	4¾	5	3½	6½	4½	6½	5½			1¾	1¾							⅞	⅝	⅞	⅝	1⅜	⅞	10¾	1	8½	3¾	6½	3½		
American Flat	1900	18000		5, June 16, '73	2⅞	1¼	1¾	⅝	2¾	1¾	2	1⅝	2	90c	1	75c	2¼	1¼	3½	1⅝	2	1⅛	3	1¾	3½	1⅞	2¾	1½	4	1⅞	7¾	3¾	1⅝	2⅞		
Arizona & Utah		24000	27, July, '71		2	2	3½	3	2	3			81	50	50	50	60	60	65	9			8	6	6	6			8¾	3	3½	2	3	2		
Bacon Mill and Mining Co		54000		3, June 3, '73	8¾	7¼	9¼	7	8½	7	7	6	132	100	114	85	18	75	119	93½	107	81½	2⅞	1⅞	2¼	1¾	1¾	¾	4½	2	12½	2½	9¾	5		
Baltimore Consolidated	1040	104000	16, July, '73		97	87½	87	81	85½	76	77	70											96½	69½	90	76	86½	60	90	65	104	71	111	84	97	66½
Belcher	224	22400		8, Feb. 7, '71	4¾	4½	4	3½	4	2¾	3½	3	16	13½	8¼	6⅝	6½	6	8⅛	6	6¼	5	5¾	5	5⅞	5¼	5¾	2¼	4	3	7	4	6¼	3¾	4¾	2¾
Best & Belcher	20	5000											3¾	1¾	2¾	2¾	3	2	2⅜	⅞	3	2⅜	2⅞	1¼	1⅜	1	2	1	8	5	2	1⅛	1¼	½		
Bowers		16000		8, July 14, '73			1¼	1¼	1	62½c	50c	50c	44	21	75	23⅜	75	49	86	43	66	42	55	40⅜	66	49	82	35	69	43	94	65½	110	88	104	67
Buckeye	2500	25000		45, Aug. 6, '72									1	80c	50c	50c					10c	10c	30c	30c	60c	40c	106	96	104	83	145	116	135	97	103	78
Bullion	2000	20000		5, July 11, '73	16½	14	15¼	11	14	11	14	11	72	35½	48	28½	41½	19	36	25	29¾	20¼	29	20	29	24	23	12½	18¾	9¾	32	17½	26	16½	17½	10½
Caledonia Silver Mining Co	150	10800					5	5					12	11	11	7½	10	8	9	4	7	7	6¾	6	7	6¾	6	4½	6	4	6	6	5	5		
Central	100	20000			6	6	6	4½	5	5	4	4															2	1¾	2	1½	6	4	6	6	6	4
Central No. Two	2800	28000	39, Feb., '72	4, Feb. 13, '73	56	50	51	39½	45	35	38½	33½	99	62	75½	61	72	50	77	60	77	44	60	46	60	48	48	34	56	39	81	48	75	51	57	33
Chollar-Potosi	130	24960	6, May, '68	10, Mar. 18, '73	6¾	4¾	7	6½	6¾	5	6	5½	133½	7¾	11	7¼	15	9⅝	14	11¾	12¾	4	11	7¾	13½	9	11	6⅝	10	8	11½	8¼	9	7	7	4¾
Confidence Silver Mining Co	34½	20000			2	2	2⅛	1½					89½	5	5	5	6½	4½	6¼	5	5	5							4¾	3	3	2	2⅛	1¾		
Cons. Gold Hill Quartz	1160	23600		15, June 11, '73	101½	96	99	90	92	67	81	74	44	21	75	23½	75	49	86	43	66	42	55	40½	66	49	82	35	69	43	94	65½	110	88	104	67
Consolidated Virginia	1600	24000		1, Sept. 4, '72									1	80c	50c	50c					10c	10c	30c	30c	60c	40c	106	96	104	83	145	116	135	97	103	78
Cook & Geyer	2000	100000	22, July, '73	6, May 28, '73	1⅜	1⅜	1½	1⅜	1⅝	1½	1¾	1⅝	146	108	143	102	128	75	131	102	110	87	95½	84	106	96	104	83	124½	89	50c	20c	3¼	90c	1¾	1¼
Crown Point Gold and S. M	2000	24000	2, July, '73	6, May 28, '73									2¾	1½	1⅝	1	2	1	1½	⅞	75c	50c	⅞	¾	65c	45c	75c	40	50c	20c	1¼	½	1¾	¾		
Danevy	1200	24000																																		
Dardanelles	70	25000			6½	5	5½	5	5⅝	3¾	5¼	4	19½	10	13	10	12½	9	11⅛	9¾	10	9	10½	7½	10½	9	9½	7	10	5½	6¾	5	20	5½	3¾	
Eclipse	75	50000	21, May, '67	13, June 10, '73	4¾	3¼	5¼	4	4½	3	4¼	3	17½	8	11½	5	10⅝	6	10¼	8⅝	9¼	6½	8⅝	5	8⅞	5¼	7½	3⅝	6⅝	4	10½	5	5⅞	4⅝	5¾	3½
Empire Mill and Mining Co	400	8000		9, June 26, '72	9½	8	8	7¼	8	6	8¼	6	23	14	18	13	20¼	12½	20¼	16	16½	14	17½	10	15½	13	12	7	10¼	7	20	9½	13	9	6	3
Exchequer	3000	12000																																		
Flowery					2¾	2¼	2¾	2			2½	2½															2	2	2¼	2	5	1¾	4	1½	2¾	2
Franklin		20000		3, July 21, '73	1¼	1¼	1⅛	⅞	67½c	75c	50c	36½c	2	1¾	2	50c	1½	25c	2⅛	1¾	3¼	1⅝	3½	1⅝	2	1	1¾	¾	1¾	¾	2	1	1¾	¾	1¼	⅝
Globe	1200	24000	26, Oct., '70	18, June 9, '73	13½	11	12¾	10	11¼	7¾	8¾	8¼	181	125	266	165	200	133	250	193	210	153	180½	132	155	14	14¼	6¾	10½	7¼	20	9½	17¼	10¾	13½	7⅝
Gould & Curry Silver Mining	400	16000	26, April, '71	40, July 1, '73	43	35	37	29½	32	23	26½	18	89	55	80	20	88	68	96	75	91	66	92½	77	91	81½	81	32	56	31½	65	42	57½	38	45	17
Hale & Norcross	184	100000	30, June, '68	16, Apr. 8, '73	6¼	5⅝	5¾	5¼	5½	3⅞	4¾	4	13¾	7¾	10½	6	11⅝	5¼	12½	9¼	10⅝	7	9	5⅞	8¾	6¾	7¾	4¾	7¼	5	10¾	5¾	7¼	5⅝	6¼	3⅞
Imperial																													4¾	2½	3¾	1½	2	2		
Indus	2000	30000		1, May 5, '73																			3	3	3	3	5¼	3¾	4	3	3¾	1¼	2½	1¼		
Insurance	2000	20000		14, June 3, '73			2¼	1⅞	2⅝	1½	1⅝	1½	6	4½	6¾	5	7⅝	5	5¾	3¼	5¾	2	6	3½	6¼	3¾	6	3	5¼	1⅝	7	3	5	2½	3¾	1¼
Julia Gold and Silver M. Co	3000	21000		6, June 24, '73	1½	1¼	1¾	1⅜	2	1½	1⅝	1½	16⅜	9	12	7	8¾	5	9¾	7	5⅞	2¾	9	6¾	8¾	6	6	3	7	3	15	6½	11½	7	11½	4¾
Justice	95	30000	32, Mch., '70	10, Apr. 25, '73	11⅛	8¾	9	8	9	6	7¼	6	300	240	260	200	280	200	230	190	170	135	11	6¾	12	10	10¾	7¼	8¾	6	15	8½	12¾	9¼	9¾	5
Kentuck	1200	24000		6, July 24, '73	3½	2¾	3¼	2½	3	1⅞	2½	2¼	9½	6	7½	4	6	4	6¼	4½			5⅞	3¾	5	4	4	1⅝	4⅜	¾	10	4	3	3⅜	1⅝
Knickerbocker													1																							
Lady Bryan																							2¼	2	2						1½	⅝		
McMeans	3600	36000																					2	2							2	1½		
Mint Gold and Silver Mining	1600	50000		1, May 6, '73	1½	1¼	1⅜	1¼	1½	1¼	1⅜	1																	3½	1	2	1½	1½	⅝		
Mint Gold and Silver Mining	3000	40000																					2	2							2	1½		
Nevada	3800	36000		4, May 31, '73	1⅜	1	1⅛	⅞	1	75c	75c	75c	5½	1⅞	3	1½	3¼	1½	2½	1	2½	1¾	2	1¾	2	1½	1½	1	1½	10c	1½	¾	1¾	40c		
New York Consolidated	800	10000	1, Mch., '68	1, Feb. 8, '73	4¼	4¼	4	4					2	33c	78	34	75	50	63¾	49½	54	34	53	33	49	40	45	21	37½	15	47	30	55	32½	36	15
Occidental	1400	18800	22, Mch., '64	26, June 24, '73	32	27	26½	20	23½	15	20½	13½	46	33	78	34	75	50	63¾	49½	54	34	53	33	49	40	45	21	37½	15	47	30	47½	29	32	15
Ophir Silver Mining Co	1200	12800		26, June 4, '73	36	30	33½	29	32	26	28	20	87½	65	75	75	95	46	82½	70	79	55	70	41	64	52	56	22½	36	17	66	32	55	32½	36	16
Overman Silver Mining Co	1200	24000											1⅝	1⅛	1⅛	90c	1	50c	1¼	55c	1½	62½c	⅝	½	1½	1½					95c	35c				
Phil. Sheridan	2000	30000		3, June 19, '73			25c	15c	30c	15c	40c	30c	1½	75c	75c	75c					25c	25c	20c	20c					1	¾	1¼	70c	40c	20c		
Pictou		24000		1, June 30, '73	30c	30c	25c	25c																									⅝	½		
Rock Island	800	16000	52, June, '69	10, July 24, '73	162½	127½	145	62½	67	44½	47½	34	170	85	155	84	113	79	110	73	88	55	86½	50½	83	56½	76	35	97	37½	160	69	160	110	30c	25c
Savage	160	6400		14, July 20, '71	54	46	52	46	46½	33	40	31	126	75	91	63	87	49	90	70	80	57½	76½	50	72	58	60	27	42	26	60½	32	55¾	40	54	30
Segregated Belcher		10000																													4	2				
Segregated Caledonia		24000		3, June 24, '73	62½c	50c	62½c	50c	50c	40c	1	30c	4¾	4⅜	1⅛	55c	1½	1⅛	1¼	1	1¼	1	1¼	1	40c	1	1	½	2¾	⅝	1	½	1	½		
Senator Silver Mining Co		20000	11, Jan., '71	1, Dec. 24, '72	10½	10	10	9	9¼	7½	9	8	16⅜	11	18	13	18¾	14	17	13½	15⅝	12½	14½	9½	15	11⅛	12	8	18¾	10	12	8	10⅜	7½	14	10
Sierra Nevada		24000			20½	20	21	18	18	14	15¼	14⅜	7¼	5	9¼	1	9¾	6¼	9¾	1⅝	8¾	7	8¼	5½	11⅜	8½	10	6	15	8	32½	14½	25	18	40c	
Silver Hill		24000					50c	50c	50c	50c	20c	20c	2	1	2	2	1¾	55c	2¼	1⅝	8¾	7	60c	30c	85c	85c	12	5	2¼	2	5	2½	21	14	20c	2
Senta Overman		24000					2	1⅜	1¾	1⅜	1	1	2½	1¼	2	1⅜	3	1¼	1⅜	1	75c	50c	37½	3	4½	3¼	3⅞	1½	3	2¼	5	2½	2½	1⅜		
Succor Mill and Mining Co	7600	22800	2, Oct., '71	5, Nov. 26, '72																																
Sutro		24000																					10	10			2	2	9	5	12	5	5	4½		
Trench	20	50																													4½	1¼	13½	7		
Tyler	2200	33000		2, July 25, '73	87½c	75c	75c	50c	75c	50c	1½	½																			1½	¾	2½	1¼	1½	½
Union Consolidated	803	20000		3, June 13, '73											3	3¼	3½	3															2½	1¼	50c	50c
Utah		20000		2, May 6, '73																																
Woodville Gold and S. M	1400	28000		2, July 16, '73	2½	2	2¼	1½	1⅞	1¼	1⅝	¾	3½	3	3½	3	5½	3	8	5	6	4½	6	4	4¾	1¼	5¼	1½	5½	3¾	3½	1¾	2⅝	⅞		
Yellow Jacket	1200	24000	25, Aug., '71	16, July 10, '73	63	59	60½	50	53	44½	48	41	158	108	119	76	128	60	125	93	101	50	77½	50	95	65	86	51	80	56½	95	68	84	58	64	39
NEVADA.																																				
Adams Hill		50000		3, Dec. 23, '72					1½	62½c	12½	1	31	¾	5	2¼	4	1¼	6	1¼	4	1¼	1	75c	50c	⅜	⅛	30c	3	2	½	1¼	41c	1¼	½		
Alps Silver Mining Co	800	30000		3, May 6, '73	1½	1⅜	1¾	1¼	2⅝	1¾	2⅜	1⅝	4⅝	4	5	4	6	4⅜	6½	3¾	6½	3¼	3⅝	2	45c	15c	⅝	2	1¾	¾	1¾	¾	1⅝	¾		
Amador Tunnel and Mining				1, June 4, '73			3	2⅞	2⅝	¾	2⅞	2½	6	2	4	2	4	2	6	2¼	3	2½	6	2½	3	1¼	6⅞	5¼	3	1¼	6¼	2¾	2½	2	2	¾
American Flag Mill and M		30000		2, June 3, '73	6¼	5½	6½	5	5½	5	5½	5	27½	16	20	6½	20	15½	14	9	9½	6	10¾	6⅞	9	8	8	5	6	3	7½	4	6¼	4⅜	6	4
Arkansas	300	30000		3, Jan. 18, '73																			3	1½	2¾	2	3	2	6¼	4¾	5	3	4	2		
Belmont					3½	3	3	2½	3	2	2¾	2	7⅞	6	8½	5½	6	4¾	5½	4	5½	4⅝	5	4	5	4	4¾	3¾	4¾	3⅝	3¼	2	4½	3	4	2
Bowery		30000		3, May 5, '73	1¼	1	1½	⅞	1⅝	75c	1	70c	3	2¼	3½	1¾	2	1	2⅛	1¾	1½	80c	1	1	2	1	2	1	3	2	3	1¾	4	1⅜	4	1⅜
Chapman Mill and Mining		30000		3, Mch. 4, '73	25c	25c							2½	1	2	1	1½	1	2	1	1½	75c	⅞	65c	¾	50c	¾	30c	1¼	1	1¼	70c	1¼	1	75c	20c
Charter Oak Silver Mining	1000	30000		2, July 16, '73			2½	2¼	3½	1¾	2	1	3	2	4¼	2	3	2	4¼	2	3	2	1½	1	2	1	2½	1¼	2	1	2	1	30c	25c	25c	10c
Chief of the Hill		30000		2, May 23, '73	2½	2¼	2	1¾	2	2	2	2	10	4⅞	13½	6¾	11¼	7	7⅞	5	6½	3⅝	4⅞	3	4½	2	4	2¼	3	1¼	3	1¼	90c	20c	20c	10c
Chief East Extension		26000		2, May 28, '73	40c	30c	35c	30c	35c	30c	30c	25c											2½	1½	3	2			55c	40c						
Columbus Mill and Mining	10000	50000		2, April 26, '73																			1	¾												
Condor		25000		1, Sept. 12, '72					20c	15c	25c	25c	3½	2¾	3½	1½	1¾	50c	1⅞	⅞	1	50c	1⅞	1	1¾	1	1¾	1	1¾	1	1¾	1	25	10	14½	10¼	25c	15c
Eureka Consolidated		50000	6, July, '73		12	11½	13	11½	12	9½	10	9¾	23½	19	22½	18	23	17	23	17	19	11¾	15	9	13½	9	11¾	9	11¾	9¾	25	10	14½	10¼	12	9½
Excelsior		12000		1, June 20, '72									13	10	14	10	14	13																		
Harper Silver Mining Co		30000		1, Jan. 27, '73									11½	4⅞	14½	12½	10	7¼	17	9	15½	10	10¾	5	7	3	11	4	17	6	16	8¾	12½	6	8	5½
Hermes	1000	30000		4, May 10, '73	8	7	8	7½	7	6¼	6¼	5½																								
Home Ticket																							5	2½	3½	2	4	2	4½	2¾	3¼	1⅝	4	1¼		
Huhn & Hunt Silver Mining	3600	30000		6, May 12, '73	2¾	2¼	2½	1½	2¾	1⅝	2	1¾	6½	3½	5½	5	7½	5½	6⅝	2¾	3½	1⅝	3	1⅝	3	1	3	1	3	1	3	1	4	1¼	2¾	1⅜
Ingomar Silver Mining Co	1000	40000		4, Dec. 26, '72	75c	75c	75c	50c	1	62½c	2½	1	2½	1	3	1½	3	1	2¾	⅝	1⅞	1	1⅞	1c	80c	20c	30c	25c	40c	4c	25c	10c	87½c	50c	1	50c
Ivanhoe		30000		2, Dec. 12, '72									3	1⅝	3	1	2¾	⅝					80c	30c	65c	30c	50c	20c	40c	4c						
Jackson		50000		6, June 25, '73	10c	10c	¼	¼	15c	15c	20c	15c	85c	75c	70c	50c	70c	50c	53c	40c	40c	40c							25c	20c	25c	5c	30c	25c	25c	5c
Juniata Consolidated	5000	50000		1, Jan. 17, '73					2½	2½	3	2											8	6½	4¾	4⅜	5½	3½	4	1	9	2½	3½	2¼	2½	2
Kentucky Gold and Silver	1000	30000		6, June 2, '73	2¾	2½	2⅝	2½																											2	1
Kinston	1000	30000		3, Aug. 26, '72			90c	90c																											90c	90c
Lehigh	1000	30000																																		
Lillian Hall	1000	15000		2, Jan. 23, '73									1	90c	90c	90c	1	1	1	90c	90c	80c					3¼	¾	⅝	70c						
Louise	2400	30000		3, Sept. 15, '72	40c	40c	25c	25c	30c	30c																					75c	35c	45c	25c	62½c	25c
McMahon	1000	30000		1, Dec. 9, '72																																
Marion		30000		1, Dec. 9, '72																																
Meadow Valley	24023	60000	17, July, '73	7, May 30, '70	21¾	21¼	22	15¾	16½	17	19½	16¾	31	15¾	34½	19¼	30	23¾	27½	20	20	17	19	14	17	14¼	15¼	10	15⅞	10	25	14½	21¼	20½	22	15¾
Mocking-Bird	1200	30000		1, Dec. 5, '72									2¼	2	2½	1¾							19	15	12½	8¼										
Monitor Belmont			2, Mch., '72						2	75c													15	15			8½	5	5	3¾	4	4	2	¾		
Murphy	2000	60000																											7¼	7						
Newark Silver Mining Co	800	32000		4, Apr. 10, '73	7¼	5¾	6½	5	6⅞	5¼	6¾	5	2	1⅜	3	1½	1½	1½	2½	1⅝	2	1⅛	3¾	2¼	2½	1⅞	2⅝	1	2½	1	2⅛	1	7¼	4½		
Pacific Tunnel and Mining																							2¾	1½	1¾	1½	1½	⅞	2¼	90c	1¾	1	1¾	1		
Page & Panaca Silver Mining	2400	40000		3, Feb. 3, '73	1½	1	1⅜	1	1⅝	1	1¼	1	2	1½	2	2	3	1½	2	2	1¾	1¾	2	1½	2	⅝	1½	⅝	1½	⅝	2¼	1¼	1¾	1	1¾	1
Peavine	1000	30000		3, May 12, '73	45c	35c	42½c	30c	35c	30c	30c	25c	2	1	2	1½	5½	4¼	2	2	1¾	1¾	2	60c	1⅜	⅝	1½	⅝	1½	⅝	1¾	¾	1½	¾	50c	25c
Phoenix		50000		11, May 23, '73	50c	45c	45c	40c	40c	30c	40c	25c											1	60c	1⅝	⅞	1⅝	⅞	1¾	¾	1½	¾	50c	25c		
Pioche Silver Mining Co	1000	20000	3, Aug., '72	3, Feb. 21, '73	9	9	8¾	8¼	7½	6	7½	6			50c	50c	35c	20c	50c	35c	50c	25c	14	10	15	9½	55c	40c	8½	5½	9	6	50c	30c	9	6
Pioche West Extension		35000		4, May 16, '73	1	1	1	1	1¼	1	1⅛	1	2¾	2	3¼	2	2¾	1⅞	2¼	2	4⅝	4⅜	1⅛	¾	1	¾	1	¾	1	¾	1	¾	1¼	⅝	1¼	⅝
Pioche-Phoenix		40000		3, May 6, '73	3½	3⅜	3½	3	3¾	3½	3¾	3½											7⅛	2½	2½	1¾	2	1	1¾	1	3½	1½	4½	1⅞	3¾	3
Portland				5, May 6, '73																			4	4												
Raymond & Ely	5000	30000	22, Feb., '73		62	60	63	55	63	51½	60	54	175	148	181	151	160	128	145	91	109	73	94	77	96	73½	94	73½	96	73½	94

Our Weekly Stock Review.

THURSDAY EVE., July 31, 1873.

The same chronic dullness which prevailed in Stock Circles last week has continued during the present one. No new features have been developed nor have any new bodies of ore. Prices have been weak and sales few. The dullness which is felt in nearly all departments of business in the city is felt in the Stock Market and there are no particular signs of an improvement. Reports from the different districts are about the same as usual, but nothing new of importance is announced from any of the prominent mines. However, faith in the mines is not as great as it was a short time since, as most people gauge their opinions by the state of the Stock Market more than anything else. Therefore when stocks are down mining property is worthless. The "excitement" mentioned in another column may serve to revive interest in mining matters until something turns up in the Comstock. The Ploche mines seem to be looking up a little as will be seen in the reference made to them in another column.

The fluctuations in prices during the week have showed little variation, and what have occurred are of a discouraging nature. If the New Salt Lake Stock and Exchange Board does not have more business to do and better encouragement than the San Francisco Board at present, it might just as well wave waited a little longer before beginning work.

For Mining Shareholders' Directory see page 76.

Mining Summary.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned:

California.

AMADOR COUNTY.

OUR MINES.—Amador *Ledger*, July 26: As far as we can learn, our quartz mines are looking as favorable as at any former period, and the gold yield satisfactory. In placer mines but very little activity prevails except in the vicinities of Volcano and Aqueduct City. The Amador Canal in that section of country, is furnishing water to all who require it on accommodating terms, and will be able to do so through summer. There is a large scope of country within reach of the waters of the above canal that ought to be developed, and for that purpose miners should avail themselves of the present supply to unlock the golden treasures hidden away beneath the hills and flats of that section of our mines.

CALAVERAS COUNTY.

CLEANING UP.—Calaveras *Chronicle*, July 26: Messrs. Simpson, Veith & Shear, proprietors of the mammoth hydraulic in Tunnel ridge, are making a general clean-up in anticipation of the water famine that is imminent. They continue washing, however, as much of the time as possible, and from the known richness of the mine we look for a yield well up among the thousands. The company let a contract for running a tunnel in which to place their sluices, which, when completed, will give them a much better "dump" than they now have. Owing to the scarcity and probable failure of water for hydraulic purposes, however, work in the tunnel has been suspended for the present.

WORTH'S HILL HYDRAULIC CLAIM.—Work is steadily progressing in the Worth's Hill hydraulic claim. A large amount of water, with a heavy pressure, is used, and as the claim has an excellent dump, the gravel is washed very rapidly. No general clean-up has been made since the claim was opened, but the satisfactory manner in which the riffles of a few of the first sluices "pan out" well is all the evidence the owners want that the claim is paying well.

MOSER & HOWARTH, proprietors of the great Spring Gulch gravel mine, continue to push operations with energy, and we are glad to be able to say that their exertions are handsomely rewarded. Notwithstanding the decrease of the supply of water in the ditch, the facilities afforded them by their large reservoir enable them to continue work uninterruptedly. The yield from the claim is large, ranking it among the remunerative mines in the county.

CLEAN-UP.—We are unable to give the exact figures in regard to the amount obtained in the recent clean-up at Garland's mill, Mosquito Gulch, but learn that the yield was satisfactory. The rock crushed was taken from the noted Good Hope mine, belonging to the parties who own the mill. We understand that the main shaft on the mine is to be sunk 100 feet deeper, and that the work will be commenced immediately. The Good Hope is supplied with first-class hoisting works, and the prospects are favorable that it will develope into a valuable mine.

THE CHILI GULCH HYDRAULIC.—Duryea, proprietor of the Chili Gulch Hydraulic, continues his inroads upon Stockton ridge with unabated vigor, and we are glad to learn that the "bank" honors his drafts upon it in sume to suit. The derrick recently put up in the mine is capable of removing the masses of cemant and lava as fast as the hydraulic uncovers them—a circumstance that greatly facilitates the rapid working of the mine. We understand that Mr. Duryea is preparing to clean-up in consequence of the fact that the decreasing water supply may necessitate a suspension of operations during the remainder of tha dry season. While the laying-over of the various hydraulic mines in this vicinity would affect the interests of the whole community unfavorably, such a result is probably unavoidable.

GWIN MINE.—We are glad to learn that good rock has been struck in the 700-ft. level in the Gwin mine. We understand that the ledge is coming in handsomely—looking even better than in the 600-ft. level. The development of a paying ledge at that depth is a sufficient guarantee of the permanency of the mine.

We take the following item of interest from the *Mountaineer* of Wednesday last:

At present the workmen on the Stickle mine are at work sinking a sump. A cross-cut has been run across the vein, which is found to be 16 ft. in width, and of excellent quality. As soon as the sump is finished the work of running levels will begin, and this will be in a short time.

KERN COUNTY.

BIG TUNNEL.—Havilah *Miner*, July 26: Our prominent mining men have a scheme on foot for running a tunnel through the range of mountains west of Havilah. The idea is to tunnel the mountains from a point about half a mile east of the McKeadney mine; tha tunnel to run in some places almost a mile beneath the surface and in a westerly direction. The tuunel will, without doubt, cut many rich veins of gold-bearing quartz, many of which are known to rib the mountains, and in other places are lost in a perfect labyrinth and net work of all grades and sizes. A great mining interest will be developed by this enterprise. The leaders of the project entertain the most sanguine hopes of striking rich blind veins enough to pay expenses. Over 500 veins are known to exist in the range of the tunnel; the tunnel, if completed, will be several miles in length.

RICH CHIMNEY.—An immense new chimney of rich ore has been struck in the Bright Star mine. The amount of rock is estimated to be worth several hundred thousand dollars.

KELSO CANON MINE.—The tunnel in the Bella lode has opened a 2 ft. vein of $55 rock. A nice little fortune in sight. Old Kelso is taking a new start, like all the rest of the mines.

JOE WALKER MINE.—The new steam pump has only been running 6 days, and has accomplished as much as the first pump did in 45 days. The most flattering prospect of the water being speedily removed from the mine is now entertained. The new pump is kept in constant operation day and night. It is estimated that no less than 50,000 gallons of water are taken out per hour when running at its lowest speed. The water is now nearly 200 ft. below high water-mark.

JIM CURRY, the discoverer of the famous Gonid & Curry mine at Virginia, is stopping in this mining district to make another fortune. He thinks this county is a good for gold prospects as Nevada for silver. Old miners believe in our mines.

Nevada.

BRISTOL DISTRICT.

SULTAN.—The cave of which was discovered in this mine last week, proves to be of considerable extent. It has been entered for a distance of 20 ft., where it closes up to so small an aperture that a man cannot got through till the hole is enlarged. The walls are a solid mass of ore, of a higher grade than has heretofore been found in the mine, and a good deal of it is decomposed. Still sinking the main incline in the ledge, which shows better than ever.

CAVE.—Running the main tunnel ahead, and drifting to open the mine, preparatory to taking out ore on a large ocale. Are now extracting obout 20 tons per day.

ELY DISTRICT.

CAROLINE.—The main shaft, old works, thoroughly timbered, is 200 ft. deep. Work was recommenced last Monday, and the shaft has been sunk 10 ft. during the week. It is in contemplation to erect hoisting works shortly. This shaft was started 75 ft. to the south of the croppings of the vein, which, it is expected, it will cut at the depth of 350 ft.

CHIEF OF THE HILL.—The shaft from the Burke tunnel is now down 270 ft. Taking out some ore every day. There are about 70 tons of ore on the dump. As soon as the road to the mine, which was destroyed by the railroad grading, is repaired, they will commence shipping to the mill.

CHIEF EAST EXTENSION.—Drifting east from the main shaft on the 225-ft. level. The ledge has improved very much during the past week, and now looks exceedingly well. Taking out ore all the time, the average assay value of which is $150 per ton.

NEWARK.—We are still without reliable intelligence regarding this mine. To the stockholders who have applied to us to know why such intelligence is not made public in our Mining Review, we have only to say we cannot obtain it.

ALPS.—The lower drift is being steadily driven ahead, and it cannot be much longer before the ledge is struck, when a big thing may be confidently looked for. Taking out a large amount of high-grade ore from the upper works.

BOWERY.—A new contract has just been let to sink the main shaft 100 ft. deeper. Work on the contract was commenced yesterday. When this 100 ft. is completed the mine will be 400 feet of 500 ft., and the mine is being placed deep. Taking out some good ore all the time.

SILVER PEAK.—The new hoisting works on this mine are completed, and if it had not been for a difficulty in obtaining water, steam would have been started up yesterday noon. They will be in full operation to-morrow morning.

ECLIPSON.—Drifting, at the depth of 280 ft. from the new shaft to make the connection with the old workings, and also drifting from them with the same object. They are now nearly through, as the workmen can hear each other very plainly.

MEADOW VALLEY.—No change of consequenca to note. Taking out about the same quantity of ore, and will ship the same amount of bullion as the past month.

ORIGINAL DEXTER.—Work has been suspended for the time being, to permit the erection of a whim. The ledge never looked better.

ALADDIN.—Still sinking the shaft, which is now 149 ft. deep. The ore struck on the foot-wall is fully as wide as at the date of our last report, and maintains its average richness.

ANDES.—An incline 50 ft. deep has been sunk on the vein, which is well defined, with smooth walls and a clay casing, showing ore in bunches.

PEAVINE.—Work in the old works is still suspended, owing to bad ventilation. The new working shaft is being rapidly sunk.

MERIDIAN.—The ore in the bottom of the shaft maintains its character. Sinking steadily.

SPRING MOUNT.—Work is being rapidly prosecuted in the shaft. It is being sunk by contract—three shifts.

LOCUST.—The seam of ore in the drift shows no material variation in size or richness.

PIOCHE WEST EXTENSION.—Sinking the main shaft, which is now about 600 ft. deep. Expect to reach the ledge shortly.

BROOKLYN.—Still sinking the winze from the 75-ft. level on the ledge and taking out some good ore.

LA PAZ.—Work is still suspended in this mine.

WASHINGTON AND CREOLE.—There is no material change to note in this mine. Its production is about what it has been for some weeks past.

SCOTTLAND.—Drifting and stoping on the ledge—in excellent ore. There are about 150 tons of ore on the dump, 60 of which are first-class, high grade ore. It is now 200 ft. deep—a double shaft, each compartment 4x4 in the clear. A furnace is in process of erection for the reduction of the heavy galena ores.

SILVER CHIEF.—The Silver Chief shows a large amount of high grade ore. Two shafts have been sunk—one on the ledge 40 ft., and a main working shaft 105 ft., and a drift run from the bottom to cut the ledge 28 ft. From the developments in the upper shaft the probability of striking a large body of rich ore when the drift is pushed to the ledge is more than favorable.

SPRING MOUNTAIN TUNNEL.—Still sinking on No. 3 ledge, with constantly improved prospects of soon reaching good ore at this point. The ledge is now about 3 ft. wide, of splendid quality of quartz. The ground having been quite hard, progress has been less rapid for the past two weeks—at present much better headway is being made. Working two shifts.

MAZEPPA.—The machinery of the new hoisting apparatus works to a charm, and the main shaft is being rapidly sunk. It is still in ledge matter, but the occurrence of bunches and stringers of ore is becoming more frequent, and altogether the prospect of soon striking the ledge may be said to be extremely good.

SOUTH SIDE.—Work is being steadily prosecuted in the shaft with a full force of men.

EMPEROR.—We learn that it is in contemplation to start up work again shortly.

JERSEY STATE—Situated between the Montana and Emperor mines. Shaft in the ledge 20 ft. and a good small drift run on the ledge, which is about 2 ft. wide.

MONARCH.—The Monarch is a large, strong vein, and shows a good deal of free milling ore, assaying from $80 to $100 to the ton of ore.

TIGER.—A shaft has been sunk on the ledge about 80 ft. The ledge stands perpendicular, with well defined and smooth walls, and contains some good ore. The vein is very large—in some places over 10 ft. wide.

RAYMOND EXTENSION.—This mine shows strong croppings on the surface for a distance of fully 200 ft. assays from which have gone as high as $150 to the ton. An incline has been sunk on the vein 40 ft. showing 5 ft. of quartz with a streak of rich ore in the hanging wall.

PIOCHE PRESTO.—Work is again being steady and systematically prosecuted on this mine with excellent prospects. Drifts are being run from the new shaft at the depth in good condition for the extraction of ore as rapidly as possible.

PIOCHE.—Working the same force as heretofore, and taking out ore as usual. During the past week upwards of 135 tons of ore have been shipped to the Amador mill. Have nearly $5,000 in bullion on hand, and expect to ship $10,000 this month. No particular change to note in the stopes and drifts. The new shaft is down 140 ft. It is a double shaft, each compartment 4½ ft. by 4 ft. inside the timbers.

PORTSMOUTH.—Work will be resumed in a few days.

VULTURE.—Work is being pushed forward, and every foot the quantity of ore increases.

CHAPMAN MILL AND MINING CO.—As the drift from the shaft on the 420-ft. level penetrates the mountain, the indications of the close proximity of the ledge grow stronger. Working night and day.

MONTANA.—The character of the rock in the lower drifts has changed materially in the last few days.

RAYMOND & ELY.—The hoisting works are being rapidly put in place, and we learn from Captain Day that he expects to resume work on the mine about August 1st.

SUMMER.—A shaft has been sunk on the ledge, about 150 ft., showing throughout the entire distance a well-defined lode, varying in size from 6 to 18 inches. In the bottom of the shaft the men have encountered a very singular formation. On both sides are large cavities, and in one corner the bottom of the shaft absolutely dropped out, showing a regular cavern, perhaps a foot wide and 10 deep. The whole place appears to be badly broken up, but what ore there is is much richer than heretofore, and there can scarcely be a doubt that on reaching a firmer foundation below the vein will be found solid and of paying quality. Since then the shaft has been thoroughly timbered, and what sinking has been done, shows the vein slightly increasing in size. Working three men on a shift.

HAVANA.—We yesterday paid the Havana a visit, to see if the reports of the rich strike were based on the solid foundation of pay ore. The vein showed itself in a narrow seam of ore on the surface. A perpendicular shaft has been sunk 140 ft. where the ledge was cut. It was about 5 ft. wide, with the best defined walls we have ever seen in the camp, and dipping to the south at an angle of 75 deg. From this point it gradually widened, till it was necessary to leave it, which was done, and an incline carried down on the foot wall. Where the hanging wall was left, the vein was about 9 ft. wide. The incline has now attained a depth of 110 ft. from the bottom of the perpendicular shaft, and about 6 ft. from the bottom, the rich strike to which we alluded, was made. The rich streak is now fully the width of the shaft, and dipping towards the hanging wall. What is its extent is therefore yet unknown, but about 30 ft. above a cross-cut was run 15 ft. without striking the hanging wall, from which fact it is reasonable to infer that it will prove to be a very large body of ore. Assays of the mass ranged from $120 to $600 per ton.

HICHLAND DISTRICT.

LONE STAR.—The Lone Star is situated about 2 miles from Mendha Mill, in the midst of a large tract of timber lands owned by the company. It is a strong, well-defined vein, has been opened to a depth of 48 ft. by a shaft, at which point it shows a fine body of high grade ore fully justifying, in the opinion of our informant, the extensive developments that the company propose immediately undertaking. Assays of the ore range from $150 to $000 per ton. A large additional force of men will be put to work within 20 days.

SECRET CANON.

THE HONODON MINE.—The surface indications at the Hodgdon ore of the most flattering kind, but up to the present time no very large body of ore has been discovered. Main shaft 50 ft. deep, with excavated chamber 15 ft. from the surface. Traces of ore are seen all through this excavation, but in no very great quantity does it occur. The shaft from here passes through a sort of pudding-stone formation, with ore indications intermixed. At the bottom nothing different has been found. Work upon the mine is carried on, day and night.

THE JONES MINE is situated on the west side of the mountain. A short drift has been driven into the hill, from the end of which an incline is run 65 ft. From this two drifts have been put in, the first of which comes in ore, and the second also, but finally emerges into the country rock. The Jones shows a very good body of ore, and has already shipped 90 tons.

THE SARSFIELD is on the east side of Austin Hill, and has a tunnel 200 ft. long, but not a very flattering display of mineral from it. A perpendicular exploration, however, shows a more encouraging prospect.

WASHOE.

CROWN POINT.—Gold Hill *News*, July 25: Daily yield 450 tons of ore. The main south drift on the 1,400-foot level is making steady progress, the face in porphyry. The flow of water from the east cross-cut from this drift has somewhat decreased, and another cross-cut, 60 ft. further south, has been started to assist in draining the water. Both the north and middle winzes on the 1,300 ft. level continue lurich ore. The winze from the 1,200-ft. level is looking finely. Ore breaks throughout the mine are looking and yielding splendidly, and the prospects of rich returns to the shareholders have never been more flattering than at present.

BELCHER.—Daily yield 450 tons of high grade ore. All the stopes are looking remarkably well. The main south drift on the 1,300-ft. level is still being driven ahead, the face in rich ore. The west cross-cut from this drift is in ten ft., the entire distance in excellent ore. The east cross-cut from the south drift on the 1,300 ft. level is in 21 ft. Fine ore is encountered all along. The incline is down 209 ft. below the 1,200-ft. station. Have commenced running a drift from the Jacket incline for the purpose of opening up the 1,400-ft. level. The general appearance of the mine is very flattering.

DAYTON.—Work in the main drift west at the 225-ft. level has been stopped for the present, on account of strong indications of a heavy body of water, which the management do not desire to tap until the new station at the 312-ft. level is completed, and the shaft sunk 25 or 30 feet below that station, so as to afford a good sump. There is but little doubt that a good paying mine will be opened when the ledge is tapped.

SILVER HILL.—The main north drift at the first station has penetrated to within 75 ft. of the company's north line, the face still in good ore. The ore stopes on this level are still looking and yielding finely. Daily yield, 60 tons of ore, keeping the Bacon mill steadily running. The main northwest drift at the second station has reached to within 50 ft. of the point where it is expected to strike tha ore body found on the upper levels.

CALEDONIA.—The main north drift on the 500-ft. level has cut during the week some good ore, with excellent indications of finding a large body. The north winze, from the 400 to 500-ft. levels, is down 75 ft., with good indications of a steady continuation of the ore body found on the 400-ft. level. There is nothing new to report of the main south drift on the 500-ft. level, except the steady progress of the work.

CHOLLAR-POTOSI.—Daily yield 150 tons of ore, the assay value of which is $30 per ton. There is no change whatever to report of the ore breasts on the different ore-producing sections of the mine. The east cross-cut from the main northwest prospecting drift at the north station is still driven ahead without change of interest to report.

ARIZONA AND UTAH.—The shaft is now down 310 ft., the rock in the bottom working finely, and the sinking making excellent progress. No water to interfere with the work. The incline in the main east drift is down 90 ft., the bottom still in low-grade ore.

BALTIMORE CON.—The steady flow of water from the north drift on the 450-ft. level has greatly impeded the progress of the work for the past week. The prospect of finding a fine body of ore on this level is steadily improving. The water on the 225-ft. level is gradually lowering, being undoubtedly drained by the north drift of the 450-ft. level. The bottom of both the north and south winzes on the 225 ft. level, are drained sufficiently to permit of again commencing the sinking. Both are in good ore.

OVERMAN.—There is no change of interest to note in either the main, west or south prospecting drifts on the 1000-ft. level. Both are making steady progress. The main northwest prospecting drift, on the 1000-ft. level, has cut several small feeders and stringers of quartz during the week, with a considerable increase of water. The water in the shaft has gradually drained until the sinking can be resumed in a very short time.

CON. VIRGINIA.—The flow of water from the main north drift on the 1167-ft. level continues without intermission, rather increasing in volume, if anything, and completely stopping the onward progress of the drift for the present. Sinking the shaft is making excellent progress, the rock blasting well. The new hoisting machinery is fast approaching completion, and the future prospects look bright and hopeful.

YELLOW JACKET.—Still drifting and cross-cutting on the 1400 and 1,600-ft. levels, without change of interest to report.

NEW YORK CON.—Sinking the shaft is making good progress, the rock in the bottom working well. The flow of water from the bottom has increased to about 8 tubs an hour, but does not materially interfere with the progress of the work. The pump at the 250-ft. station works to perfection, keeping the water completely drained to that depth.

JULIA.—Tuesday last one of the hoisting ropes parted, causing a delay of 3 or 4 days in draining the water flowing from the south cross-cut at the 1000-ft. level. The cable has been repaired, and hoisting tha water again resumed. The main cast drift on the 800-ft. level is still driven ahead, the face in vein matter of a very promising nature.

JUSTICE.—The east cross-cut from the main south drift on the 400-ft. level is in sixty ft., the entire distance in the ledge. The water has been drained from the old Waller Defeat shaft, and two drifts, one north and the other south, have been started at the 200 ft. level. The north drift shows some favorable indications of ore.

SAVAGE.—The main south drift of the 1700-ft. level to connect with the north drift on the same level from the Hale & Norcross, is making steady progress without change of interest. The cross-cutting on this level has developed nothing of importance since our last report. Sinking the incline is making fair progress.

UTAH.—Sinking the shaft is progressing downward at the rate of 3 ft. per day, the rock in the bottom working finely. The supply of water is continuous and steady, but does not interfere in the least with the progress of the work. Excavating for the erection of the new pump is making good progress.

MINT.—The east cross-cut, from the main southeast drift has been steadily driven ahead during the week, the face in vein matter, and promising indications of soon striking the main ledge.

DANEY.—The shaft is down 160 ft., the sinking making excellent progress. Some little water has been encountered, but not enough to in any way impede the progress of the work.

SIERRA NEVADA.—Daily yield, 60 tons of ore. There is no change of interest in any of the ore-producing sections of the mine. The mill is kept steadily running on ore from the mine.

NEVADA.—Sinking the new shaft is making excellent progress, although the rock in the bottom is quite tough and hard to blast.

HALE & NORCROSS.—Daily yield 25 tons of ore. The north winze on the 1700-ft. level has been sunk to the depth of 110 ft., and cross-cuts run east and west from the bottom of the winze a distance of 50 ft. each, without finding any considerable body of ore. No change of material interest in any portion of the mine.

GOULD & CURRY.—The northwest prospecting drift on the 1500-ft. level is still driven ahead without change of interest. The cross-cutting in the main south drift on the 1600-ft. level has developed nothing of material value as yet. No changes of interest to report of the other portions of the mine.

AMERICAN FLAT.—The south drift from the main west drift on the 450 ft. level of the Baltimore, is still driven steadily, though slowly ahead, the flow of water greatly impeding the progress of the work. The indications of finding a good body of ore on this level are very flattering.

KNICKERBOCKER.—The southwest cross-cut from the main west drift on the 400-ft. level is still driven energetically ahead, the face in quartz and porphyry, which give some very good assays, although no large body or pay ore has been encountered yet.

LOWER COMSTOCK.—The shaft has attained a depth of 30 ft., the rock at the bottom working better than at any time since the shaft was started. A small quantity of water has been struck in the bottom, but not enough to impede the progress of the work. As soon as the shaft has attained a depth of 100 ft. the Co. propose to erect machinery.

OCCIDENTAL.—Daily yield, 35 tons of ore. The ore breasts are looking well and yielding finely. A much larger amount of ore can be extracted daily whenever it is desirable to do so. The mill is kept steadily running on ore from the mine.

CROWN POINT EXTENSION.—Sinking the shaft is making excellent progress. It is now down 75 ft., the rock in the bottom blasting and working well, and no water to interfere. The sinking is progressing at the rate of 3 to 3½ feet per day.

LADY WASHINGTON.—The work of getting the machinery in place ready for operations is fast approaching completion. Sinking the shaft will be resumed in a short time.

OPHIR.—Sinking the shaft is making steady progress, though the rock at the bottom is much harder than heretofore. Prospecting the different levels continues without any developments of importance since our last report.

EMPIRE.—The upraise, on the 1,600-ft. level, is making good headway, with no change of interest to report. The cross-cute east, on the 1,700-ft. level; have developed nothing of value since our last report.

SENATOR.—Sinking the shaft is making steady progress, the bottom in very promising vein matter, which gives small assays of gold and silver, indicating a near approach to the main ledge. The shaft is now down 380 ft.

BUCKEYE.—Work on the different levels progresses as usual, with no important changes worthy of note. The mill is kept steadily running, and the future prospects look very encouraging.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's office, San Francisco:

SAN JOAQUIN VALLEY WOOL GROWERS' ASSOCIATION, July 28.—Object: to raise, purchase and sell wool and sheep, to lease and purchase sheep ranges. Trustees—James Morton, John Barber, T. S. Milton, J. Tyler, Jr. and M. L. Ahrsmsky. Capital stock, $250,000, in shares at $10 each, of which $125,000 have been subscribed.

MENDOCINO LUMBER COMPANY, July 30.—Object: To purchase timber lands, erect mills, and do a general lumber business. Directors—James B. Ford, Alfred Godefrey, Edward C. Williams, Henry P. Bowie, and William Sillem. Capital stock, $500,000, in 500 shares.

INCREASE OF CAPITAL STOCK.—The Seattle Coal and Transportation Company has filed a certificate of the increase of the capital stock to $3,000,000 with the County Clerk. The amount of the capital stock paid is $240,000; the whole amount of the debts of the Company does not exceed $40,000.

TROUT fishing is to be one of the fashionable amusements in California in the future. Many gentlemen, stimulated by the success of the California Acclimatizing Society, are building ponds at their country residences, and making arrangements to raise trout systematically.

Gold in Alaska.

It eeems that Alaska has greater merits than being a mere fog bank and land of snow, for, in addition to eeveral otber sources of productiveness already diecovered, it turns out that the mines there are likely to amount to something, after all. Until recently we have had very vague reports from there. We heard that ore had been sent to the city, which averaged about $300 in gold per ton. If, however, the claims amount to anything in extent and permanence, a number of people will probably migrate thither next year. A correspondent of the Alaska *Herald* writes as follows about the mines, from Sitka: Beyond doubt the gold mines of this place have been talked of in San Francisco; and as they are the general topic of conversation here, I will give a correct history of them from the data of tbeir discovery. The first work done in quartz was by William Dunlap and Frank Mahoney in March 23d, 1872, at a small ledge on Indian river, about one mile from town. A quantity of rock was eent from this ledge to San Francisco, in care of Capt. Tuttle of the brig *Lucas*. The captain had agreed to see that the ore was aesayed, but whether he did or not is unknown. Samples of the rock were, about tbe eame date, sent per eteamer, via Portland, to J. H. Kinkead, of San Francieco, and from it the shippers heard nothing. Another lot was seut to Mr. Fisk, of Portland, and hie assay gave twenty cents per ton in silver; but witb his return came a report from Portland, tbat the eame rock assayed fifty dollars to the ton in gold. Work on this ledge was now suspended, and Dunlap, Mahoney and E. Doyle started out prospecting.

Going to the head of Silver Bay, distant twelve milee from town, they entered a creek, and with lumber on their backs, ascended near two miles and commended sluicing. After several days work, in constant rain, without success, they quit slnicing and concluded to look for quartz. Taking a branch of the creek a little below the point at which they had been at work, and ascending the same, Doyle soon sighted a ledge of white rock running across tha stream, and as it showed a width of about six feet the party concluded to see what it contained. Tracing the ledge into the bank of the stream, and commencing with pick and shovel, they soon found what they tbought to he tha color of gold.

With a quantity of rock they returned to town, and upon exhibiting it, some pronounced it gold bearing and others not. Among the latter was a soldier of this garrison, who profeesed to be an old California quartz miuer. The discoverers, knowing but little about quartz, placed coneiderable faith in his unfavorable estimate, and did not further prospect the ledge. The soldier, however, on finding that the ledge was not likely to be worked, made inquiries as to its location, and tha discoverers, thinking it was all right, gave him the landmarks. Tbe result was, that on the 25th of December laet tbe ledge was "re-located" by the soldier and two other persons. Returning to town, the claimants produced epecimens showing a richnese of gold, and stepe were at onca taken by them towards organizing a compaby and establishing a claim to the mine. The original discoverers now believed they had made another important discovery, viz., that they had been "sold" by the honest soldier-miner, and they witb difficulty ooncealed their chagrin.

Another Ledge.

A short time after this another ledge was discovered by this same individual, but tbe snow prevented prospecting. As soon ae the weather became favorable, the second discovery was vieited, and found to be a beautiful ledge about eix feet in width and situated on the same stream as the former, at a distance of one mile above. From this ledge rock has been taken showing considerable gold. At first it it was feared that the ledge would not produce the color after striking it below the surface; but now that it has been tunneled ten feet, gold ehowe iteelf more freely than ever. A company known as tbe

"Alaska Gold Mining Company"

Has been formed, and the ledge is being worked, tha owners of it feeling sanguine that their fortunea are about made.

Aaide from these three ledgea spoken of, othere have been discovered, and othera will be, for the whole country hereabouta is quartz. Whatever the result of these mines, I shall stand ready to inform the readers of your journal; but should they prove ever so valuable, not much is likely to he done this year, inaamuch as Sitka is, in a measure, out of the civilized world. Our only facility for communicating with pointa at which we can tell the news of a lucky "strike" is per "Ben'a" boat, and it only comes eemi-occasionally. Besides, our minea have not the capital to push the work ahead, and ere moneyed men invest, they must either aee the mines themselves or send others in whom they can rely to reconoiter for them.

Great Excitement

Prevaila over returne from the assay office at Portland, just received per ateamer, whicb show that the rock sent below from the "Haley Ledge" is worth $276 per ton in gold. The rock from Indian river assayed notbing.

The Haley mine ia to be worked now in good earnest; and prospecting parties are preparing to aearch the mountains far and near.

American Cowslip, or Shooting Star.—*(Dodecatheon Meadia.)*

No wild flower of Great Britain, Switzerland and other parts of Europa is more justly celebrated on ite native soil for its beauty and its early appearance iu spring than the world-renowned primrose. Its botanical name, *Primula*, from the Latin *primus*, refers to its being first to flower. One of its many species, *P. Veris*, or spring primrose, is the noted English Cowslip.

The odd and saucy-looking flower which our engraver has accurately represented here in its natural eize, is the most beautiful member of the primrose family among the native flowers of California and other parts of the United States. Hence its common name, American Cowslip.

Gray telle us it is found in rich woods, from Pennsylvania and Maryland to Wisconsin and southward. Ha also adde, that it is called in the West, Shooting Star; alluding, no doubt, to the manner in whicb its flower-leaves are turned back. This gives each bloom somewhat the appearance of the bright head of a meteor, followed by a train of light.

AMERICAN COWSLIP OR SHOOTING STAR.

The reason for this common name is much more apparent than for the systematic one, *Dodecatheon*, from two Greek worda, meaning the twelve gods, in allusion to the twelve chief divinities of the Romans. To pronounce correctly, it is accented on the third syllable. This name was given fancifully by the eminent Linnæus himself, and we are at a loss for its application, unless it be that he wishes thus to stamp it pre-eminently as a crowning glory among our wild flowers. The specific name, *Meadia*, was given in honor of a Dr. Mead, of Virginia, by Catesby, a pioneer of American Botany, through whom it was first introduced into England from Virginia, as early as 1744.

Loudon, in his Encyclopædia of Plants, describes no lees than five different varieties of this handsome plant, with white, rose-colored, and lilac flowers. Gray describes but one species belonging to the older States, its flowers rose-color, or white.

At least three varieties are common to California, tbe white and the cream-colored belonging to the hard, knolly lands of our plains, the rose-colored found only in tha mountains.

In the white, which is the most common variety, each flower-leaf, varying in number from five to eight, is a pure white with a straw-colored spot at the base. This is followed by a ring of a deep velvet-like purple, then a second and smaller ring of a bluish purple. At the base of each of these rings are small yellow spots. In the center of the flower, the stamens and pistil unite in a spike of a bluish-black hue.

The variety and delicacy of coloring make the entire appearance of the flower one of exquisite beauty. Its odor is strong and spicy, like cinnamon, and very similar to that of the most fragrant pinks. Its roots are fibrous, its leaves oval, small and radical, resting flat upon the ground. From the center of these arises a single flower stalk, usually from six to nina inchas high, without a leaf, and surmounted by a cluster of drooping flowers, varying from four to ten in number. The work of the engraver, as in all object-teaching, gives a more accurate idea of the plant than any attempt at description can possibly do.

To offer a short lesson in botany for those of our readere who may not have had an opportunity to study that beautiful and useful science, allow a brief explanation here of a few technical terms, according to a former promise. It will enable auy one who wishes to do so, to separate a flower into its different parts, that is, to *analyze* it; and will preveut such terms from being an unknown language in the future to those who wish to learn them.

Every perfect or complete flower, such as the lovegrove, violet, cowslip and pink, is naturally divided into four parts, called the calyx, the corolla, stamens, and pistils; the first name being of Greek, the remaining three of Latin origin. Calyx means cup. It is the outer covering of the bud, is usually green, and is frequently divided into parts like small leaves.

Corolla means little crown. It is the colored part which we generally call the flower, and when opon it usually rests on tha calyx, as if in a cup. It surmounts the flower-stem like a crown. It may be single, or divided into separate parts. Inside of the corolla we find small, thread-like members, of two different shapes. The outer ones are called stamens, meaning threads. Those in the center. and attacbed to the upper part of the young seed-pod, are quite unlike the stamena in form, and are called pistils, from *pistillum*, a pestle, so much do some of them resembla the pestle of a druggist's mortar.

It ehould be further remembered, that, wben the calyx and corolla are separated into parts, the parts of the calyx are called sepals; of the corolla, petals.

Linuæus discovered, but little more than a hundred years ago, the difference of sex exists in plants as among animals, and that etamens are males and pistils females in the world of flowers.

The calyx and corolla of a flowar may be wanting, and frequently are; but stamens and pistils must be present for the plant to reproduce its kind. Flowers may have but one stamen and one pistil, or several of each.

On this simple principle, Linnæus based a sysby which all the flowering plants known in the world are arranged is Classes and Ordere. Tbe number of stamens forms the Class; the number of pistils, the Order. Each Class contains two or more Orders. To each he gave suitable names, most of which were derived from tha Greek words for man and woman and the Greek numerals. For example a plant whose flower has but one stamen and one pistil belonging to to the Class *Monandria*, literally a plant with one man, that is one stamen, and Order, *Monogynia*, meaning a plant with one woman, or ona pistil, and so on for other Clesses and Ordere.

Linnæus thus divided the whole Vegetable Kingdom into two great Sectione, the Flowering and Flowerless plants, the latter being either entirely without stamens or pistils, or not showing them. The former Section ie divided into twenty-three Classes, while all Flowerless plants, such as a fern, a moss, a eeaweed, and a fungus, being comparatively small in number, form but a single Class, the twenty-fourth and last.

In this way he reduced the knowledge of plants to a science, and is hence called the Father of Botany. Hie plan is known as the Artificial System, and though it has to a great extent given away to the Natural System of Jussieu, eo called because it classifies plants more in accordance with their natural qualities and resemblances, it will always be a useful aid to studente of botany. It was Linnæus, too, who invented the plan of giving a double name, in the Latin language, though sometimee derived from Greek, to every plant and animal in the world. The first name, like *Dodecatheon*, makee the *genus*, and is called the generic name; the secoud, as *Meadia*, makes the *species*, and is called the specific name. The first corresponds to a man's surname, the second to hie given name. The order in which they are placed follows tbe Latin usage, in putting adjectives after their nouns. The plan reminds us of rolls, mada out in alphabetical order, in whicb the surname comes first.

On these simple principles, all the 150,000, or more, different kinds of plants throughout the world have been named and classified, or will be, so soon as they becoma known to naturalists, tbus erecting to the geniue of Linuæue a monumant more lasting than marble or brass.

Most of these points have been explained, eepecially to call attention to a difference between the American Cowslip, as found in California, and the speciee described by Prof. Gray. He says the Eastern kind has the calyx 5-cleft; corolla 5-parted, with 5 stamens and 1 pistil. In the California speciee, the calyx is from 5 to 7-clift, usually 6; corolla 5 to 8-parted usually 6; stamens 5 to 7, usually 6; pistil 1.

The primrose of Europe, according to Loudon, blooms from March to June; our Cowelip, from February or March to May. Prof. Gray speaks of the Eastern species as very handsome in cultivation. So, no doubt, would our epecies be a most valuable addition to the choice flower gardene of California.—*Ralph Rambler in Illustrated Press for July.*

Decision of a Mining Suit.—The San Felipé Mining Company, Galen M. Fisher, Charles H. and Alfred Wheeler, instituted a snit in February last, in tha District Court of the Sixteenth Judicial District, in and for the oounty of Inyo, against M. W. Belshaw, E. Judson, Victor Beaudry and Wm. L. Hunter, to recover the San Felipé mine and $1,000,000 damages, the value of the rents, issues and profits. This action came on for trial at a epecial term of the Court, held at Independence, on the 10th instant, Judge Belden, of tha Twentieth District, presiding in the place of Judge Theron Reed. Paul W. Bennett, General Freeman, B. S. Brooks and John McHenry appeared as counsel for plaintiffs, and P. Reddy and Wm. H. Patterson for defendants. The case involved many legal questions of great importance; but before the respective parties had closed their testimony, the rulings of the Court had pruned down the case to a simple question of fact as to the identification of the San Felipé ledge. Its location being prior, in point of time, to that of the Union mine, it wes claimed that tha Union was located on the San Felipé lode; and upon this point a great mass of testimony accumulated during the progress of the trial, which continued for nine days, the Court meeting at 8 o'clock A. M., and and continning in session every day until 6 o'clock P. M., taking only the usual recess for dinner. The charge of the court to the jury was admitted on all sides to be an able and impartial exposition of the law applicable to the case; and, after two hours deliberation, the jury returned a verdict for tha plaintiffs.

To give an idea of coal production it may be remembered, that with 100,000,000 tona a girdle of coal 3 feet wide and 7 feet high might be put round the earth.

Useful Information.

Style in Chamber Sets.

Thirty or forty years ago, walnut was scarcely used in furniture; the mahogany four poet windlass bedstead, with a mahogony bureau, mahogeny sink lined with zinc, and lifting lid, and a toilet table of the same material, comprised the genteal chamber set. French bedsteds with windlass bottoms were also used to some extent, but not largely. Maple and birch was used for the less expensive sets, either with a cord bottom, or sacking, for the bedstead, with a mahogany bureau and washstand.

Black walnut gradually worked itself into favor mainly through the scarcity of mahogany and consequent high price of the solid wood, as compared with walnut. Thus, by degrees, the black walnut chamber sets have come into favor, and through their extended manufacture, coupled with the use of the wood for other purposes, the consumption has become so enormous, that, if it continues, there must be a great scarcity.

In furnishing a house a great deal of taste can be displayed, with a corresponding fitness, by the dealer or by the purchaser. For instance, suppose a room to have on it paper and carpet of some of the neutral tints, now so much in vogue; what is prettier, or more appropriate, than a set of chamber furniture made from maple, or ash, ornamented with some of the richer woods? or in a chamber furnished with a carpet and wall paper of a pearl or other fancy tint, a pine set painted to match, tastily ornamented with a slight scroll, or a narrow stripe, (not daubed,) will give a beautiful effect to the room, and show exquisite taste combined with economy; while for the spare or guest's room, an elegant walnut chamber set well complete the *tout ensemble*.

The same remarks will also apply to the dining room, so far as ash and maple are concerned. In the drawing room and parlor the use of wood does not enter so largely in the furnishing, so that the purchaser has an excellent opportunity to gratify tastes such as these named. A library furnished with black walnut carries with it a certain degree of solitude and richness, and for that place no wood can be more appropriate. Chestnut, when new, looks very pretty in a chamber set, and this wood can also be ornamented with some of the richer woods, although for this purpose mahogany is preferable, as the contrast between black walnut and chestnut is so great that it is apt to give a sombre appearance. No wood can fill the place of mahogany for many purposes, nor is there any full substitute for black walnut; but while the latter is used so much faster than it grows, and the cost of transportation increases as we go further for it, it is well for manufacturers to turn their attention to some of our native woods that can be used instead of it.—*Cabinet Maker.*

Cheap Vinegar.—A correspondent of the Cincinnati *Gazette* relates his experience as follows: I will give you my method of making vinegar. I consider that it is decidedly the most economical way to make this useful article, needed by every house-wife. I take a quantity of common Irish potatoes, and wash them until they are thoroughly clean, and then place them in a large vessel and boil them until done. I now drain off carefully the water that I cooked them in, straining it, if necessary, in order to remove every particle of the potato. Then I put this potato water into a jug or keg, which I place near the stove, or in some place where it will be kept warm, and add one pound of sugar to about two and one-half gallons of the water, some hop-yeast, or a small portion of whiskey.

Prepared in this way, and letting it stand three or four weeks, you will have most excellent vinegar. Indeed, it is the only vinegar that will preserve cucumbers cut fresh from the vines, without the aid of salt. If I have not plenty of potatoes, when I am boiling them for family use I put on more water than is necessary to cook them, and drain off the water and treat it as above described, diminishing the ingredients to suit the amount of potato water. The whole cost of really superior vinegar made in this way does not exceed six or seven cents per gallon.

Wheat Measurement.

A bushel of wheat in New York, Ohio, Pennsylvania, Indiana, Wisconsin, Iowa, Illinois, Michigan, Massachusetts, Kentucky, New Jersey, Vermont, Missouri and Canada, is sixty pounds. In Connecticut it is fifty-six pounds. Rye is fifty-six pounds to the bushel in all the States named but Illinois, where it is fifty-four. Corn is fifty-six pounds to the bushel in all the States named but New York, where it is fifty-eight, and Missouri, where it is fifty-two. Barley is forty-eight pounds to the bushel in New York, Ohio, Indiana, Wisconsin, Iowa, Michigan, Kentucky, New Jersey and Canada. In Pennsylvania it is forty-seven; in Illinois forty-four; in Massachusetts forty-six, and in Vermont forty-six.

A legal stone weighs 14 pounds, or the eighth of a hundred, in England, and sixteen pounds in Holland.

How Envelopes are Made.

One of the most interesting examples of the manner in which manifold and complex machanism is now made to do the work of human fingers, is that by which envelopes are now produced by means of machinery recently introduced in England. A pile of envelope blanks is placed on a plate on the left-hand side of the machine, this being done either when at rest or when in motion. A hollow brass tube, with an end of a peculiar shape, descends upon the envelope blanks at the side nearest to the folding-box. To the other end of the tube is attached an India-rubber pipe communicating with an air-pump which, coming into action at this instant, causes the blank which is upon the top of the pile to attach itself to the brass tube, which, rising, carries the envelope blank with it. A pair of grippers then run forward, and, seiziug the blank, carry it into its proper position over the folding box; after which it is stamped, and the gum applied in the proper places upon the two side flaps—this movement being singularly ingenious, At this point, a plunger descends and carries the blank into the folding-box; upon the plunger rising, slides working in the thickness of the folding-box run in and inclose the flaps in their proper order. The bottom of the box now rises and completes the operation by pressing the envelopes against the slides; the bottom of the box then falls and allows the envelope to drop in an upright position into a trough running under the machine, when it is met by a simple contrivance, which secures the envelope with its flaps in proper position in the trough, and, as each successive envelope is placed in front of it, it gradually works along the trough until removed by the attendant and handed.

Good Health.

Vegetable Food.

The question as to whether we should encourage a greater consumption of vegetable food, is discussed by Dr. Hoy as follows:

This question is one of hygiene. If a greater consumption of vegetable food would add to the health, strength and happiness of the people, we should by all means encourage it.

In the first place, location, climate, etc., are to be considered. Men require different food in different climates. The Esquimaux would not long survive as a vegetarian; the Asiatic would be destroyed by a diet of fleeh and oil; but, as we inhabit a temerate zone, neither of the extremes are applicable to us. As man is an omniverous animal, a mixture of animal and vegetable food would here seem most proper.

Let us examine a few results. I have observed closely some people who refused meat of any kind, and I found those who made use largely of eggs and milk, the only two things that contain all the elements of the human body, enjayed excellent strength, health and fair complexion, indicating a full supply of proper substenance. On the contrary, those who confine themselves to vegetables alone were sickly looking and greatly lacking in physical strength.

In the Crimean war it is said the English soldiers withstood the hardships of the trenches, cold and labor much better than the French, who were furnished with a much lighter food; and in consulting the English surgeons, they attributed the failure to a lack of meat; and on the French army being supplied with the English ration of beef, they were able to endure the cold and fatigue equal to their English neighbars.

I read in the book of Genesis that Joseph's brethren went down into Egypt for corn when famine was in the land of their nativity. They exhibited such extraordinary feats of physical power as to astonish the Egytians greatly; and when Joseph was interrogated as to the cause, he said it was on account of their living on pulse (vegetables) and an abundance of milk, (they being herdsmen,) eating no meat.

Before the deluge I find no account of the ancients eating meat. (Genesis I, xxviii.) Herb bearing seed and every tree bearing seed, or seed in the fruit, were man's food, and perhaps that was one cause of their long lives in those days.

It is a fact too notorious to require argument, that people living on bread and meat mostly are more billious, more subject to fevers, are less healthy, and do not attain to the age of persons making use of a more mixed diet.

By a wise and most beneficent arrangement of nature, a great variety of fruits and vegetables mature at a time when people are exhausted by the summer heats and toils of the season, the system requiring just such sedative, acidulated and cooling properties as they contain. A free and judicious use of them is plainly indicated by the requirements of the system, and adds largely to the comforts and pleasures of life. Their use, therefore, should be strongly recommended to all classes, and their most extensive production encouraged.

To Prevent Falling Off of The Hair.—The most satisfactory treatment, according to the *Druggists' Circular*, is the use of *tannin*, one and a-half scruples with one ounce of *adipis*.

Delicate Surgery.

Experiments on Living Brains—Interesting Discoveries.

Lengthy particulars are given in the Dundee *Advertiser*, of the important discoveries as regards the brains of animals, recently made by Dr. Ferrier. Dr. F at the invitation of Dr. Crichton Brown, went to Wakefield and was amply provided with cats, dogs and other animals for his experiments. The animal to be experimented on is first put under chloroform. The next thing is to clear away the skull and expose the brain. This, it will be understood, is a difficult operation, but is done, and the animal may live from three hours to four days. All this has been done often enough before, but the difficulty was to get some mode of rousing parts of the brain into activity without injuring the parts. Here Faraday comes in. Such is the way of scientific discoverics—every step leads to the next. Without Simpson and chloroform the operation could not have been successfully attempted. Without Faraday the operation might have been performed a thousand times without leading to any result.

After uncovering the brain, Dr. Ferrier applies the point of an electrode to the convolutions of the brain. Its effect is to excite the functional activity of that part and thereby to show what its real work is. One of the first experiments disclosed the part that is employed in wagging the tail. Soon after the centres engaged in supplying the limbs, the mouth, head, etc., were discovered. Nothing could surpass the interest of these experiments. On the table before you is the dog with its skull removed. All seems, but for the breathing and movement of the brain, an inert mass of dead matter. The doctor applies the electrode, and presently the tail begins to wag; all else is motionless. Another touch, and its forepaw is stretched out; another, and its head is erected; another, and its mouth opens. Again the magic wand touches the brain, and the animal seems convulsed with fear and rage; and so on experiments go. Once the divining rod has been discovered, it is comparatively easy for an expert vivisector to use it. This discovery, so simple once it is known, will effect almost a revolution in physiology

Hitherto it has been looked on as an axiom that you cannot experiment with the brain—that it is too near the seat of life to be tampered with. Now, experiment has been introduced into a region where we had reconciled ourselves to the vague and uncertain light of observation. There can be no doubt that we shall soon know the particular use of every convolution of the brain. Phrenology, from the stage of empirical observation, will become a science.

It also has demonstrated that the nerves moving the muscles of the jaw are just above the ear, where the phrenologists place gustativeness. But other experiments made lead havoc with the locality of many of the "bumps." The most singular of all the experiments is one proving that one of the main uses, if not the sole use of cerebellum is to supply the muscles of the eye. But the most important immediate effect of Dr. Ferrier's discovery will be an improved treatment of diseases of the brain. It has found out why considerable portions of the brain may be diseased without interfering with sanity, and why other slight lesions produce epilepsy. It has succeeded in artificially producing epilepsy in a dog. This is a most wonderful part of the discovery, and proves the truth of the conjecture of Dr. Hewlings Jackson, that epilepsy arises from a lesion between two convolutions of the brain. Dr. Ferrier has also found out the origin of chorea or St. Vitus's dance, and has been able to make his animals show all the symptoms of the diseases artificially.

The Healthfulness of Lemons.—When people feel the need of an acid, if they would let vinegar alone, and use lemons or apples, they would feel as well satisfied and receive no injury. A suggestion may not come amiss as to a good plan, when lemons are cheap in the market. A person should then purchase several dozen at once, and prepare them for use in the warm, weak days of the spring and summer, when acids, especially citric and malic or the acid of lemons, are so grateful and useful. Press your hand on the lemon and roll it back and forth briskly on the table to make it squeeze more easily; then press the juice into a bowl or tumbler—never into a tin; strain out all the seeds, as they give a bad taste. Remove all the pulp from the peels, and boil in water—a pint for a dozen pulps, to extract the acid. A few minutes boiling is enough; then strain the water with the juice of the lemons; put a pound of white sugar to a pint of the juice; boil ten minutes, bottle it, and your lemonade is ready. Put a tablespoonful or two of this lemon syrup in a glass of water and have a cooling healthful drink.—*Farmer's Union.*

To Curl Hair.—Take two ounces borax, one drachm of powdered gum Senegal, one quart of hot water, (not boiling;) mix, and as soon as the ingredients are dissolved, add two ounces of spirits of wine, strongly impregnated with camphor; on retiring to rest, wet the hair with the above mixture and roll it in papers as usual; leave them till morning, then untwist and form into ringlets.

Domestic Economy.

Stewed Beef.

Housewives who are in a habit of using only steaks and roasts make a great mistake. A capacity dish may be made out of the "chuck" as the butchers call it, or the neck, when well prepared. Select a piece of meat as large as the demand of your table may require, wash it well to remove all the blood or soil from the outside, have your dinner pot perfectly clean, salt and pepper the meat well, lay it on the bottom and cover it with water; boil it from two to three hours, or till it is thoroughly tender; add half an onion, a sprinkle of sage, thyme or summer savory.

If the meat is fat, let the water all stew out a half an hour before it is put on the table, and when your meat is browned well on the lower side in the gravy, turn it over and brown the other side. When ready, take it up, add a little flour thickening to the gravy; or, if you have a dredge-box, shake the flour into the hot gravy and brown it, then add boiling water and you will have a dish equal, and to my mind superior, to the common roast beef upon boarding house tables.

Care must be used to turn it; and equally necessary is good judgment in having it thoroughly well cooked.

Honor Pudge.—An exchange prints the following recipe, at the request of some of its readers, and endorses it as making an excellent relish:—

Take of unripe tomatoes three-fourths in bulk; and of cucumbers and onions one-fourth; using less of onions than of cucumbers, if you like. Pare the cucumbers, and if they are quite ripe they are just as good. Chop all up fine, then mix them together. Place them in a dish that will hold them, salt to taste, and let them remain over night. In the morning turn off the pickle and throw it away. Into the mixture stir two spoonfuls of whole cloves. Take the same quantity of whole cloves and of white mustard; tie them in a thin cloth, and put them in vinegar enough to cover the whole mass. Bring the vinegar to a boil, and let the spice remain in it until the hodge podge is all used up. Cook the preparation five minutes in vinegar, and draw off the vinegar in which it has been cooked, and throw it away. Then place the mass in a stone jar, and turn over it the vinegar in which the spice had been boiled. Cover and set away to use as desired. Half-a-pound of sugar to a gallon of hodge podge, if you like.

To Clean Glass Water Bottles.—Take a potato, just as it comes from the market, cut it into small bits, and put them into a bottle. Shake the bottle up and down and around and around for some time, after which add a very little water and shake again. Turn out the potato and rinse the bottle well with clear water, when it will become perfectly bright. If not much furred, another method may be used. Some tea leaves from the tea-pot, with a small quantity of soda, may be allowed to stand for a time in the bottle, and then well shaken about in it; after which it should be rinsed out with cold water, when it will be found to be quite clean.

To Mash Turnips.—Pare, wash clean, if large, split in quarters and put in boiling water, and boil till very tender. Lay them when done between two plates—wooden trenchers if you have them—and press out all the water; if too old to press free from lumps, pass through a coarse hair sieve by rubbing with a wooden spoon. When free from lumps, put them in a clean saucepan, and set over the fire three or four minutes, till quite dry, stirring all the time. Then put in salt and pepper to suit the taste; add a great spoonful of butter and half a cupful of cream; simmer five minutes and serve hot.

Household Education.—Children hunger perpetually for new ideas. They will learn with pleasure from the lips of parents what they deem it drudgery to study in books; and even if they have the misfortune to be deprived of many educational advantages, they will grow up intelligent, if they enjoy in childhood the privilege of listening daily to the conversation of intelligent people. We sometimes see parents who are the life of every company which they enter, dull, silent and uninteresting at home among their children.

If they have not mental activity and mental stores sufficient for both, let them first use what they have for their own households. A silent house is a dull place for young people, a place from which they will escape if they can. How much useful information, on the other hand, is often given in family conversation, and what unconscious but excellent mental training in lively social argument. Cultivate to the utmost all the graces of home conversation.

Punch's notion of nobility is that a man of birth is commonly one whose remote ancestors did something and his immediate predecessors for many centuries, nothing at all.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, Aug. 2, 1873.

Legal Tender Rates.—S. F., Thurs., July 31.—buying 86½; selling 87.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Check; The Eagle Chlorinizing Furnace; Ish's Adjustable Sideboard; Foole Not All Dead Yet, 65. Paul's Automatic Mill; New Mining Districts; Overland Freight, 72. Lake Tahoe; Popular Science; Scheme of Blowpipe Analysis, 73.

ILLUSTRATIONS.—Ish's Adjustable Sideboard; The Eagle Chlorinizing Furnace, 65. American Cowslip or Shooting Star, 70. Lake Tahoe, 73.

CORRESPONDENCE.—Notes of Travel in Eureka County, Nevada—Concluded; Gravel Mines, 66.

SCIENTIFIC PROGRESS.—The Constitution of the Sun, 67.

MECHANICAL PROGRESS.—Origin of Wire Rope; Steel Boilers for Steamboats; Artificial Magnets; Best Preventive for Slipping Belts; Testing Machines; New Method for Boot and Shoe Heels, 67.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 66.

MINING SUMMARY from various counties in California and Nevada, 69-76.

USEFUL INFORMATION.—Style in Chamber Sets; Cheap Vinegar; Wheat Measurement; How Envelopes are Made, 71.

GOOD HEALTH.—Vegetable Food; To Prevent Falling Off of The Hair; Delicate Surgery; The Healthfulness of Lemons; To Curl Hair, 71.

DOMESTIC ECONOMY.—Stewed Beef; Hodge Podge; To Clean Glass Water Bottles; To Mash Turnips, 71.

MISCELLANEOUS.—Iron Ore, 66. Gold in Alaska; Decision of a Mining Suit, 70. Patents and Inventions, 73. Gold Mines of Nova Scotia; Clarence King on Veins, Deposits and Limestone Formation; A New Source of Wealth, 74.

A WONDERFUL GOLD MINE has been found in the Argentine Republic, in the Province of Rioja. A correspondent of the New York *World* sends a most glowing account of the new discoveries, but his statements are so highly colored as to lead one to suspect their truth. The "find" is attracting great attention in Buenos Ayres, and people there, judging from the *World's* letter, are wild on the subject. "The simple fact that a provisional transfer title has been drawn up for the sale of two leagues of this immense auriferous deposit, by which the immense sum of $100,000,000 in currency is to be paid, is the best evidence of the confidence that is placed in the result of the discovery." The mines are said to have been found by a German who went to the country to prospect. He found the "colors" and then bought up all the land very cheap. The terms of the sale mentioned above are, that one-fourth of the purchase money shall be cash and the rest in installments. The owners expect a return of $33,000 per day. A regular "'49 gold fever" is the result of these discoveries. We hope this correspondent of the New York *World* is more to be relied on than the one who wrote them the account of the discovery of the Open Polar sea by the Pavy Expedition, when the Pavy Expedition existed only on paper, and the illustrious leader was still in this city.

CHERRY CREEK MINING District is said to have splendid surface indications in its ledges, but as none of them have been sunk upon to any extent, their permanence is of course yet to be proven. Some of the ore taken out is very rich. We see by the Eureka *Sentinel*, that one of the mines there—the Exchequer—has been bonded to parties in this city for $40,000. The owners intend to erect a mill soon, in case the property is not disposed of under the bond.

A NEW SILVER mine is reported as having been discovered on the head of Drunken Gulch, a tributary of Sherlock's creek, Mariposa County. The mine is on the northwestern slope of Mount Bullion, nearly opposite Bear Valley.

Paul's Automatic Mill.

Recent experiments in Utah, Nevada and California having directed attention to the system of amalgamation known as Paul's Process, we devote considerable space in this issue to the first correct description of the new automatic mill which has yet appeared as the subject is one of great interest to the mining community. The method has been known for several years, but is only now coming into extensive notice, like many other inventions—the Stanford self-feeders for batteries, for instance—which are only now coming into general use on the Comstock and elsewhere, after 14 years from the time they were first patented; in that case but for the renewal of the patent through our Agency, the inventor would have lost all benefit of a valuable patent. The idea of handling ores and mercury, automatically, has been attempted separately, with success; but the effort of making a mill from beginning to end, weighing, registering, cleaning up and all, automatic, has not been before attempted. Why all the work connected with milling ores cannot be done mechanically, we cannot see. At all events Mr. Paul has struck out in a new and very important field, which we think will tend to enhance the value of our quartz mining interests. The system of amalgamation as well as the mill embraces new ideas and will be read with interest.

This mill and process, on which Mr. Almarin B. Paul, of this city, has been so assiduously engaged for the last six years, is at last fully completed, and all who have examined into its merits and details pronounce it not only complete in its operation, but perfectly practical in every respect. Of the last mill erected at Springville, Utah, Mr. Cole Saunders, of Montana, who visited it, thus expresses himself in the Salt Lake *Journal*: "It is the best-constructed automatic mill I ever saw, and does fully all that is claimed for it in the way of crushing ore. The amalgamating barrel and settlers work beautifully, and four men in twenty-four hours can do the work of ten men in an ordinary mill." The owners of this mill, in a card which we published several weeks since, pronounce the mill a splendid success and ordered a duplicate; no higher recommendation could be given.

From the very incipiency of this new plan of "electro-chemical dry amalgamation," and from the fact that Mr. Paul, a man of over 20 years practical experience with quartz machinery and ores, was giving it his attention, the PRESS has had great faith in its resulting in an important advance in modern milling operations. Making machinery perform the labor of men is one of the great features of American inventors, and the skill displayed in this respect, excites the wonder of Europeans as well as ourselves. The machine should be seen at work to be appreciated. Our readers must understand first, that all the ore is crushed, pulverized, and the precious metals amalgamated "electro-chemically" in a perfectly dry state, water being only used for separating.

The operation begins by loading a hopper with quartz for the stamps. This hopper can be made of any size, to hold pounds or tons. The stamps when in motion operate on the automatic feeder connected with the hopper, and the battery is thus fed with more exactitude than by hand. The battery reduces the ore coarsely, say to the fineness of number 30 wire or 900 fine, thus enabling the battery to do double the work ordinarily done in dry crushing. The crushed ore drops on an incline plane and slides down an endless belt, which conveys it to the hopper of the pulverizing barrel. This barrel being self-feeding, the ore is at once delivered inside for further reduction. The reduced quartz from the battery is here triturated by larger pieces of quartz, by the revolution of the barrel. The ore is here chemically treated and warmed by electric heat. The barrel is so arranged as to be self-discharging, and as fast as the ore becomes fine enough it passes out of the way. By a very complete arrangement of sieves the ore finally passes through No. 90 wire mesh or 8,100, at the same time at least half the ore will pass through a 10,000 mesh, making an average fineness of about 9,000, or ten times finer than when it leaves the battery.

It has been acknowledged by all experienced quartz miners that down to a certain fineness, no system of reduction has been found as cheap as stamps, but to reduce ores to a powder, the wear and tear and expense as compared with work done has made them objectionable to many. This one plan of bringing ore to a flour, by a plan which would be sufficiently expeditious, and at the same time simple and cheap, cost Mr. Paul a great deal of labor. The ore, as it passes by its own gravity from the screen, being tightly encased, falls upon the floor and is immediately taken up by the conveyor and delivered to the elevators, such as are usually used in flour mills. These deliver the ore into a hopper, where the ore is weighed and registered automatically, and by the movements of this weighing arrangement, a signal is given, notifying the amalgamator that the charge is ready. The position of the amalgamating barrel is such, that by opening a valve, all the ore in the hopper at once delivers itself into it, and without making any dust. Into this barrel goes the mercury and some more chemicals; it is then closed and set in motion. During these revolutions Mr. Paul claims, "that the metals and mercury are in such electrical condition, that the base ore is in antagonism with the mercury and cannot be amalgamated, while the precious metals are in harmony and become absorbed by it."

Amalgamation completed, which generally requires from 30 to 60 minutes, the ore from the amalgamating barrel is delivered into a main settler, where water for the first time comes in contact with the ore. The settlers differ but little from the ordinary settler, excepting they are more complete in many essential parts. To this settler is attached an apparatus whereby the mercury precipitated and gathered at once leaves the settler, carrying with it its charge of the precious metals in amalgam, either gold or silver. If gold, it is deposited in one receiver; if silver, in another. These receivers are in fact safes, where the treasure can be held under lock and key, if so desired. The surplus mercury after depositing the amalgams, then passes unseen through iron tubes to a point where it is taken up automatically, and the amalgamator finds it when wanted at the barrel, ready for using again.

This "cleaning up," as it were, goes on at every charge delivered into this settler. The operation is performed without a grain of sand or a drop of water being discharged. It is based on the specific gravity of the different metals and ores, regulated by a dial; its work is very perfect. After an hour's operation in this settler from 90 to 95 per cent. of all the mercury is discharged, as also its amalgamated metal. The material in the first settler is delivered into a second where the ore is again treated according to the character of ores being worked. The ore in this settler after treatment is "quicked" as usual in the patio and discharged as in the first settler. A third settler is used when the character of ores requires, the aim being to treat the combination separately, and if desired the base metals, such as lead and copper, can be precipitated and taken up in amalgam by this settler. From the settler the whole material passes over blankets which are washed automatically. The amalgamator it will be seen, is only required to have his attention to the operation at stated periods, to open valves and draw plugs. He has not a pound of anything to lift.

One of the most remarkable features connected with the system, Mr. Paul tells us, is that it applies as well to gold as to silver, and silver as well as gold, and that no base metals, in any form in metalliferous ores, are taken up by the mercury unless so desired, while in all other systems they cause trouble by becoming incorporated into the amalgam, and cause great loss of both mercury and metals. This fact is one which Mr. Paul has found it difficult to get the mining community to accept. But they cannot dispute it in the face of so many practical proofs. The Utah mill produced bullion 995–1000 fine. Mr. Paul thinks he has discovered some new electrical law, as applied to metals, and which we understand he intends applying it in some other direction as soon as he gets this work sufficiently before the public, so that it will require less of his attention. And in this is the secret why the whole science of the system has not been laid more openly before the public. The benefit of a system which produces almost pure gold and silver at so small an expense as from $3 to $5 per ton of ore is beyond calculation. This system Mr. Paul has styled the "American Barrel System" as distinguished from the "Freiburg Barrel System."

Another good feature connected with this mill is that every single portion can be stopped or started without interfering with the working of any other portion. Notwithstanding the mill is so thoroughly automatic and cheap in working it is cheap in construction and operation. It is to be hoped that Mr. Paul's labors will be fully rewarded, as he has consumed much valuable time to say nothing of thousands of dollars, in experiments, during the years he has been engaged on the invention. But few individuals would have prosecuted the work so persistently as he has and been so careful in their experiments.

THE *Silver State* says specimens of native copper were found this week, in a large chamber of silver ore in the Arizona mine. Native silver is also visible in the same pieces of ore which contain the copper.

A WIRE TRAMWAY for conveying ore from the Mendha mine to the mill in Robinson District, Nev., will soon be completed. It is expected to carry 30 tons per day, at a cost of $1.50 per ton.

THE SALT LAKE STOCK AND EXCHANGE BOARD is in full operation and holding daily sessions. An additional excitement for Salt Lake!

RICH COPPER AND SILVER ORES have been found in a spur of the Humboldt Range, about eighteen miles south of Unionville, Nev.

THE SOUTH DAYTON Mining Co., Washoe, have nearly completed the erection of a new and well constructed set of hoisting works.

ONE THOUSAND TONS MORE IRON have been ordered for the Sevier Valley and Pioche Railroad.

New Mining Districts.

In December last R. O. Jacobs in company with W. L. Kennedy and R. P. Stewart discovered a highly argentiferous belt of lodes running through the Panamint mountains, in Inyo county, California. A correspondent of ours writes us that these discoveries are beginning to attract considerable attention, and every indication there adds strength to the opinion, that the new district will ultimately become one of the rich silver producing localities of the Pacific Coast. The ledges thus far discovered and located crop out conspicuously, and show an average amount of metal, most important among them is the lode called the "Wonder of the World," discovered by Jacobs and Stewart. This lead is truly a monster, measuring in some places 30 feet in thickness and will probably average five feet for a distance of 3,000 feet. Many assays have been made from this, and in every instance the result has been of a flattering character, some of them have gone as high as $3,000 per ton.

A town site has been surveyed, a Recorders office established, and about 100 locations have been recorded. Among the principal pioneers and owners are R. C. Jacobs, Dr. A. K. Stearns, R. P. Stewart, A. C. Lawrence, D. G. Tipton, James Scobie, Henry Gibbone, J. Dempsey and Chunn and Copely. The new town site is situated at an elevation of almost 5,000 feet above sea level. The predominating geological feature of the locality is lime formation. We will shortly have a more detailed description of the country and a careful report on developments.

A dispatch from Elko dated the 29th, gives an account of some very rich silver discoveries 65 miles from that place, which are causing great excitement there. Mr. M. P. Freeman with an old prospector by the name of Durfee, has just returned from the location of some extremely rich silver-bearing ledges at a point about sixty-five miles north of Elko, and near Independence Valley, on the head-waters of the Owyhee river. They brought in with them about 100 pounds of ore from the different ledges located by them. An assay made by Conrad Wiegand, at Virginia, of an average piece of rock, from the Chloride ledge, shows about $50 gold and $340 silver. Mr. Freeman represents that here are from 200 to 300 tons of this ore lying on the top of the ground as float. Among the ore brought in is about four pieces of horn-silver and black sulphurets, from the Chloride ledge, an assay of which, made by the same assayer, shows the enormous result of $7,280 silver per ton or nearly 50 per cent. of metal. They also brought in several pieces of gold bearing quartz that are completely specked with free gold. The country in the immediate vicinity is described as being the garden spot of Nevada, the hills being covered with bunch grass and the valleys with clover knee high, and the entire country being alive with prairie chickens and sage hens. The Owyhee River affords magnificent water power, and the only thing that is lacking is a sufficient quantity of timber, the country being almost destitute of wood of any kind. The different classes of ore have been on exhibition, and crowds have been flocking to get a sight at it. The dispatch says that every spare man in Elko will be off to the new camp within the next few days. Work will be begun at once on the ledges located, and if the result verifies the anticipations of all those who have seen the ore and heard the locations described, this district will be the next objective point of a tremendous stampede.

OVERLAND FREIGHT.—The shipments of through freight from this city to New York, Boston, St. Louis, Chicago and other eastern cities, for the six months ending June 30th, aggregated nearly 12,000 tons, valued at over $5,000,000. Most of the articles were of California production. The *Bulletin* has compiled a table showing the monthly shipments for six months, from which we condense the following: For six months the borax shipped was 141,900 pounds; butter, 102,634; coffee, 1,835,588; cotton, Taheiti, 123,616; fish, salmon, 1,113,958; flour, 162,350; glue, 166,652; hides, 264,915; hops, 74,951; leather, 737,492; nuts, 149,080; quicksilver, 230,040; silk, foreign, 309,724; sugar and syrup, 78,876; tea, 2,926,273; wine, 1,379,110; wool, domestic, 12,337,263; wool, foreign, 874,199; merchandise, 890,709; total, 23,899,355 pounds. In addition to this, through

shipments have been made to the east from San José, Stockton, Sacramento and Marysville, equalling 2,655,032 pounds, which added to the San Francisco shipments makes a total of 23,554,367 pounds. Of that shipped from the latter cities mentioned, were 20,090 pounds of borax, 176,400 pounds of fish, 340,000 pounds of flour, 266,026 of wine, 488,595 pounds of wool from Sacramento; Marysville sent 1,040,000 pounds of flour. The principal articles forwarded, were wool, 13,700,057 pounds; leather, 776,321; wine, 1,682,620; flour, 1,542,250, tea, 2,926,434; and coffee 1,835,588 pounds. Of course these are only railroad shipments *through*, neither way freight nor that shipped by vessels being considered.

Lake Tahoe.

This charming lake, so well known to tourists as one of the beauties of California, is the subject of our engraving this week. Paintings and word descriptions, fail to convey a full idea of the true loveliness of the lake and its surroundings, and an engraving can only give the outlines of a scene which must be visited to be fully appreciated.

The lake is situated at an altitude of 6,218 feet above the level of the sea, in the midst of the Sierras, and is 35 miles long and 15 miles broad. In some places it is more than 1,500 feet deep, and the idea once prevailed that it was bottomless, with reference to all ordinary means of taking its soundings. The water is peculiarly clear, cold and transparent, and for half a mile from shore, objects at the bottom are seen as distinctly as if only a few feet away.

The scenery around the lake, like most of it in the Sierras, is magnificent and grand. The higher mountains in the vicinity are covered with eternal snows, and the hills near by, to the north and east, are densely thicketed with forests of fir, balsams, pines and oaks; while along the southern shore are beautiful meadows of grasses and clovers, furnishing ample forage for extensive dairies of cows during the summer season.

A steamer and several boats have been placed on the lake, but the sudden gusts of wind which sweep down the gorges from the hills, are dangerous for nautical recreation. The waters abound with trout of several varieties, and many of them of large size, which not not unfrequently find their way to the San Francisco markets in their season. We would advise all our readers who have the time and means, to make a visit to this enchanting locality, and see the beauties of the scenery. Facilities for camping out, as well as good hotels, abound along its shores.

LAKE TAHOE.

The Stetefeldt Furnace.—In speaking of the proposed sale of the Taylor mill, at Mineral Hill, last week, we mentioned that the Stetefeldt furnace there was of no value. Of course the idea we intended to convey was that the furnace was of no value in that particular case, as the class of ores there can be worked by pan process, without the need of a chlorinizing furnace. As this fact was not known at first, the furnace was erected. We make this explanation as several persons misunderstood the paragraph in last week's issue.

A Tunnel through the ridge between Beer River and the north Fork of the American River near Cape Horn, Placer County, is again talked of, and the *Alta* thinks the project has this time assumed a practical shape. The proposed tunnel will be over two miles long, and will cost half a million dollars. This is another step in the right direction, designed to utilize rich tailings and work hydraulic ground.

The Pacific Glass Works, located on the Potrero, suspended operations last week. We regret to see any of our manufactures compelled to suspend, as in them we look for the permanent prosperity of the country. This leaves us but one glass factory—the San Francisco, at the foot of Fourth street,—to supply the demands of the coast.

The Popular Science Monthly.

This valuable publication is now well advanced on its second volume, and has constantly increased in interest and importance, from the start. It seems to be just the publication that is needed to enable the popular mind to keep up with the progress of science. It was started to help on the work of popular science, by supplying instructive articles on leading subjects of scientific enquiry, and well has it thus far accomplished its mission. Its articles have been well and carefully written, and in a clear and comprehensive style; while the subjects have been most judiciously chosen. Each number comprises about 140 pages, has some ten or twelve leading papers extending over a wide range of knowledge, and furnishes such a variety as to well adapt it to every taste and condition of life.

The magazine is one which is really much needed, and it cannot fail to do a most effective work in fostering and increasing the growing taste for popular, scientific education. It gives us just what the popular mind needs in science-teaching—a clear account of what is known; accurate reasoning as to what may be inferred, and a careful record of the passing history of research and investigation.

No man in the country has labored, for years past, more zealously or more successfully in disseminating among the people popular scientific information, than has Prof. E. L. Youmans, the accomplished editor of this magazine; and much credit is due to the publishers, D. Appleton & Co., of New York, for the excellent judgment they have displayed in so successfully putting the right man in the right place. Prof. Youmans has been very properly termed a missionary of science, sent to convert the people to a proper appreciation and understanding of the great truths which are being so rapidly opened up to the world by the scientists of the present day; for it is largely through his efforts that the people of this country have been so generally led to read and become acquainted with such authors as Farraday, Tyndall, Herbert Spencer, Secchi, Huxley, Lubbock, Darwin and others, whose original investigations and vigorous writings have of late so interested and set the whole world to thinking and study.

No man who makes any pretensions to a love for philosophical research in any department of such inquiry, should be without this magazine. No graduate, especially, of any college, academy or high school, can keep up with the progress of science and thereby secure the fullest continual benefit of their education without the help of such a publication. By the constant perusal of the successive issues of such a work, the mind will be kept ever active and interested in the progress of science, without which an education soon becomes comparatively worthless, but with which the educated man will be able to so carry on the work of self-instruction as to keep pace with even the wonderful studies of modern research and discovery. The magazine is published for $5 per year, and may be had off the publisher direct, or of A. Roman & Co., of this city.

Scheme of Blowpipe Analysis.

* In our last issue we made some remarks on the "Blowpipe and its use," and in continuation give the "scheme" referred to at the end of the article:

The substance may contain *antimony, arsenic, bismuth, cobalt, copper, gold, iron, lead, manganese, nickel, quicksilver, selenium, sulphur, silver, tin, zinc; chlorine, bromine, iodine.*

Abbreviations: Ch., charcoal; O. F., oxidizing flame; R. F. reducing flame; S. Ph., salts of phosphorus.

I. Treat on Ch. with the O. F.

An *odor* as of horse-radish denotes *selenium.*

A *white* coating easily driven off by merely warming with the flame and giving a *garlic odor* *arsenic.*

A *white* coating, melted with S. Ph., and reduced on Ch. with tin, giving a black bead *antimony.*

A *yellow* coating, giving with S. Pb. and tin, a black bead, disappearing with blue flame (*lead*), yielding no greenish flame (of *antimony*) *bismuth and lead.*

The same, without the flame (of *lead*), but with generally a white border and greenish flame *bismuth and antimony.*

II. Melt with soda on Ch.; moisten and lay on bright silver. A stain on the silver denotes *selenium or sulphur.*

If selenium was present (horse-radish odor), roast in open tube. The fumes turning blue litmus paper red, denote *sulphur.*

III. Heat in a closed tube with dry soda. If present, you get *quicksilver.*

IV. Drive off the volatile substances on Ch. with O. F. Treat with R. F., with or without soda. A white coating giving, with cobalt solution, a grass-green color, denotes *zinc;* a blue-green color denotes *tin.*

V. Mix some of the substance with assay lead and borax glass, and fuse on Ch. with the R. F. Cupel the lead button for *silver.*

Treat the silver bead with nitric acid for *gold.*

VI. Roast the substance well on Ch. and dissolve in borax. Treat the borax bead on Ch. with a small piece of lead (or gold or silver) in a strong R. F. One gets a slag which may contain *iron, manganese and cobalt,* and a button which may contain *nickel, copper, silver, gold, tin, lead and bismuth.* Separate the button from the slag.

A. Add to the slag more borax, and melt on platinum wire. *a.* A blue color denotes *cobalt.*

b. A bead green while hot, and blue when cold *iron and cobalt.*

c. The same bead oxidized and becoming violet or nearly black *manganese.*

(Test especially for *manganese* with S. Ph. bead and nitre.)

B. Oxidize the metallic button (VI) on Ch. to drive off all the lead. Melt the residue on Ch. in the O. F. with S. Ph.

a. A bead, green while hot, and blue when cold *copper.*

b. A bead, green hot and cold, *nickel and copper.*

c. A bead, brownish-red while hot, and yellow when cold *nickel.*

(Test especially for *copper* with tin on Ch. in R. F. Copper, if present, will show red.)

VII. Dissolve oxide of copper in S. Ph. on platinum wire with the O. F. to an opaque glass. Add a little of the substance and treat with the tip of the blue flame. An intense azure-blue flame denotes *chlorine or bromine.* An intense green flame denotes *iodine.*

Fuse in a matrass with bisulphate of potassa. Reddish-yellow vapors denote *bromine;* violet vapors, *iodine.*

*Plattner's Manual of Qualitative and Quantitative Analysis with the Blowpipe from the last German edition revised and enlarged by Prof. Th. Richter. Translated by H. B. Cornwall, A. M., F. M., assisted by John H. Caswell, A.M., N. Y.; D. Van Nostrand.

The Hoisting Works in the Auburn mine were totally destroyed by fire on the 30th ult. Two men were in the mine at the time, but were rescued after the fire, having received no serious injury.

The Santa Rosa Coal Mine shows good indications of permanency.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents]

By Special Dispatch, Dated Washington, D. C., July 29th, 1873.

For Week Ending July 15th, 1873.

Pump and Pump Plunger.—Nathaniel P. Sheldon, assignor to Henry H. Welch, S. F., Cal.

Windmill.—John F. Stewart, Modesto, Cal.

Pavement.—Wells Kilburn, Napa, Cal.

Coupling for Gas and Water Mains.—Welle Kilburn, Napa, Cal.

Shaft Furnace for Roasting Ores.—Thomas McGlew, Austin, Nev.

Process of Making Coke from Lignites.—Henry Englemann, Salt Lake City, Utah.

British Patents for Pacific Coast Inventors.

Following is a list of inventions patented or protected by Provisional Specification in England, by inventors in the Pacific States and Territories, from January 1st to June 30th, 1873:

Motive Power to Sewing Machines.—O. J. Backue, A. F. Sawyer, of S. F., Cal., and A. M. Loryea, of Portland, Oregon.

Rotary Pump.—S. A. West, S. F., Cal., and L. Goodwin, Virginia, Nev.

Bung and Bung Inserter.—Van Laak & Gillespie, S. F., Cal.

Printing Type.—William Shaw, Hollister, Cal.

Boiler and Furnace.—F. A. Huntington, S. F., Cal.

Lubricator.—W. Burnett, S. F., Cal. (London, England.)

Water Power.—W. Burnett, S. F., Cal. (London, England.)

Boots.—T. Tucker, Oakland, Cal.

Sheep Shears.—A. S. McWilliams, Colusa, Cal.

Hydraulic Hoist.—T. Stebine, *et. al.*, S. F., Cal.

Preserving Iron.—W. H. Sterling, S. F., Cal.

Refiner for Distilling Apparatus.—W. Neil, S. F., Cal.

Tunnelling.—D. C. Haskins, Vallejo, Cal.

Ely District is again "picking up," judging from reports in the Pioche *Record*, as work has been resumed on many mines which have laid idle for months. The new and magnificent hoisting works of the Raymond & Ely mine are fast approaching completion. Plenty of men are starting in sinking shafts in solid rock, where they have no hope of return, until a depth of two or three hundred feet is reached. Few of these men have any money and they form small companies of six or eight, half of them working for wages to keep the others going. The strike in the Havana mine, mentioned in our "Mining Summary" will most probably give this class of men additional encouragement and affords a practical proof of the soundness of the reasoning which induces them to work as they do. We sincerely hope, that all the *Record* wishes for will be attained and the camp will keep up its representation as a bullion producer, which it earned by hard work and partially lost by litigation. If all the miners work as hard and as faithful to make the camp a permanent bullion producer as the *Record* has to keep the news of its locality before the public, the ends desired will surely be attained.

Gold on the Yellowstone.—One of the Montana papers states that the Yellowstone country contains gold in fabulous quantities, and an expedition has been organized in Bozeman to explore the country and demonstrate the truth or fallacy of its richness. We thought it would'nt be long before some enterprising prospectors entered the Yellowstone country on a mining expedition, and if it proves as rich in minerals as it has in natural curiosities, it will be a second El Dorado. The expedition will probably number one hundred men and will proceed to Little Wolf mountain, 200 miles from the Crow Agency. They will also prospect Porcupine Creek between Big Horn and Tongue river, where gold is known to exist. Rich placer mines are what the expedition is going to look for.

Rich gold discoveries have recently been made on Queen Charlotte's Island.

Gold Mines of Nova Scotia.

Amidst the many recent discoveries of nsw gold fiolds, there are, perhaps, none more worthy of attention than those of Nova Scotia. Within an easy distance from Europe, situated in a British possession, they offer peculiar advantagcs to British capitalists. No country in the world possesses finer harbors or is more accessible from all points. It is intersected in every quarter hy fine rivers, possesses immenss forests, and has unlimited deposits of coal and iron in addition to its gold. The climate is healthy, the population industrious and well conducted. A constant and easy supervision can always be exercised hy those intersated in gold mining there. This industry bas not, however, heen carried on as yet with the vigor it deserves, or with the energy which bas heeu displayed in more distant regions to which Britisb capitalists have not feared to trust their wealth. For this reason these valuabls fields are as yet hut imperfectly developed, and offer peculiar consequent advantages to the investor. Many causes have led to this resnlt—ths chief being the fact that the American companies, which hitherto chiefly worked the mines in Nova Scotia, did so merely with the view of immediate profits, and made no reserve for future outlays—so that when they had gone as far as their original capital allowed them, paying in the meantime large dividends, they were compelled to cease operations when greatsr depths were required to be reached and expensive machinery purchased; and the witbdrawal of labor for ths construction of the International Railway, and the opening of the coal mines. To these causes the decrease of the yisld in 1872, as compared with ths previous ysar, is alone attrihutahle. There is, consequently, nothing discouraging iu the fact. The truth is, that the gold raised up to the present time bas heen done so chiefly by what might more properly be termed exploratory works, and thongh thess have proved highly satisfactory, it is to mors extended operations that ws must look for the production which, according to all reports, may safely be expected. It is with tbe greatest satisfaction, then, that we havs learned the formation of a company to work the Pactolus mines, feeling assured that not only will they prove an excellent investment, but also an immenss advantage to the colony. It is a saying oftsn quoted, that "Distance lends encbantment to tbe view," and it is only on this supposition that the indifferencs of tbe British puhlic to such valuahle property so uear, and tbe eagerness wbich has heen displayed for sending out immense sums to far distant countries can be explained. It is to be hoped that witb the severe lessons which havs heen lately given to us, anotber spirit will he generated, and that we shall try in future to use our capital in developing tbe wealth at our doors instead of sending to points beyond our control.

In ths account of the Gold Fields of Nova Scotia, publisbed hy Mr. Hsatherington, we have, in a succinct and tahular form, the results of the statements collected in the official reports. From these the richnsss of the deposits appears in a statistical shape, which admits of no cavil; and wben compared with those of other gold-hearing regions, it is clear that the auriferous deposits of Nova Scotia equal in richness those of the districts which havs acquired fame all over the world. This is the more apparent when it is remembered that the work done bas not as yet heen of such a nature as to be ahle to reach the richer portion of the vsins, and that they have only been superficially opened up. Mr. Alfred R. C. Selwyn, F.G.S., Director of the Geological Survey of Canada, and who, dnring many years, held the sams post in Victoria, Australia, describes them in his "Notes and Observatious on ths Gold Fields of Quebec and Nova Scotia." All remarks from bim possess a peculiar value, from the author's previous experience and intimate acquaintance with the subject. They may, indeed, he looked upon as authoritative. He says that, from all he saw of tbe gold districts of Canada, he entertains the highest opinion of their importance and natural capabilities, hut he at the same time expresses a most unfavorable opinion of the manner in which they have beeu hitherto developed. Without entering into the descriptions of what has been doue, and his reason for saying tbat an entirely erroneous method has heen pursued, it will he sufficient to etate that, judging from analogy, and the close resemhlance of the formations of Nova Scotia and Australia, he considers that, in following the veins downwards, even should they appear to fall off for a time, great richness will be later attained. He, in fact, holds out grounds for expecting that theso gold mines will, with proper appliances, and a sufficient outlay, prove very remunerative, and censures the niggardly spirit in which they have, until now, been carried out. Another mistake is, that attention has been too mucb confined to narrow lodes; but when it comes to be understood that it is relatively cheaper to operate on large quantities of low grade ore than on picked lots of rich ore, wide veins yielding five to ten pennyweights, which might be profitahly worked on an extensive scale at a cost of only two or three peunyweights, will cease to he disregarded. The great succcss which attended mining in narrow veins in Grass Valley, California, is the chief cause which tends to perpetuate this capital error.

The average returns for Wine Harbor district for 1872 are worthy of notico, and, though exceptional, prove that with judicious management immense profits may be made. The yearly earnings per man there were £363 3s. 8d., an excess of £285 on the actual wages. Ore which cost about 16s. to raise and crush, yielded an average of £5. Results such as these, obtainahle throughout an entire year, show the value of the property, and ought to be sufficient to attract British capital to the field where they havs been ohtained. What has been done in one instance may be equally so in another; and tbough the same profits are not to he looked for in every case, there can be little doubt that with time Nova Scotia will rank as one of the great gold-producing regions. Already the yield of last year reached, for the province, £948,000, thougb, as stated, gold mining is only in its infancy.—*Mining World.*

Clarence King on Veins, Deposits and Limestone Formation.

[Continued.]

In our issue of July 12th we gave a portion of ths evidence of Mr. Clarencs King, in the cass of the Eurska Consolidated Miniug Co. against the Richmond Mining Co., of Eurska, Nevada. We now condenss from the continuation of the evidence, as published in ths Whits Pine *News*, such facts as ars likely to prove of interest to the gsneral reader, without special reference to their bearing upon ths merits of the case.

It will he remembsrsd that it was one of the principal points in the case of the Richmond Co., to prove that their ore body was a vein and not a deposit. To this end they exposed a great length of ore, which Mr. King pronounced a true vsin.

In the cross-exsmination, Mr. King said:

The rock, along Ruby Hill as far as the Champion workings, appears to bs a mass of cropping limestone and limestone dshris; the ground is so covered that it is impossihle to trace the presencs of the fissure, which runs through the middle (as to the dip) of ths body of the Richmond works. But the indications of that fissurs are the foot-wall previously msntioned, the plane of the original fissure, and that where the plane rises into ore the deflections underneath from that, are the resnlt of horse faultings and of solution.

If this ore should come up throngh a fissure at any part of the hill, the unimportant and lateral fissurss, as in all fissure veins, would be more or less impregnated with ore. If the lime rock wsre filled with caves all through and these wsre more or less connscted with small fissures or craoks, the ore when it came np in a molten state would be disseminated through them, so that it would be found in a variety of shapss; but the main caves and the chain of caves, would be gsnerally situated on the fissurs which gave vsnt to ths current of water to make these caves. Thers is bound to bs a central main line of fissure and this is developed, in the Richmond, to the extsnt, in all ths lsvels, of 240 or 280 feet. Its greatest development at right angles to the conrse is about 200 feet.

The shape of the ore body does not govern, in ths lsast, in deciding wbsther it is a

Vein or Deposit,

No matter how irrsgular the shaps of the pitch or course may be. There is, of courss, the precsdent of acknowlsdged fissurs veins; as, for instance, tbe Comstock, in which ths amplitude of one of the chambers is 800 fsst, and in whicb it runs down to a thickness where you cannot put a knife.

In tbis case, tbs developments have not gone far enough to maks a certain thing; but, gsnerically, it would bs termsd.

A Bed Vein, and a Pipe Vein,

Specifically. As a striking instancs of what are termsd pipe vsins, the Emma, in Utah, which has bssn classed as such hy a number of expsrts, starts from the surface in a rathsr small, insignicant fissure, followed by ore opening in a chambsr, out of which they havs taken a profit of nearly a million of dollars—a small chamber, and then goes into another chamber, in wbich they hope to find another body of ore.

Silver not Always in Veins.

Silver exists in other conditione than in veins in various parts of the world, as, for iustance, the mines of Kongsberg, in Sweden, occur in what is known ae a stockwork, and there are other places where they occur in what are known as "seggregations." These frequently occur in a large channel of ore, apparently extending to some considerable depth; but when you narrow down the formation of a stockwork, it ie nothing but an infinite number of small fissures which are filled. These are not, properly speaking, veins, auy more than a creek is a river. Between them and true veins there is one very grave distinction, and that ie, that in a stockwork ten thousand of these little fiseuree may have received their direct mineral from ten thousand other fissures which received them from ten thousaud other fissuree, and so on; whereas the true fissure vein is supposed to penetrate hy oue cleft to the deap-seated laboratory. There must bave been some large fissure from which theee ores came and then were disseminated through the smaller ones. These were the result of the main fissure, hut not the main vein any more than I should call the little stringere that go from an ordinary fissure vein the main vein.

There may not have been auy main fissure. There may have been eimply an iufinite number of small connecting fissures, altogether depending on the oountry rock which has beeu shattered from this force, which the geological authore term the dynamio push. This, instead of fracturing one regular fissure, in the case of the stockwork deposit shattered the whole rock into innumerable fissurss. Thess stockworks are practically unknown iu limestone. If, throughout the works, large bodies of ore were taken out surrounded by limestons, they would still be called veins.

Ths right hand side of this vein started in limestone, and a mass of ore cams in over the top. So that now, at the end of the drift, the upper half, or upper third, perhaps, is ore, of white carbouatee; and the limestous appears to hs rolliug ovsr towards the Lizette tunnel, a little west of north.

Irregularities of Vein Walls.

Walls are very liable to be irregular in shaps dip, course and everytbiug; and it is very little svidence that one is smooth for a short distance, but whsn there are two to compsre, it is easy to decids which is the truo wall. This has not a smooth surface even, but the dip and strike are with it.

In the Comstock, the wall turns at right angles just within the Gould & Curry liuss. I first examined tbs Comstock in 1862, and reported on it for the governmsnt in 1869. Of this report, not a particle was changed, and several prophecies in regard to the future of ths lode have proved correct.

In the rs-direct examination, Mr. King said: I gave

The Comstock Lode

As an instance of great irregularity. On the section station of the Savage, ths vein in the Gould & Curry was about 150 fset thick. The east wall turned a right angle, as I have said, and from 160 fest the vein widsns to 830 fsst, and closes again in the Chollar to nothiug; the ore body followiug from the Chollar into ths Hale & Norcross in a shsst of quartz, then running to almost nothing, then again reappearing in the Savage, turning a right augle. There is a change in about 3,500 feet of from 150 to 850 feet, and a closing together to nothing. To give an idea of ths irregularities of walls in dip, I will mention the case of the Chollar-Potosi, that being ths west wall of the Comstock, dipping at, approximately, 45° in a section of something like 350 fest. This is near the Norcross line. The thickness of the vein in that plaos, from about 400 fest on the croppings, shuts down to ths thickness of a knifs-blade, and, having hsen searohed hers for 400 feet, continues to bs a knife-blade. Abont a thousand feet of tbat liue continue to be a knife-blade and not an ounce of quartz nor a particle of anything but two walls shut together can be found. And yet no one would deny the Comstock's being a true vein. As

Another Illustration

Of great irregularity, the Acton mine in Dsrbyshirs, England, might be instanced. It is in ths carboniferous limestone, which is separated into beds and by sn argillacsous rock. The Acton, which has besn worked in what is technically known there as a pipe vein, for a little over 200 years, and is uow down 2,300 feet, opsned from a small fissure into a very large body, in limsstone.

In dsscribing the minsral deposits of the world, scientific msn have used quite a number of different tsrms to describe different kinds of vsins. These vsins we have mentioned, have been described as vsins of segregatiou by some anthorities, as Delles, the greatest French authority on the chemistry of vsins, and our own Whitney.

The Richmond Vein

Could not possibly be one of impregnatiou, because vsins of imprsguation ars in ths rock itsslf, not in chambers, openings, fissnres or holes in rocks, but permsated through the rock itself. Nothing is more commou in veius of true fissure, that are acknowledged to be such, than to find absolutsly harren zones where the country rock comes together. Ths fact, that upon the lins of fissuro ths ors bodies are not found connected, is not opposed in the least, to the tbeory given. The limestone on the boundaries of tbe more valuable ore deposite, is not itself impregnated with ore.

There are ample geologicsl proofs that this hill wae lifted up about the time of, or eoon after the triassic period. Not to go to far in the theory of the thing, we have by our enrvey of the 40th parallel very clearly proven the continuity of strata from the Mississippi to where they sink into the Pacific Ocean.

A New Source of Wealth.—Ou a small street in the rear of Meadow Valley, nearly opposite Cedar street, has been struck a mine of umber, which is of immeuse extent. That the reader may comprehend what "umher" is, we append Wehster's definition: "An ocbreous ore of iron, of a hrown or hlackish hrown color, consistiug of oxide of iron, oxide of manganese, silica, alumina and water. It is often used ae a pigment, and sometimes in coloring porcelain." Immense quantities of this ore are beiug extracted, and that, too, without a great outlay of labor. We saw yesterday a great amount, which had been drawn up with a commou windlass and placed in hags for future use. The mine is owned by Frank Nolan and others. The ore ie to be pulverized, mixed with oil and used as paint. The paint of this manufacture is to be used in paiuting the Raymoud & Ely hoisting works. A friend who is a practical painter, is satisfied that this discovery of umher will prove a eource of great wealth. By mixiug white lead with it, bigbter colors may be obtaiued. At present, all the paint needed for home use can he procured from this mine, and with railroad communication, by which it may he traneported cheaply, it oan he shipped to other points with profit. The eupply ie apparently inexhaustible.—*Pioche Record.*

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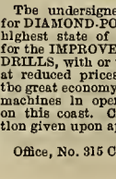

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Having just completed a good road to these quarries, we are prepared to furnish large or small orders for either dimension stone, or roble stone, in San Francisco, Oakland, or Brooklyn, at such prices as cannot be competed with, for equal quality of stone; for base and elevation walls, for public and private buildings, monuments, fence walls, coping, window caps and sills, doorway trimmings and steps, stopping stones, curbing for streets and sidewalks, pavements for streets and street-crossings, bases for gravestones and plain and ornamental work for cemeteries, etc.

We can furnish cellar and basement walls of roble stone of superior quality in San Francisco at about the cost of brick work for the same.

The gray freestone from these quarries is considered far superior to that of any other within practical distance of San Francisco. It is readily worked and imperishable.

For samples we refer to the first story of the City Hall, Oakland, erected four years since, and the window caps and sills, and other finished work in the Deaf and Dumb Asylum, Oakland; in the Oakland Cemetery around the lot of J. S. Emory. Also small specimens in the offices of Augustus Laver, (Architect of the S. F. City Hall) Kearny St.; David Farquharson, Architect, Cor. Kearney and California St., S. F.

Orders may be left with George W. Thompson, on the premises, or A. T. DEWEY, SCIENTIFIC PRESS office, No. 338 Montgomery St. S. F., where samples of the stone may be seen.

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227 and 229 Second street,.....SAN FRANCISCO.

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25v20-qy

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532 California street, corner of Webb.

For the half year ending with the 30th of June, 1873, a dividend has been declared at the rate of nine and six-tenths (9 6-10) per cent. per annum on Term deposits, and eight (8) per cent. per annum on Ordinary deposits, free of Federal tax, payable on and after July 14th, 1873. By order.

LOVELL WHITE Cashier.

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The Farmers and Mechanics Bank of Savings has declared a dividend for the half year ending June 30th, 1873, at the rate of ten per cent. per annum on term deposits, eight per cent. per annum on class one, ordinary deposits, and six per cent. on class two, ordinary deposits, free of Federal Tax. Payable on and after July 14th, 1873. By order.

jy19-1m G. M. CONDEE, Cashier.

French Savings and Loan Society,

411 Bush street, above Kearny..... SAN FRANCISCO.

4v27tf G. MAHE, Director.

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PATENT SELF-CLEANING SLUICE.

This new and useful invention is designed to collect all the gold as fast as it is set free from the dissolving earth, and conduct it into a receptacle of mercury or safety pocket, under lock and key, from whence it may be removed in a few moments, without either checking the flow of water or interfering in the least with the washing.

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H. C. BENNETT,

STATISTICIAN.

Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

RICHARD H. STRETCH, Civil Engineer,

City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

GILES S. GRAY. JAMES M. HAVEN.

GRAY & HAVEN,

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Diseases of a chronic and obstinate character, especially such cases as have for years, or a lifetime, resisted the ordinary modes of treatment, are the class of maladies in the treatment of which Dr. Aborn has become pre-eminent on the Pacific Coast, as well as throughout the Union, and by his success has acchieved for himself an enviable reputation. 23v25-1y

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ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment ie delinquent thirty days from the date of levy, exclusive of that date. The delinquent datee given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary. Place of Business
American Flat M. Co.	Washoe	50	July 22	Aug 26	Sept 16	G. W. R. King, 411 California ts
AmericanFlagM.&M.Co.,	ElyDist.	2 1 50	June 3	July 9	Aug. 4	Geo. R. Spinney, 320 California st
Arizona & Utah		1 1 00	June 18	July 21	Aug 12	Joseph Maguire, 419 California st
Baltimore Cons. M. Co.	Washoe.	3 75	June 3	July 8	July 31	D. F. Bagley, 401 California st
Buckeye G. & S. M. Co.	Washoe.	8 1 00	July 14	Aug 19	Sept 8	J. Maguire, 419 California st
Charter Oak S. M. Co.	Ely District.	25	July 16	Aug 25	Sept 15	G. W. R. King, 411 California st
Caledonia S. M. Co	Nevada.	5 2 00	July 11	Aug 21	Sept 11	R. Wegener, 414 California st
Consolidated Virginia M. Co.	Washoe.	15 3 00	June 11	July 16	Aug. 7	D. T. Bagley, 401 California st
El Dorado Quartz M. Co.	Cal.	10	July 3	Aug 11	Aug 29	G. W. R. King, 411 California et
Emmire M. & M. Co.	Washoe.	13 1 00	Jun s 10	Jnly 14	Aug. 6	Geo. R. Spinney, 320 California st
" 420 " M. Co.	Nevada.	8 12½	July 25	Aug 28	Sept 16	H. O. Howard, 523 Montgomery st
Globe M. Co.	Nevada.	3 25	July 2	Aug. 6	Aug. 25	Joseph Maguire. 419 California st
Gould & Curry S. M. Co.	Nevada.	18 1 00	June 9	July 14	Aug. 4	A. K Durbrow, room 22, Merch's'.Ex
Hale & Norcross S. M. Co.	Washoe.	5 00	Jnly 1	Aug 2	Aug 22	J. F. Lightner, 438 California st
Ida Ellmore M. C.	Idaho.	10 1 50	July 25	Aug. 29.	Sept. 20	Wm. Willis. 419 California et.
Julia G. & S.M. Co.	Nevada.	14 50	June 9	July 12	July 31	A. Noel, Room 20, 419 California st
Justice M. Co.	Nevada.	5 1 00	June 24	July 29	Aug 19	R. Wegener, 414 California st
Jackson M. Co.	Nevada.	6 10	June 25	July 29	Aug 18	H. C. Kibbe, 419 California st
Kentncky G. & S. M. Co.	Ely Dist.	6 1 50	June 2	Aug 5	Aug 26	J. P. Cavallier. 509 Montgomrysr
Kentucky G. M. Co.	Cal.	4 20	June 23	July 24	Aug 8	Geo. Fletcher, Grass Valley
Knickerbocker M. Co.	Am. Flat.	5 10	July 24	Aug. 26.	Sept. 16	Henry Boyle. Stevenson's Bld'g
Lady Franklin G. & S. M. Co	Cal.	50	July 1	Aug 15	Sept 15	J. S. Lnty, 507 Montgomery st
Mahogany G & S. M. Co.	Idaho.	9 2 00	Juns 11	Jnly 19	Aug 4	E. McFaddin, Express Bld'g
Mammoth S. M. Co.	White Pine.	10	July 2s	Sept. 1	Sept. 22	J. L. King. 411 California st
McMahon S. M. Co.	Nevada.	4 25	June 19	July 23	Aug. 19	Geo. Spinney. 320 California st
New York Cons. M. Co.	Washoe.	4 50	May 31	July 2	Jnly 31	H. C. Kibbe 419 California st
Ophir M. Co.	Washoe.	26 5 00	June 24	July 29	Aug 18	J. Marks, Merchant's Ex
Pictou M. Co.	Nevada.	3 20	June 19	July 21	Aug. 8	S. Phillips. 408 California st
Pioche Phenix M. Co.	Ely District.	3 1 00	May 6	June 19	July 31	C. E. Elliott 419 California st
Rock Island G. M. Co.	Washoe.	1 50	June 20	July 20	Aug. 12	W. F. Dean. 419 California st
Savage M. Co.	Washoe.	5 00	July 24	Aug. 27	Sept. 15	E. B. Bolmes. Gr. Cal.& Sansome et
South Chariot M. Co.	Idaho.	50	July 23	Sept 8	Sept 29	J. L. King, 411 California st
St. Lswrence M. Co.	Cal.	2 1 00	July 25	Aug. 28.	Sept. 16	R. B. Noyes. 41½ California st
Senator S. M. Co.	Amsrican Flat.	8 50	June 24	Aug. 26	Sept. 15	Henry Boyle, Stevenson's Bld'g
Silver West Cons. M. Co.	Nevada.	4 25	Juns 10	July 17	Aug.12	F. R. Bunker, 36 Montgomery st.
Spring Mountain Tunnel Co.	Nev.	5 20	Jnne 20	July 29	Aug 18	J. M. Butlington, 37 N. M. Exchange
Star Con. M. Co.	Nevada.	3 10	June 19	July 24	Aug. 18	Geo. R. Spinney. 320 California st
Tyler M. Co.	Washoe.	2 25	July 25	Aug 28	Sept 13	A. K. Durbrow, Merchants' Ex
Yellow Jacket M. Co.	Washoe.	16 5 00	July 10	Aug 15	Sept 15	G. W. Hopkins, Gold Hill
Woodville G. & S. M. Co.	Washoe.	2 75	July 16	Aug 19	Sept 6	A Noel, 419 California et

Other Companies (not on the Lists of the Boards.)

Alpine G. M. & M. Co.	Cal.	50	July 21	Aug 25	Sept 17	J. F. Lightner,	438 California st
Atlantic & Pacific Con. M. Co.		6	June 20	July 24	Aug. 12	A. Noel.	419 California st
Beckwith M. Co.	Ely District.	15	July 7	Aug 11	‡ Sept 2	W. H. Watson,	302 Montgomery st
Brown's Valley Cons. M. Co.		1 50	June 27	Aug 2	Aug 25	R. B. Noyes.	411½ California st
Buena Vista Vinicultnral Society,	Cal.	5 00	June 12	July 15	Aug. 4	H. Selmer,	401 Bush st
Caselle M. Co.	Ely District.	1 20	June 20	Aug 8	Sept 4	C. E. Elliot,	419 California st
California Beet Sugar Co.	Cal.	10 00	May 26	June 30	Aug 12	Louis Franconi,	314 California st
Central Coal M. Co.	Cal.	20 20 00	Juns 10	July 15	Aug. 5	W. Hillegiass,	457 8th st. Oakland.
Clear Lake Water Co.	S. F.	3 40	July 30	Sept 1	Sept 22	S. J. Sweezey,	3 & 5 Front st
Cherokee Flat Blue Gravel Co.	Cal.	30 5	July 23	Aug. 26.	Sept. 15	H. Pichoir.	603 Washington st
Cincinnati G. & S. Co.	Cal	5	July 7	Aug 18	Sept 1	Wm. Small,	313 Kearny st
Central Polynesia Land Co.	Navigators Is	5 00	May 14	Jnne 17	Aug 5	J. J. Meaburn,	319 California st.
Commercial Coal M. Co.	Cal.	50	July 9	Aug. 16	Sept. 3	S. B. Hanson.	402 Montg'ry st
Daisy Hill G. M. Co.	Grass Valley.	6 50	June 12	July 15	Aug. 2	H. Silvester.	Grass Valley
Empire Tunnel & M. Co.	Utah	3	July 22	Aug 30	Sept 22	P. A. Eakins,	230 Kearny et
East Idaho M. Co.	Cal.	1 5	June 18	July 28	Aug 16	P. H. Paynter,	Grass Valley
Eclipse & Lee G. M. Co.	Cal.	1 25	June 13	July 19	Aug. 11	A. Treadwell,	411½ California st
Emerald Hill M. Co.	Utah.	25	June 24	Aug 1	Aug 26	F. Madge.	Merchants' Ex
Enterprise Gravel M. Co.	Grass Valley.	21 4 00	June 11	July 10	July 31	M. McDonough,	Grass Valley.
Eureka M. & Smelting Co.	Eureka Nev.	1 20	June 4	July 9	Aug. 1	T. P. Beach,	217 Sansome st.
Equitable Tunnel & M. Co.		2 · 10	May 5	July 17	Aug 8	C. S. Healy.	Merchants' Ex
Golden Eagle M. Co.	Cal.	1 10	July 15	Aug 18	Sept 8	R. Stevenson,	305 Montgomery st
Green G. & M. Co.	Cal.	1 50	July 11	Aug 18	Sept 10	Joel F. Lightner,	438 California st
Granite Tunnel M Co.	Cal.	10	June 27	Aug 4	Aug 22	W. G. Holmes, Cor. Wash. & Battery	
Grace M. Co.	Schell Creek.	1 10	June 20	July 26	Aug 20	W. H. Knight,	331 Mont. st
Great Blue Gravel Range.	Cal.	3 10	June 12	July 14	Aug. 5	Wm. H. Watson,	302 Montgomery st.
Greenville M. Co.	Plumas Co., Cal.	4 1 00	June 11	July 11	Aug. 1	B. C. Kibbe,	419 California st.
Hermosura Mining Co.	Lower Cal.	7 3 00	May 6	July 2	Aug 18	J. H. Applegate.	729 Montgomery st
Homeguera M. Co.	Lowsr Cal.	7 3 00	July 29	Sent 5	Oct 27	J. H. Applegate,	729 Montg'y. st
Lady Esten Tunnel & M. Co.	Utah.	3 5	June 11	July 17	Aug. 6	C. S. Healy.	Merchants' Ex
La Paz M. Co.	Ely District.	50	June 16	July 21	Sept 1	W. W. Hopkins.	411½ California st
Lady Emma M. Co.		3 30	June 25	July 26	Aug 18	A. D. Carpenter,	401 Bush st
Mendha S. M. Co.	Nevada.	1 1 00	June 9	July 15	Aug. 11	Geo. R. Spinney,	320 California st.
Manhattan Marble Co.	Csl.	1 00	June 23	July 24	Aug 11	D. M. Bokee,	319 Pine st
Orient S. M. Co.	Nevada.	2 10	June 14	July 19	Aug. 11	Joseph Maguire.	419 California st
Placer G. M. Canal Co.	Cal.	10	July 8	Aug 11	Aug 30	Geo. W. R. King,	411 California st
Potrero Land Investment Co.		70 00	June 11	July 14	Aug 4	B. B. Minor,	411½ California st
Phenix Tunnel & M. Co.	Utah.	10	July 2	Aug. 6	Aug. 15	C. S. Healy.	Merchants' Ex
Pioneer Cons. M. Co.	Nevada.	1 10	June 19	July 25	Aug 13	C. S. Neal,	419 California et
Potrero Land Investment Co	Cal	70 00	June 11	July 14	Aug. 4	B. B. Minor,	411½ California st.
Plymouth Rock M. Co.	Utah.	1 5	June 24	July 18	Aug 26	Jas. Mason,	422 California st.
Rising Star M. Co.	Cal.	5 6	July 11	Aug 13	Aug 30	J. M. Buffington,	37 Merchants' Ex
Sanderson G. M. Co.	Cal.	5 15	June 20	July 19	Aug 4	Wm. Stuart.	113 Liedesdorff st
San Jose M. Co.	Nev.	3 5 00	July 24	Aug. 25	Sept. 25	A. Carrigan.	107 Front st
Stanislaus Water Co.	Cal.	2 25	July 2	Aug. 30	Aug 16	C. C. Tripp.	526 Kearny st
Summit M. Co.	Cal.	4 25	July 21	Aug 26	Sept 15	Geo. Davidson,	734 Montgomery st
Starr King M. Co.	Nevada.	3 50	Juns 10	July 14	Aug. 4	L. Kaplan,	Merchants' Ex.
South Emma M. Co.	Utah.	1 25	June 11	July 21	Aug 15	Henry Boyle,	Stevenson's Bldg.
Silver Sprout M. Co.	Inyo Co., Cal.	3	June 3	July 15	Aug 12	T. B. Wingard,	315 California st
Sickle Quartz M. Co.	Cal.	50	June 11	July 17	Aug. 30	E. Wheaton,	401 Montgomery st
San Jacinto Tin Co.	Cal.	9 10	Juns 14	July 28	Aug 31	L. Franconi,	314 California st
The City Gardens,	S. F.	50⅔	June 27	Aug 7	Aug 25	G. S. Ladd.	522 California st
Victoria and Imperial T. & M. Co.	Utah.	20	July 1	Aug 5	Aug 27	W. H. Watson,	302 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S F.	Meeting.	Date.
American Flat M. Co.	Nevada	G. W. R. King,	411 California st	Annual	Aug 6
California Jute Manufscturing Co.	S. F.	F. Susmann,	Battery st	Special	July 31
Cerbat Cons. G. & S. M. Co.	Cal	T. E. Jewell,	507 Montgomery st	Annual	Aug 11
California Pacific R. R. Co.	Cal.	E. H. Miller, Jr.		Annual	Aug 11
Cedarburg G. M. Co.	Cal.	D. M. Bokee,	319 Pine st	Anuual	July 31
Calaverne G. M. Co.	Cal	T. B. Wingard,	318 California et	Annual	Aug 5
Cons. Gold Hill Quartz M. & M. Co.		R. Wegner,	414 California st	Annual	July 31
Columbus M. & M. Co.	Nev.	B. B. Minor,	411½ California st	Annual	Aug. 5
Dayton G. & S. M. Co.		W. E. Dean,	419 California st	Annual	July 31
Eliza M. & M. Co.		T. F. Cronise,	438 California st	Annual	Aug. 5.
Frear Stone Co.		R. Wegener,	414 California et.	Annual	August 1
Frear Stone Co.	S. F.	R. Wegener,	414 California st	Annual	Aug 1
Istrohe Tunnel & M. Co.	Nevada.	R. N. VanBrunt,	Merchants' Ex	Special	Aug 2
Mohave Cons. G. & S. M. Co.		T. E. Jewell,	507 Montgomery st	Annual	Aug 9
Mammoth Grove M. Co.		T. B. Wingard,	318 California st	Annual	Aug 5
Mountain Belmont M. Co.	Nev.	B. B. Minor,	411½ California st	Annual	Aug. 4
National M. Co.		B. B. Minor,	411½ California st	Annual	Aug 8
Overman S. M. Co.	Washoe.	Called by Trustees	414 California st.	Special	Aug. 12
Providence M. Co.	Cal.	Wm. H. Knight,	331 Monntgomery st	Annual	Aug. 4
Pacific Rolling Mills Co.	S. F.	S. J. C. Swezey,	3 & 5 Front et	Annual	Aug 11
Puebla G. S. & C. M. Co.	Nev,	A. J. Chambers.	404 Montgomery st.	Annual.	Aug 1
Red Jacket M. Co.		H. O. Howard,	332 Montgomery st	Annual	Aug 5
Risdon Iron & Locomotive Works.	S. F.	L. R. Mead,	Cor. Beale & Howard	Annual	Aug 4
Southern Pacific R. R.	S. F.	J. L. Wilcutt,		Annnal	Aug 11
Virginia & Gold Hill Watsr Co.		W. E. Dean,	419 California st	Annual	July 31
Woodville M. Co.	Washoe.	A. Noel,	419 California st	Aunnal	Aug 16

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
aok Bear Quartz M. Co.		W. A. Oliver,	316 California st.	50	July 17
'ack Diamond Coal Co.	California.	P. B. Cornwall. Cor. Hasting & Spear.		½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st	8 00	July 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	4 00	July 12
Cedarberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Fasoet.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	July 9
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Marchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	July 21
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	July 10
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		June 12
Meadow Valley M. Co.	Ely District.	T. W. Coibnrn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 60	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor,	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	15 00	Feb. 1

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sane'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May 1
First National Gold Bank of S. F.		N. K. Masiick, Ch'r,	M'nt. & Sac. sts.	2½ per cent.	April 7
Aerman Savings & LoanSociety.	S. F.	Geo. Lette,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society.	S. F.	A. Hartmann,	16 Geary st.	9 6 10, 8 & 4 per cent.	July 15
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Lomisa sts.	½ per cent.	April
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
Spring Valley Water Works.	S. F.	E. N. Miles, Sec.	515 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 per cent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Angels Quartz Mining Company---Principal

place of business, 408 California street, San Francisco. Location of works: Angels Mining District, Calaveras County, California.

NOTICE.—There are delinqnent upon the following described stock, on account of assessment (No. 35), levied March 4th, 1873, the several amonnts set opposite the names of the respective shareholders as follows:

T D Mathewson	3	300	$450 00
T D Mathewson	4	314	471 00
T D Mathewson	5	500	750 00
T D Mathewson	17	26	39 00
T D Mathewson (not issued)		325 6-7	488 57
J H Fish	(not issued)	342 6-7	674 29
J H Fish, Trustee	20	50	75 00
J H Fish, Trustee	21	50	75 00
J H Fish, Trustee	22	50	76 00
J H Fish, Trustee	23	50	75 00
Mrs E B Fish	9	1000	1600 00
R M Anthony	18	100	150 00
R M Anthony	(not issued)	45 5-7	68 67
R M Anthony	19	60	90 00
E H Sawyer	11	800	1200 00
E H Sswyer	(not issued)	228 4-7	342 86
Geo. Osgood	12	400	600 00
Geo. Osgood	(not issued)	114 2-7	171 43

And in accordance with law and an order made by the Board of Directors, on the 4th day of March, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public anction, at the office of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on Monday, April 21st, 1873, at 2 o'clock P. M., of such day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEORGE CONGDON, Secretary.

Office, Room No. 1, 408 Csilfornia Street, San Francisco, California (up etsirs). a5-3t

POSTPONEMENT.—Angels Qnartz Mining Company. The above sale is hereby postponed for thirty days, at the same hour and place.

ap19 GEORGE CONGDON, Secretsry.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, June 18, 1873, at the same hour and place.

m17 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angele Quartz Mining Company. The above sale is hereby postponed until Wednesday, July 16, 1873, at the eams hour and place.

jl4 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, August 13, 1873, at the same hour and place.

jy19 GEORGE CONGDON, Secretary.

Alpine Gold Mill and Mining Company---

Location of principal place of bneiness, San Francieco, California. Location of worke, Tuckerville Mining District, Amador County, California.

Notice is hereby given, that a meeting of the Directors, held on the 21st day of July, 1873, an assessment of Fifty Cente per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of this Company, No. 438 California street, San Francisco, California.

Any stock npon which this assessment shall remain unpaid on the 25th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 8th day of September, 1873, to pay the delinqnent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francieco, California. jy26

Beckwith Mining Company---Location of

works, Ely Mining District, Lincoln county. State of Nevada. Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 7th day of July, 1873, an assessment of fifteen (15) cents per share was levied npon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of this Company, roome 5 and 6, No. 302 Montgomery street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on Monday, the 11th day of August, 1873, will be deemed delinquent and advertised for sale at public auction, and nnless payment is made before, will be sold on Tuesday, the 2d day of Septemher, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. H. WATSON, Secretary.

Office, Rooms 5 and 6, No. 302 Montgomsry street, San Francisco, California. jy8-td

Bunker Hill Quartz Mining Company---Lo-

cation of works: Amador, Amador County, California. Principal place of bnsiness, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock on account of assessment, (No. 10) levied June 6th, 1873, the several amonnts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Wales L Palmer	113	20	$200 00
Wales L Palmer	120	20	200 00
Wales L Palmer	121	20	200 00
Wales L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmer	125	20	200 00

And in accordance with law and an order of the Board of Directors, made June 5th, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the company, No. 19 First street, San Francisco, Cal., on Monday, July 28th, 1873, at 12 o'clock noon of ssid day, to pay said delinquent assessment thereon together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office—No. 19 First St., San Francisco, Cal. jy19

POSTPONEMENT.—The above sale is postponed until Monday, August 11th, 1873, at the same bour and place. By order of the Board of Directors, made July 22, 1873. WALES L. PALMER, Secretary.

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and Conuty of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 9th day of July, 1873, an assessment of Fifty Cents per share was levied npon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at No. 402 Montg'mery Street, room 23. Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday the 8th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francisco. jy 12

Cincinnati Gold and Silver Mining Com-

pany. Principal place of business, San Francieco, California. Location of works, Kaleey Mining District, El Dorado County, California.

Notice is hershy given, that at a meeting of the Board of Directors, held on the 7th day of July, 1873, an assessment of five cents per ehare was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the company, No. 331 Kearny street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 1st day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office—Room 14, No. 331 Kearny street, San Francisco, Cal. jy23

Notice—The Annual Meeting of the

Stockholders of the Cerbat Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly coms before the meeting will be held on Monday the eleventh day of Anguet, 1873, at the office of the company, 507 Montgomery street, San Francisco, California, at 1 o'clock, P M.

jy26d T. E. JEWELL, Secrstary.

The California Beet Sugar Co.—Loca-

tion of principal place of business, San Francisco, California. Location of Works: Alvarado, Alameda County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 25th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Name.	No. Certificate.	No. Shares.	Amount.
W. T. Garratt	2	126	$1250
W. T. Garratt	40	63	630
Ephraim Dyer	6	63	630
Ephraim Dyer	39	62	620
H. G. Rollins	9	63	630
H. G. Rollins	36	25	250
H. G. Rollins	36	12	120
Wm. B. Carr	23	250	2500
Wm. B. Carr	62	38	380
E. H. Dyer	27	6	60
E. H. Dyer	71	245	2450
Austin D. Moore	60	50	600
T. G. Phelps	68	63	630

And in accordance with law and an order of the Board of Directors made on the 26th day of May, 1873, so msny sbares of each pareel of said stock as may be necessary will be sold at pnblic anotion at the office of tbe compsny, No. 314 California street, San Francisco, California, on Tuesday the 22d day of July, 1873, at 12 o'clock noon of sald day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of eale.

LOUIS FRANCONI, Secretary.

Office, No. 314 California street, San Francisco, Cal.

POSTPONEMENT.—The above sale is postponed until Tuesday, the 12th day of August, 1873. By order of the Board of Trustees.

jy26 LOUIS FRANCONI, Secretary.

Excelsior Silver Mining Company—Prin-

cipal place of business, San Francisco, California. Location of works, Yellow Fine District, Nye County, Nevada.

Notice is bereby given, that at a meeting of ths Bosrd of Directors, held on ths 18th day of July, 1873, an assessment of Forty-five ccnts per share was levied upon ths capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, st ths office of the Company, No. 540 Waebington street, San Francisco, Cal. Any stock anon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent and advertieed for sale at public auction, and unless payment is made before, will be sold on the 20th day of September, 1873, to pay the delinquent aeecsment, togsther with costs of advertieing and expenses of sale.

W. A. KOLLMYER, Secretsry.

Office, 340 Washington street, San Francisco, California.

Equitable Tunnel and Mining Company.

Location of principal plsce of business, No. 35 New Merchsnts' Exchange, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the fifth day of May, 1873, the several amounts set opposite the names of the respective shsreholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cook, M M	241	10	$1 00
Esten, John	81	25	2 60
Esten, John	86	50	6 00
Hickox, B F	144	26	2 60
Jackson, Alexander	167	26	2 60
Jameson, J S	97	60	6 00
Lezinsky, H E	698	50	6 00
McLean, John H	692	100	10 00
Meade, G	191	10	1 00
Sutton, Jr, Obarles	151	10	1 00
Woolley, L H	192	10	1 00

And in accordance witb law and an order of the Board of Directors, made on the second day of July, 1873, so msny shares of each parcel of said stock as may be necessary, will be sold at pnblic auction at the office of the company, No. 35 New Merchants' Exchsnge, San Francisco, Cal., on the eighth day of August, 1873, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, togetber with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, Cal. jy19

Great Blue Gravel Range Mining Com-

psny. Locstion of works, Placer County, State of California. Locetion of principsl place of business, San Frsncisco, California.

NOTICE.—There are delinqnent upon the following described stock, on account of assessment (No. 3) levied on the 12th day of Jnne, 1873, the several amounts sst opposite the names of the respective ebareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bsbcox, J T	145	25	$2 50
Babcox, J T	248	25	2 60
Babcox, J T	249	25	2 60
Babcox, J T	270	100	10 00
Babcox, J T	273	100	10 00
Babcox, J T	356	60	5 00
Babcox, J T, Trustee	94	100	10 00
Babcox, J T, Trustee	216	200	20 00
Babcox, J T, Trustee	117	100	10 00
Babcox, J T, Trustee	118	100	10 00
Baillie, Margaret	1	5	60
Berry, Mrs Julia A	169	40	4 00
Dowdy, Mrs Sarab S	333	20	2 00
Evers, Wm	393	30	3 00
Garfield, Carrie	394	5	50
Horn, Mre Eliza	384	135	13 50
Hnnt, E F, Trustee	114	25	2 50
Josselyn, L M	332	67	6 70
Kahn, Paul	367	733	73 30
Larue, James	83	600	60 00
Larue, James	229	1000	100 00
Morken, H F	60	100	10 00
Morken, H F	165	100	10 00
Murphy, M A	163	20	2 00
Murpby, M A	223	100	10 00
Murphy, Mrs M A	168	85	8 50
Mills, Mrs Phœbe S	368	25	2 50
Peck, E S	309	1420	142 00
Peck, E S	364	420	42 00
Plummer, M D	208	125	12 60
Plummer, M D	377	2000	200 00
Plummer, M D	378	3000	300 00
Peck, E T	47	200	20 00
Rose, Mary E	162	20	2 00
Reed, S M	381	100	10 00
Reed, S M	382	100	10 00
Snell, Geo P	184	50	5 00
Thompson, E F	399	100	10 00
Thompson, E F	400	20	2 00
Thompson, E F	401	30	3 00
Thompson, E F	402	50	6 00
Thompson, E F	403	15	1 50
Wilson, John B	395	16	1 60
Yeomans, A B	318	50	5 00
Yeomans, A B	319	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 12th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at pnblic anction, at the office of the Company, Room 5 and 6, No. 302 Montgomery street, San Francisco, California, on Tuesday, the 6th

day of August, 1873, at the hour of 2 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale. WM. H. WATSON, Secretary.

Office, Room 5 and 6, No. 302 Montgomery street, San Francisco, Cal. jy15-td

Heckerdorn Gold and Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Blue Mountain District, Calaveras County, Cal.

NOTICE.—There are delinquent upon the following discribed stock, on account of assessment levied on the 9th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Louis Reiff	174	400	$100 00
Frank Lyon	156	40	10 00
Isidore Lyon	168	20	5 00
Berson	161	100	25 00
Monin	157	100	25 00
A Mayer	161	100	25 00
Hanson	119	60	15 00
Savyeyur	93, 107, 156, 840		210 00
Louis Ny	157	400	100 00
Louis Ny	158	400	100 00
Louis Ny	201	800	200 00
Louis Ny	207	400	100 00
Louis Ny	208	200	50 00
Louis Ny	209	100	25 00
Saln Sot	169	20	5 00
Saiu Sot	94	20	5 00
Saln Sot	95	20	5 00
Saln Sot	96	20	5 00
Saln Sot	97	20	5 00
Caterine Ny	136	100	25 00
E Gauthier	169	200	50 00
E Gauthier	190	200	50 00
E Gauthier	193	260	65 00

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, No. 734 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS TERME, Secretary.

Office, 734 Montgomery street, San Francisco California. jy12

POSTPONEMENT.—At a meeting of the Board of Directors, held this day, the above sale was postponed to the 28th day of August, 1873, at the same place and hour. LOUIS TERME, Secretary.

San Francisco, July 24, 1873. jy26

Greenhorn Gold Mining Company.---Location

of principal place of business, San Francisco, California. Location of works, Grass Valley Mining District, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of July, 1873, an assesment of one dollar and fifty cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, No 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 10th day of September, 1873, to pay the dolinquent assessment, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco California. jy12-td

Globe Mining Company — Location of

works, Gold Hill, Novada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 3d day of July, 1873, an assessment (No. 3) of seventy-five cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 26, Hayward's Building, No. 419 California street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 4th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

JOSEPH MAGUIRE, Secretary.

Office, Room 26, Bayward's Building, No. 419 California street, San Francisco, Cal. jy5

Hardy Coal Mining Company—Location of

principal place of business, San Francisco, California

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
D M Weston	36	887½	$1,775 00
D M Weston	53	147	294 00
I Bartlett	25	12½	25 00
I Bartlett	32 (old)	56	1,650 00
Bartlett Wilcox	33 (old)	50	1,250 00
R B Bartlett	17 (old)	10	250 00
R B Bartlett	46	25	50 00
R B Bartlett	47	25	50 00
R B Bartlett	48	25	50 00
R B Bartlett	49	25	50 00
R B Bartlett	50	22	44 00
Edward McLean	1	36	72 00
Edward McLean	2	52	104 00
Edward McLean	6	41	82 00
Edward McLean	16	100	200 00
Edward McLean	22	50	100 00
Edward McLean	23	50	100 00
Edward McLean	24	150	300 00
Edward McLean	33	2	4 00
Edward McLean	35	4	8 00
Edward McLean	37	46	92 00
Jacob Hardy	10	100	200 00
Jacob Hardy	38	15	30 00
Jacob Hardy	40	2	4 00
Jacob Hardy	51	2	4 00
Jacob Hardy	25 (old)	1	25 00
Jacob Hardy	39 (old)	1	25 00
M H Eastman	28	45	90 00
M H Eastman	29	55	110 00
M H Eastman	30	50	100 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the Company's office, Room 5, No. 338 Montgomery street, San Francisco, California, on the 30th day of August, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JACOB HARDY, Secrstary pro tem.

Office, Room 5, No. 338 Montgomery street, San Francisco, California. jy28

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No. 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D., 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 36 New Merchants' Exchange, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No.3) levied on the eleventh day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Barion, Charles C	48	20	$1 00
Black, W W	281	67	3 35
Black, W W	282	100	5 00
Black, W W	284	100	5 00
Black, W W	285	100	5 00
Black, W W	286	100	5 00
Black, W W	287	100	5 00
Esten, John	75	20	1 00
Esten, John	76	20	1 00
Esten, John	77	10	50
Fenton, Wakefield	247	133	6 65
Fenton, Wakefield	248	100	5 00
Fenton, Wakefield	261	100	5 00
Fenton, Wakefield	262	100	5 00
Fenton, Wakefield	263	100	5 00
Fenton, Wakefield	264	100	5 00
Fenton, Wakefield	265	100	5 00
Fenton, Wakefield	266	100	5 00
Fenton, Wakefield	267	100	5 00
Fenton, Wakefield	268	100	5 00
Feuton, Wakefield	269	100	5 00
Feuton, Wakefield	270	100	5 00
Fenton, Wakefield	271	100	5 00
Galland, J	390	50	2 50
Owens T C	386	3	15
Owens T C, Trustee	385	180	9 00
Santiff, Nicholas	63	50	2 50
Taylor, M L	5	10	50
Theller, Samil L	300	50	2 50

And in accordance with law and an order of the Board of Directors, made on the eleventh day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, Cal., on the sixth day of August, 1873, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secrotary

Office—No. 35 New Merchants' Exchange, San Francisco, Cal. jy19

Lady Franklin Gold and Silver Mining Co.

Principal place of business, City and County of San Francisco, State of California. Location of works, Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of July, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office—507 Montgomery street, San Francisco, California. jy19

Notice---the Annual Meeting of the

Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held at the office of the company, 507 Montgomery street, San Francisco, on Saturday, the 9th day of August, 1873, at 1 o'clock, P. M. jy26td T. E. JEWELL, Secretary.

Manhattan Marble Company of California.

Location of principal place of business, San Francisco

NOTICE.—There are delinquent on the following described stock, on account of assessment levied on the 23d day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C Blach	75	25	$25 00
C Blach	76	25	25 00
C Blach	77	25	25 00
C Blach	78	25	25 00
O Blach	79	19	19 00
Irad Cochran	125	119	119 00
Theron R Hopkins	not issued.	119	119 00
P F Mohrhardt	not issued.	119	119 00
Nion R Tucker	87	30	30 00
E Tripp, Trustee	42	119	119 00
George Tait	134	50	50 00
George Tait	135	50	50 00
George Tait	136	19	19 00
H P Wakelee	not issued.	119	119 00

And in accordance with law and an order of the Board of Directors, made on the 23d day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of company, on the 11th day of August, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. M. BCKEE, Secretary.

Office.—319 Pine street, San Francisco, California.

Orient Silver Mining Company—Location

of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 14th day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Atkins, Robt C	34	50	$5 00
Apel, John	17	50	5 00
Apel, John	32	50	5 00
Apel, John	34	50	5 00
Apel, John	261	50	5 00
Blake, Geo M	75	50	5 00
Brackett, J G, Trustee	281	25	2 50
Chase, A K, Trustee	57	100	10 00
Chase, A K, Trustee	108	10	1 00
Carrick, G W	14	100	10 00
Coburn, S A	270	5	
Clapp, G W, Trustee	60	100	10 00
Clapp, G W Trustee	82	100	10 00
Clapp, G W, Trustee	63	100	10 00
Clapp, R S	172	200	20 00
Clapp, R S	178	200	20 00
Clapp, R S	179	200	20 00
Clapp, R S	180	200	20 00
Clapp, R S	181	200	20 00
Clapp, R S	182	200	20 00
Clapp, R S	183	200	20 00
Clapp, R S	184	200	20 00
Clapp, R S	185	200	20 00
Clapp, R S	186	200	20 00
Clapp, R S	187	200	20 00
Clapp, R S	188	200	20 00
Clapp, R S	189	200	20 00
Clapp, R S	190	200	20 00
Clapp, R S	191	200	20 00
Clapp, R S	192	200	20 00
Clapp, R S	193	200	20 00
Clapp, R S	204	100	10 00
Clapp, R S	205	100	10 00
Clapp, R S	206	100	10 00
Clapp, R S	207	100	10 00
Clapp, R S	208	100	10 00
Clapp, R S	209	100	10 00
Clapp, R S	211	100	10 00
Clapp, R S	212	100	10 00
Clapp, R S	215	100	10 00
Clapp, R S	216	100	10 00
Clapp, R S	217	100	10 00
Clapp, R S	218	100	10 00
Clapp, R S	219	100	10 00
Clapp, R S	220	100	10 00
Clapp, R S	221	100	10 00
Clapp, R S	222	100	10 00
Clapp, R S	223	100	10 00
Clapp, R S	224	100	10 00
Clapp, R S	248	50	5 00
Clapp, R S	249	50	5 00
Clapp, R S	250	50	5 00
Clapp, R S	251	50	5 00
Clapp, R S	252	50	5 00
Clapp, R S	253	50	5 00
Clapp, R S	254	50	5 00
Clapp, R S	255	50	5 00
Elwell, Frank	33	33	3 30
Elias, Hugh	22	200	20 00
Fletcher, A T	116	50	5 00
Finley, R	127	34	3 40
Fish, Chas H, Trustee	118	100	10 00
Fish, Chas H, Trustee	119	100	10 00
Fish, Chas H, Trustee	120	100	10 00
Fish, Chas H, Trustee	123	100	10 00
Fish, Chas H, Trustee	125	100	10 00
Fish, Chas H, Trustee	120	100	10 00
Glazier & Sellgsberg, Trustee	150	50	5 00
Glazier & Seligsberg, Trustee	151	50	5 00
Harding, John	80	100	10 00
Hyneman, Saml	186	10	1 00
Hyneman, Saml	169	20	2 00
Hyneman, Saml	170	20	2 00
Hyneman, Saml	173	100	10 00
Hyneman, Saml	175	100	10 00
Jenkins, L C	30	40	4 00
Jackson, A, Trustee	147	50	5 00
Knight, W H	131	50	5 00
Kent, R F, Trustee	156	50	5 00
Klumpke, J G, Trustee	282	100	10 00
Lyle, J B	36	100	10 00
McFadden, E, Trustee	140	100	10 00
Peck, O M	15	200	20 00
Pritchard, Jas A, Trustee	99	200	20 00
Pocock, W R T, Trustee	142	50	5 00
Pridge, H C, Trustee	208	50	5 00
Palmer, S R, Trustee	283	100	10 00
Palmer, S R, Trustee	284	100	10 00
Palmer, S R, Trustee	285	100	10 00
Raymond, S A	200	100	10 00
Raymond, Henry, Trustee	55	100	10 00
Raymond, Henry, Trustee	67	100	10 00
Raymond, S A, Trustee	162	50	5 00
Richardson, E A, Trustee	88	200	20 00
Richardaon, E A, Trustee	89	250	25 00
Richardson, E A, Trustee	90	50	5 00
Richardson, E A, Trustee	138	50	5 00
Rosenblatt, S, Trustee	289	50	5 00
Stoddard, W J	38	15	1 50
Snowhall, R Y, Trustee	144	50	5 00
Sleeper, Geo, Trustee	167	40	4 00
Stephens, Chas, Trustee	276	100	10 00
Stephens, Chas, Trustee	277	100	10 00
Tibbey, E S, Trustee	272	25	2 50
Tibbey, E S, Trustee	273	25	2 50
Upton, M	257	50	5 00
Warshauer, A	113	25	2 50
Waldron, H S, Trustee	3	100	10 00
Weldron, H S, Trustee	49	100	10 00
Waldron, H S, Trustee	101	100	10 00
Waldron, H S, Trustee	103	100	10 00
Waldron, H S, Trustee	156	25	2 50
Waldron, H S, Trustee	278	50	5 00
Waldron, H S, Trustee	279	50	5 00
Washburn, C A	115	100	10 00
Walter, Max, Trustee	155	25	2 50

And in accordance with law, and an order of the Board of Directors, made on the fourteenth (14th) day of June, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 26 Hayward's, Building, No. 419 California street, San Francisco, California, on Monday, the eleventh day of August, 1873, at the hour of one o'clock P. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

JOSEPH MAGUIRE, Secretary.

Office—Room 20, Hayward's Building, No. 419 California street, San Francisco, California. jy23

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 26 day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 6th day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&s

Placer Gold Mining and Canal Company.

Location of principal place of business, San Francisco, California. Location of works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Directors of said company, held on the eighth (8th) day of July, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the secretary, at the office of the Company, No. 411 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Monday, the eleventh (11th) day of August, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Saturday, the thirtieth (30th) day of August, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

GEO. W. R. KING, Secretary.

Office—411 California street, San Francisco, California. jy12

Rising Star Mining Company.---Location of

principal place of business, San Francisco, California. Location of works, Nevada County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 11th day of July, 1873, an assessment (No. 9) of six cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, room 37 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 30th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

J. M BUFFINGTON, Secrctary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco, Cal. jy12-td

Stanislaus Water Company of California—

Principal place of business, 526 Kearny street, San Francisco. Location of works, near La Grange, Stanislaus County.

Notice is hereby given, that at a meeting of the Board of Directors held on the 2d day of July, 1873, an assessment (No. 2.) of two cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, 526 Kearny st. Any stock upon which this assessment shall remain unpaid on the 10th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 26th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CLINTON C. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal. jy 5

Sanderson Gold Mining Company—Location

of works: Railroad Flat, Calaveras county, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 5) levied on the 20th day of June, 1873, the several amounts set opposite the names o the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Thomas Derby	59	500	$75 00
Tbomas Derby	70	200	30 00
A Rosenfield	34	500	75 00
A Rosenfield	35	500	75 00
Jules Greenhood	74	300	45 00
E A Denicke	49	2000	300 00

And in accordance with law, and an order duly made by the Board of Directors, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, 113 Leidesdorff street, San Francisco, California, on Monday, the 4th day of August, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WILLIAM STUART, Secretary.

Office—113 Leidesdorff street, San Francisco, California. jy23

Spring Mountain Tunnel Company—Location

of works, Ely Mining District, Lincoln County, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stocks, on account of assessment levied on the 20th day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J M Buffington, Trustee	249	50	$10 00
J M Buffington, Trustee	253	50	10 00
J M Buffington, Trustee	385	1388	267 60
J M Buffington, Jr, Trustee	161	25	5 00
B Dougherty	341	50	10 00
F M Freund, Trustee	186	25	5 00
F M Freund, Trustee	217	50	10 00
W I Jeffards	96	20	4 00
T O Lewis	98	16	3 20
C W Lomler	102	8	1 60
H Lowenberg	75	80	16 00
J H Marston	233	130	26 00
M S Martin, Trustee	189	38	7 60
M S Martin, Trustee	207	15	3 00
Geo Phillips, Trustee	201	300	60 00
Geo Phillips, Trustee	202	100	20 00
Geo Phillips, Trustee	203	50	10 00
Geo Phillips, Trustee	204	50	10 00
Geo Phillips, Trustee	257	50	10 00
J T Pomeroy, Trustee	286	100	20 00
J T Pomeroy, Trustee	287	50	10 00
J B Starkweather	335	50	10 00
M Tuhbs, Trustes	209	100	20 00
M Tuhbs, Trustes	211	500	100 00
J Olom Uhler, Trustee	303	100	20 00
J Olom Uhler, Trustee	305	100	20 00
H Wilder, Trustee	95	80	16 00

And in accordauce with law, and an order of the Board of Directors, made on the 20th day of June, 1873, so many shares of each parcel of said stock as may be necesssry, will be sold at public auction, at the offices of the Company, 37 New Merchants' Exchange, California street, San Francisco, California, on Monday, the 18th day of August, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, California. au2-3t

Starr King Silver Mining Company—Location

of prin ipal place of business, San Francisco, Califoruia. Location of works, Spruce Mountain Mining District, Elko County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 8) levied on the tenth day of June, 1873, the several amounts set opposite the names of the respectivs shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount
Booth, L A, Trustee	5	500	$250 00
Bush, Hyman P, Trustee	82	1000	500 00
Bush, Hyman P, Trustee	152	50	25 00
Bush, Hyman P, Trustes	154	50	25 00
Cornell, R H, Trustee	9	166	83 00
Cornell, R H, Trustee	180	100	50 00
Cornell, R H, Trustee	181	84	42 00
Drinkhouse, J A, Trustee	51	100	50 00
Drinkhouse, J A, Trustee	62	100	50 00
Drinkhouse, J A, Trustee	68	100	50 00
Drinkhouse, J A, Trustee	59	100	50 00
Drinkhouse, J A, Trustee	70	100	50 00
Drinkhouse, J A, Trustee	71	100	50 00
Drinkhouse, J A, Trustee	72	100	50 00
Drinkhouse, J A, Trustee	73	100	50 00
Drinkhouse, J A, Trustee	89	100	50 00
Drinkhouse, J A, Trustee	101	100	50 00
Drinkhouse, J A, Trustee	103	100	50 00
Drinkhouse, J A, Trustee	104	100	50 00
Drinkhouse, J A, Trustee	105	100	50 00
Drinkhouse, J A, Trustee	136	25	12 50
Drinkhouse, J A, Trustee	137	25	12 50
Friedlander, I, Trustee	124	500	250 00
Johnson, R P	206	173	88 50
Kaplan, Louis, Trustee	8	125	62 50
Kozminsky, H, Trustee	157	400	200 00
Moore, W H, Trustee	20	500	250 00
Nicol, Wm, Trustee	194	50	25 00
Nicol, Wm, Trustee	195	100	50 00
Nicol, Wm, Trustee	196	100	50 00
Richardson, E A, Trustee	106	250	125 00
Sutliff, H, Trustee	42	100	50 00
Sutliff, H, Trustee	49	50	25 00
Sutliff, H, Trustee	57	50	25 00
Schmitt, M, Trustee	107	250	125 00
Sharp, Wm H, Trustee	165	500	250 00
Trask, A Y, Trustee	18	250	125 00
Trask, A Y, Trustee	19	62	31 00
Weedon, J H	36	150	75 00
Whitlatch, J W, Trustee	197	100	50 00
Whitlatch, J W, Trustee	198	100	50 00
Whitlatch, J W, Trustee	199	100	50 00
Whitlatch, J W, Trustee	200	100	50 00
Watson, Wm R, Trustee	171	1875	937 50

And in accordance with law, and an order of the Board of Directors, made on the tenth day of June, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, rooms 26 and 27, Merchants' Exchange, California street, San Francisco, Cal., on Monday the fourth day of August, 1873 at the hour of 12 o'clock, M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of this sale. LOUIS KAPLAN, Secretary..

Office, Rooms 25 and 27 Merchants' Exchange, California street, San Francisco, Cal. jy15

Umpire Tunnel and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., or to W. A. Beal, President. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary.

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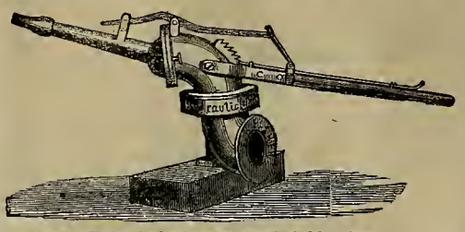

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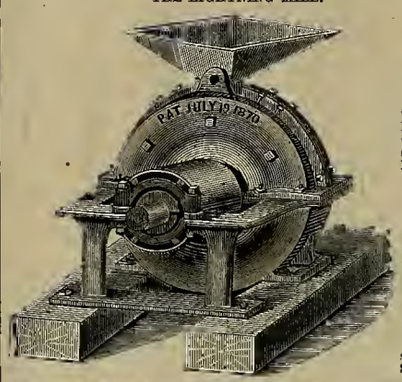

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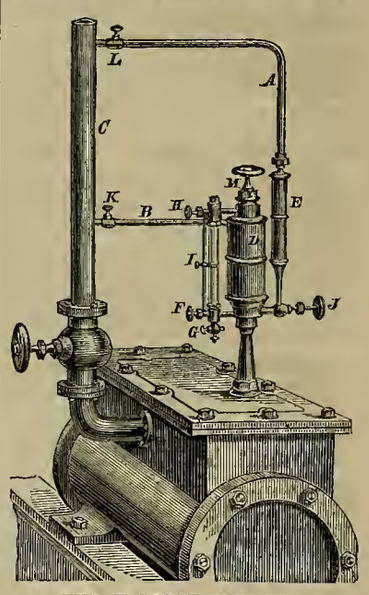
Machinery.

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by tha Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condenaed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, paeecs to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

Second-Hand Engines and Boilers

For Sale by McAFEE, SPIERS & CO.,
Boiler Makers, etc., 309 to 315 Howard St.

15-HORSE POWER PORTABLE THRESHING ENGINE—Nearly new made by Wood & Mann. Cylinder 9 inches diameter, 12-inch stroke. Boiler large and well proportioned, has all tha mountings, is monnted on wheels, in first-rate condition, and will he sold cheap. This is the very thing for opening a new or working a small mine. Price, $1,350.

30-HORSE POWER LOCOMOTIVE OR FIRE BOX BOILER—made of the best O. H. No. 1 American iron, 5-16 inch thick. Furnace 4 feet long, shell 42 inches diameter, containe 46 tubes 3x12 inches, with grate bars, breeching and emoke stack, all in good condition. Price, $750.

THREE 35-HORSE POWER BOILERS, each 50 inches diameter, 16 feet long, containing 42 tubes 3½ inches diameter. These boilers have been entirely rebuilt, and are in thoroughly good condition. Will be sold together, or separately, at a low price.

15-HORSE POWER BOILER—32 inches diameter, 12 feet long, containing 32 tubes 2½ inches diameter, with steam drum, furnace front, grates and all fittings. Price, $300.

Build all kinds of Boilers, Water Pipe, Pump Column, Buckets, Tanks, etc. jy12-1m

CROCKER'S PATENT TRIP HAMMER QUARTZ BATTERY.

The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

CALIFORNIA INVENTION.

CALL AND EXAMINE.

For Sewing Machines, Dentists' and Jewelers' Lathes.

This Invention can be applied to the operating of all kinds of Sewing Machines, Dentists' and Jewelers' Lathes. Its simplicity is only equaled by its durability; it avoids the use of the treadle, which is ungraceful and injurious.

Application made by the Agents for the Pacific Coast.

SAWYER & WHEDON,
1v6eowhp 633 Washington street San Francisco.

The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast.
337 Kearny St., S. F.

PRICE, $50. 2v27eow-hp-1y

Patent Self-Operating Brake

For Vehicles—simple, powerful, durable. Pronounced by competent judges to be just what is required. Rights for sale.

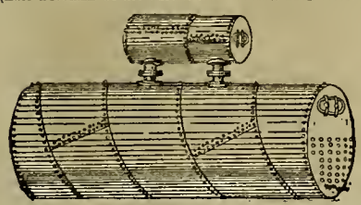
MUNSON G. PICKETT, Patentee.
Newburyport, Mass., June 26, 1873. jy12-4t

San Francisco Boiler Works,

123 and 125 Beale Street.....SAN FRANCISCO

F. I. CURRY,

(Late Foreman of the Vulcan Iron Works,) Proprietor.



High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTURERS OF THE CELEBRATED

SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

Oregon street, below Front, San Francisco.

All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

Jos. THORNHILL, 1612 Mason Street, near Green.
C. W. WERTE, 47 Clay Street.

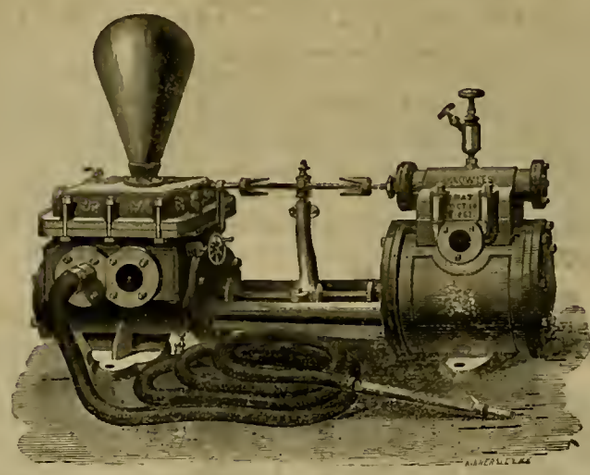
JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

☞ BUY BARBER'S BIT BRACE. ☜

KNOWLES' PATENT STEAM PUMP.



It has no Cranks or Fly-Wheel, and has no dead points where it will stop, consequently it is always ready to start without using a starting-bar, and does not require hand-work to get it past the center. Will always start when the steam cylindor is filled with cold water of condensation.

CENTRAL PACIFIC R. R., OFFICE OF THE GEN'L MASTER MECHANIC, SACRAMENTO, Cal., January 14, 1873.

A. L. FISH, Esq., Agent of the Knowles Steam Pump, San Francisco—Dear Sir: In reply to your inquiry as to the merits of the Knowles Steam Pump, in use upon this road, I will say that it gives me great pleasure to report that they have performed their work well whenever called upon. In no instance have they failed. We have now over 30 of them in use on this road as fire engines, and pumping water for shop and station use. I consider the Knowles Steam Pump the best in use, and prefer it to any other. Yours truly, A. J. STEVENS, General Master Mechanic.

U. S. NAVY YARD, New York, June 3, 1871.

MESSRS. KNOWLES & STEBLEY, 92 and 94 Liberty street, New York—Gentlemen: In reply to your note of 31st, requesting my opinion of your Steam Pump, etc., as suggested from my experience with them in actual service, I have to state that I have used your pumps, and entertain the most favorable opinion of their great merit and usefulness, and for every purpose believe them to be superior to any others, and have so recommended and adopted them. They have given complete satisfaction in all cases that have come under my observation.

Yours very respectfully, WM. W. W. WOOD.

A. L. FISH, Agent Knowles' Steam Pump—Dear Sir: In answer to your inquiries, we state that the highest award for Steam Pumps at the Eighth or last Mechanics' Fair in San Francisco, was a FIRST PREMIUM and Diploma, awarded to the Knowles Patent Steam Pump, as published in the Official List September 23d, 1871.

A. S. HALLIDIE, President Board of Managers.

W. H. WILLIAMS, Sec'y Board of Managers Eighth Industrial Exhibition, M. I.

WE BUILD AND HAVE CONSTANTLY ON HAND

The Largest Stock of Pumps in the World,

And for Every Conceivable Purpose.

THE CELEBRATED BOOMER PRESS,

For Wine, Cider, Lard, Paper, Wool, Hops, Hides, Tobacco, Rags, etc.—the Most Powerful in Use.

A. L. FISH, Agent,

Nos. 9 and 11 First Street, San Francisco, Cal.

P. S. All kinds of new and second-hand Machines on hand. 10v26-1ambp

Friel's Patent Paragon Vapor Stove.

PATENT GRANTED MAY 20, 1873.

The Great Labor Saver of the Household.

ECONOMY, CONVENIENCE AND SAFETY COMBINED.

JUST THINK OF IT—No Wood, no Coal, no Coal Gas, no Stove Pipe, no Chimney, no Smoke, no Ashes, no Dirt, no Wood Boxes, no Coal Scuttles, no Kindling Wood, but a Friction Match, and the

Fire in Full Blast in Half a Minute!

OVEN HOT IN TWO MINUTES.

Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment And the house unheated!

It has no rival in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it; a little Child can operate it, and

All Recommend It.

Prices from $5 to $25, according to size. Manufactured and sold by WM. FRIEL,
59 and 71 Fourth street, San Francisco.

N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will be sent as sample.
22v25-2amly

BLACK DIAMOND FILE WORKS.

G. & H. BARNETT,

Manufacturers of Files of every Description,

Nos. 39, 41 and 43 Richmond street, Philadelphia, Pa.

MILL SAW FILES A SPECIALTY.
18v25-1y

SAN FRANCISCO

SCREW BOLT WORKS,

PHELPS BROTHERS, Proprietors
MANUFACTURERS OF ALL KINDS OF

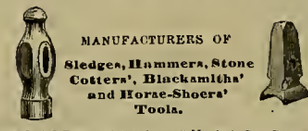
Machine Bolts, Bridge Bolts, and Ship or Band Bolts,

13, 15 and 17 Drumm Street, San Francisco. 4v24ly

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.



MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

13 and 15 Fremont street, near Market, San Francisco
10v14qr

The California Powder Works

No. 314 CALIFORNIA STREET,

SAN FRANCISCO.

Manufacturers and have constantly on hand

SPORTING,

MINING,

And BLASTING

POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

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The latest works on Architecture, Agriculture, Poultry, Domestic Animals, Small Fruits and Floriculture. Special orders will be made for anything not in stock without extra charge. Send for Catalogues.

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Brittan, Holbrook & Co., Importers of Stoves and Metals, Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 173 J St., Sacramento. mr.-1y

PACIFIC LAMP MANUFACTORY.

EMILE BOESCH,
Patentee and Manufacturer of

LAMPS, LANTERNS AND REFLECTORS.

802 MONTGOMERY STREET, SAN FRANCISCO.

The patent lead light represented by this cut is the best and cheapest in the market. We keep constantly on hand a large assortment, with reflectors, price $15. The three burners, and focus with reflectors, price $25. The three burners, and focus price $35, and the 20-inch, price $45. The two burners, and focus price $45, and the 20-inch, price $55. The two burners, and focus price $55, and the 24-inch, price $65. The three burners, and focus price $65, and the 24-inch, price $75. The three burners, and focus price $75, and the 30-inch, price $85. The three burners, and focus price $85, and the 30-inch, price $95. The three burners, and focus price $95, and the 36-inch, price $105. The three burners, and focus price $105, and the 36-inch, price $115. The three burners, and focus price

San Francisoo Metal Market.

WEDNESDAY, July 30, 1873.

IRON.—			
Scotch Pig Iron, ₱ ton	$52 50	@	— —
White Pig, ₱ ton	52 50	@	— —
Refined Bar, bad assortment, ₱ lb	— —	@	— 06
Refined Bar, good assortment, ₱ lb	— —	@	— 06½
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	8 50	@	— —
Nail Rod	11	@	— —
Norway Iron	9		— —
Rolled Iron	6½		— —
Other Irons for Blacksmiths, Miners, etc.	6½	@	9½
COPPER.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O.Nie'ls Pat	— 55	@	— —
Sheathing, ₱ lb	— —	@	— 25½
Sheathing, Yellow	— —	@	— 25½
Sheathing, Old Yellow	— —	@	— 13
Composition Nails	— 25		— —
Composition Bolts	— 25		— —
TIN PLATES.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	13 00		13 50
Roofing Plates	13 00		13 50
Banca Tin, Slabs, ₱ lb	— 40		— 42½
STEEL.—English Cast, ₱ lb	— 20		— 25
Drill	20		— —
Flat Bar	22		— —
Plough Points	16		— 17
Russia (for mould boards)	17		18
ZINC	9¼		10
Zinc, Sheet	— 9		— 10
NAILS—Assorted sizes	— 5¾	@	— 9

Leather Market Report.

[Reportcd for the PRESS by Dolliver & Bro.]

SAN FRANCISCO, July 30, 1873.

Prices of both French and American stocks remain about the same, with a trifling increase in the demand, and we look for a better trade during the coming month.

City Tanned Leather, ₱ lb	26@29
Santa Cruz Leather, ₱ lb	26@29
Country Leather, ₱ lb	25@28
Stockton Leather, ₱ lb	26@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 19 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 16 Kil. ₱ doz	55 00@ 70 00
Cornellian, 12 to 16 Kil	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumerville, 15 Kil	60 00@ — —
Simon, 13 Kil., ₱ doz	60 00@ 62 00
Simon, 20 Kil. ₱ doz	65 00@ 67 00
Simon, 24 Kil, ₱ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₱ lb	1 00@ 1 30
California Kip, ₱ doz	50 00 to 60 00
French Sheep, all colors, ₱ doz	8 00@ 15 00
Eastern Calf for Backs, ₱ lb	1 00@ 1 25
Sheep Roans for Topping, all colors, ₱ doz	9 00@ 13 00
Sheep Roans for Linings, ₱ doz	5 50@ 10 50
California Russet Sheep Linings	75@ 4 50
Best Jodot Calf Boot Legs, ₱ pair	5 00@ 5 25
Good French Calf Boot Legs, ₱ pair	4 00@ 4 75
French Calf Boot Legs, ₱ pair	4 00@ —
Harness Leather, ₱ lb	30@ 37½
Fair Bridle Leather, ₱ doz	48 00@ 72 00
Skirting Leather, ₱ lb	34@ 37½
Welt Leather, ₱ doz	30 00@ 50 00
Buff Leather, ₱ foot	20@ 22
Wax Side Leather, ₱ foot	12@ 15
Eastern Wax Leather	26

GENERAL MERCHANDISE.

BAGS.			
Eng. stand. Wh't	14	@	—
Detrick's Mach'e Sewed, 22 x 36, Gilroy B	13½	@	—
do, 22x36, do W	14	@	—
do. 22x40, do	15	@	—
Flour Sacks ½s	15	@	16
" ¼s	8½	@	9½
Sland. Gunnies	—	@	20
" Wool Sacks	—	@	65
" Barley do	—	@	15½
Hessian 45-in.gds	—	@	11½
do 60	—	@	16
Burlaps, yard	10½	@	16½
CANNED GOODS.			
Asst'd Pie Fruits in 2½ lb cans	3 00	@	—
do Table do	—	@	4 00
Jams & Jellies	4 00	@	4 50
Pickles ½ gl	—	@	3 50
COAL—Jobbing.			
Australian, ₱ ton	12 50	@	13 —
Coose & Bel. Bay	8 50	@	10 —
Seattle	—	@	— —
Cumberl'd, cks	25 00	@	— —
do bulk	—	@	25 —
Lehigh	20 00	@	— —
Liverpool	11 00	@	12 —
West Hartley	12 00	@	14 —
Scotch	10 00	@	11 —
Scranton	10 00	@	— —
Vancouver's Isl	12 00	@	14 —
Charcoal, ₱ sk	75	@	— —
COFFEE.			
Sandwich Island	19½	@	— —
Cost a Rica per lb	19½	@	20 —
Guatemala	19½	@	20 —
Java	—	@	23 —
Manilla	19	@	— —
Ground in cs	21½	@	— —
Chicory	10	@	— —
FISH.			
Pac. Dry Cod, new cases	—	@	— —
do	8	@	10 —
Eastern Cod	10	@	— —
Salmon in hbls	8 00	@	— —
do ½ bbls	4 50	@	5 00
do 2½ lb cans	—	@	— —
do 2lb cans	—	@	3 50
do 1lb cans	2 25	@	— —
Pick. Cod, bbls	22 00	@	— —
do ½ bbls	11 00	@	— —
Box on Smoked	—	@	— —
Herr'g box	50	@	— —
Mack'l, No.1, ₱ bbls	—	@	9 50
" Extra	—	@	— —
" in kits	—	@	2 50
" Extra	—	@	— —
NAILS.			
Assorted size, lb	5¾	@	9 —
OILS.			
Pacific Glue Co. Neat Ft No. 1	—	@	— —
Pure	1 25	@	— —
Castor Oil, No.1	1 40	@	1 45
do do No.2	1 30	@	1 35
Cocoa Nut	60	@	— —
Olive Plagniol	5 00	@	— —
do Possel	4 75	@	— —
Palm	9	@	— —
do Bagioalupi	—	@	— —
Linseed	95	@	1 00
China nut in cs	80	@	82½
Sperm, crude	1 25	@	— —
do bleached	1 90	@	— —
Coast Whales	37½	@	40
Polar, refined	55	@	— —
Lard	95	@	— —
Coal, refined Pet	37½	@	40
Oleine	37½	@	40
Devoe's Bril't	43	@	45
Long Island	37½	@	40
Eureka	37½	@	40
Downer Kerose'e	50	@	52½
Gas Light Oil	37½	@	40
PAINTS.			
Atlan. W. Lead	11½	@	12
Whitening	—	@	2
Chalk	—	@	3
Paris White	2¾	@	3
Ochre	—	@	3
Venetian Red	2½	@	3
Red Lead	10	@	11
Litharge	9½	@	11
RICE.			
China No. 1, ₱ lb	6¼	@	—
do 2, do.	5¾	@	6
Japan	6	@	7½
Siam Cleaned	—	@	—
Patna	7	@	—
Hawaiian	8	@	8½
Carolina	11	@	—
SALT.			
Cal. Bay, per ton	5 00	@	15 —
Carmen Island	14 00	@	30 —
Liverpool fine	25 00	@	— —
do coarse	19 00	@	20 —
SOAP.			
Castile ₱ lb	11	@	12½
Local brands	8	@	9
SPICES.			
Allspice, per lb	15½	@	16
Cloves	35	@	37½
Cassia	30	@	—
Nutmeg	1 15	@	—
Whole Pepper	25	@	27½
Ground Allspice	25	@	—
do Cassia	35	@	—
do Cloves	30	@	—
do Mustard	25	@	27½
do Ginger	25	@	30
do Pepper	27½	@	30
do Mace	1 25	@	1 40
SUGAR, ETC.			
Cal. Cube per lb	11	@	—
Circle A crushed	11	@	—
Dry granulated	10¾	@	—
Extra do	10½	@	—
Golden C	9¾	@	—
Hawaiian	20	@	22½
Cal. Syrup in bls	32½	@	—
do in ½ bls	35	@	—
do in kegs	40	@	—
TEA.			
Oolong, Canton, lb	19	@	25
do Amoy	28	@	50
do Formosa	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	80
do Moyune	60	@	1 00
Gunpo'der, Cant.	30	@	42½
do Pingsuey	50	@	90
do Moyune	90	@	1 25
Y'ng Hy., Canton	28	@	40
do Pingsuey	40	@	70
do Moyune	65	@	85
Japan, ½ chests, bulk	30	@	75
Japan, lacquered hxs, 4½ and 5 lbs	45	@	67
Japan do, 3 lb hxs	45	@	90
do p'n hx, 4½ lb	35	@	65
do ½ & 1 lb paper	30	@	55
TOBACCO—Jobbing.			
Bright Navys	50	@	—
Dark do	47	@	—
Dwarf Twist	57	@	—
12 inch do	57	@	—
Light Pressed	65	@	75
Hard do	60	@	70
Conn. Wrap'r	40	@	50
Penn. Wrapper	35	@	45
Ohio do	30	@	40
Wrig't a Sook'g	60	@	95
Fine st cho's, gr.	3 50	@	25
Fine cut chewing, buc'ts, ₱ lb	75	@	90
Banner fine cut	9 25	@	—
Eureka Cals	8 50	@	—

HINTS FOR INVENTORS. We will send on receipt of stamp for postage, FREE, our 52-page Circulars containing 112 Illustrated Mechanical Movements; a digest of PATENT LAWS; information how to obtain patents, and about the rights and privileges of inventors and patentees; list of Goverment fees, practical hints, etc., etc. Address DEWEY & CO., Publishers and Patent Agents, San Francisco

GIANT POWDER.

Patented May 26, 1868.

THE ONLY SAFE BLASTING POWDER IN USE.

GIANT POWDER, NO. 1,

For hard and wet Rock, Iron, Oopper, etc., and Submarine Blasting.

GIANT POWDER, NO. 2,

For medium and seamy Rock, Lime, Marble, Sulphur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, etc.

Its EXCLUSIVE use saves from 30 to 60 per cent. in expenses, besides doing the work in half the time required for black powder.

☞ The only Blasting Powder used in Europe and the Eastern States.

BANDMANN, NIELSEN & CO.,
General Agents, No. 210 Front Street.

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Patent Agency.

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Foundry Facings of the Best Quality

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THE WHELPLEY & STORER MILL.

☞ These are WARRANTED equal to the BEST.

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Oak-Tanned LEATHER **Belting**

A LARGE, FRESH STOCK just in, of Pawtucket manufacture, for California trade, HEAVY, STRONG and DURABLE. TREADWELL & CO., San Francisco,

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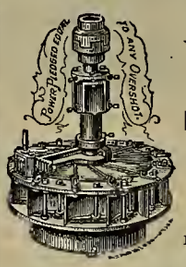

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Patent Endless Wire Ropeway.

Covered by Numerous U. S. Patents.

IMPORTANT TO

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, Jnly 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one t'n and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

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MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

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SAN FRANCISCO, SATURDAY, AUGUST 9, 1873.

VOLUME XXVII. Number 6.

The New City Hall.

Religion is represented by vast and costly cathedrals, which seem rather the work of angels than of men; nations by their legislative halls, and cities by their civic palaces. Around many of the latter cluster historic memories, as full of interest in their way as those which shed a halo of glory around the former. All the great cities of Europe boast of memorial edifices, around which in days gone by the fathers of the people have battled; and American cities are already beginning to follow their example. The magnificent edifice which we illustrate in this issue of our paper, with its towers and domes and spires and pinnacles that point to heaven, will be the future Hotel de Ville of San Francisco, and will reflect peculiar lustre on the brain that designed it and the citizens whose liberality has been so magnificently displayed in its erection.

The Ground,

Between Park Avenue and Larkin and McAllister streets, is triangular in form, containing about six acres, of which four will be covered by the building. The whole will be surrounded by a level terrace, which will be 11 feet high at the Hall of Records. From the terrace to the top of the parapet the height of the building will be 84 feet.

The length of each of the triangular fronts of the building will be as follows: on Park Avenue 800 feet, on McAllister Street 660 feet and on Larkin Street 500 feet. The Hall of Records, wherein will be deposited the archives, etc. of the city, will be surrounded nearly altogether by an arched piazza of 136 feet, the inner diameter of the Hall itself being 86 feet. The dome of this Hall, which will be of the finest finish, will be 67 feet in diameter supported by twelve massy iron columns, forming a circle 56 feet in diameter, connected by arches springing from ornamental capitals at a height of 58 feet from the floor. The center of the Hall will be open to the top of the dome, giving an internal height of 120 feet, which surmounted by a pedestal and statue will raise the height to 135.

The Main Building

Will enclose a central court or *Atrium*, 125 feet by 121 feet, which will be surrounded by an elegant piazza. The grand entrance will be through a circular entrance hall 73 feet in diameter, with a height of 67 feet, having in front a portico 24 feet wide. The whole will be surmounted by the grand central tower about 290 feet high, which will be visible from afar and will be a conspicuous object in the appearance of the city. The whole of this vast building will be occupied by the Municipal Chambers and by the Law courts. The basement will contain the hall for the assembly of the police officers, the captain's rooms, the wardrooms, storerooms, etc., the City Prison with its various cells, etc., and the police property Clerk's and Sheriff's store-rooms, cellars etc. The furnaces, etc., for warming the building will also be located here. Next after the basement comes the ground floor or first story, the Mayor's apartments, such as Clerk's room, ante and reception room, toilet room, private office; the Police Court with Judge's Chamber, offices for the Prosecuting Attorney, Clerks, witnesses, etc., as also for the Sheriff, Superintendent of Streets, Assessor, Tax Collector, Auditor, Treasurer, Collector of Licenses, Justices' Courts, County Clerk, Probate Court, Public Administrator, etc.

The Second Story

Will be divided up with apartments for the Board of Supervisors, into Council Chamber, Committee-room, Clerks' offices, Assistant Board room and subordinate offices, County Court, Municipal Court, Twelfth and Fifteenth District Court Judges' Chambers, etc. The third story will be divided up into Grand Jury rooms, Petty Jury rooms, Law Library, Judge's studies and and offices of the District Attorney, City and County Attorney, Coroner, Board of Education, City and County Surveyor, Fire Department and Industrial School; besides many minor ones. The Fire Alarm and Police Telegraph Department will occupy the first story. The ground whereon the work as far as completed now stands was covered by an immense sand-hill, which had to be removed in order to prepare the way for the

Foundation.

A very great quantity of this sand, instead of being taken away, has, in conformity with the advice of the Superintending Architect, been left, and has been utilized in filling in the ground around the walls, and in making mortar for the building. In this way quite a large amount of money has been saved. It being impossible to secure a good foundation, an immense bed of cement, from three to six feet deep, covering the whole of the area on which the edifice is built, has been laid—said bed being itself as hard and durable as solid rock. On this the foundations, which are 10 feet higher than the cement, have been based, in which were used 2,500,000 brick, 70,000 yards of stone, and 1,000 lineal yards of granite. On this part of the building nearly $1,000,000 out of the $1,500,000 appropriated for construction have already been expended, and on

The Work as it now is,

One million, one hundred thousand dollars, leaving only four hundred thousand dollars of the original appropriation. The brick walls, which are of great thickness, rendered necessary to prevent the edifice being shaken down by earthquakes, and to support the weight of the superstructure, are now completed about twenty-five feet above the terrace, and will average, when finished, ninety-seven feet. After a careful consideration of the matter, and in view of the ravages of the great fires of Boston and Chicago, it has been recommended by the architect, and authorized by the commissioners to fire-proof the whole building. Not having sufficient money to finish the building according to the original design, it has been deemed advisable to expend the balance in finishing the Hall of Records, which could be done in about six months. Provided there was sufficient money, the whole building could be finished according to design in about two years, and at an additional expense of one and a half millions. Provision is to be made for

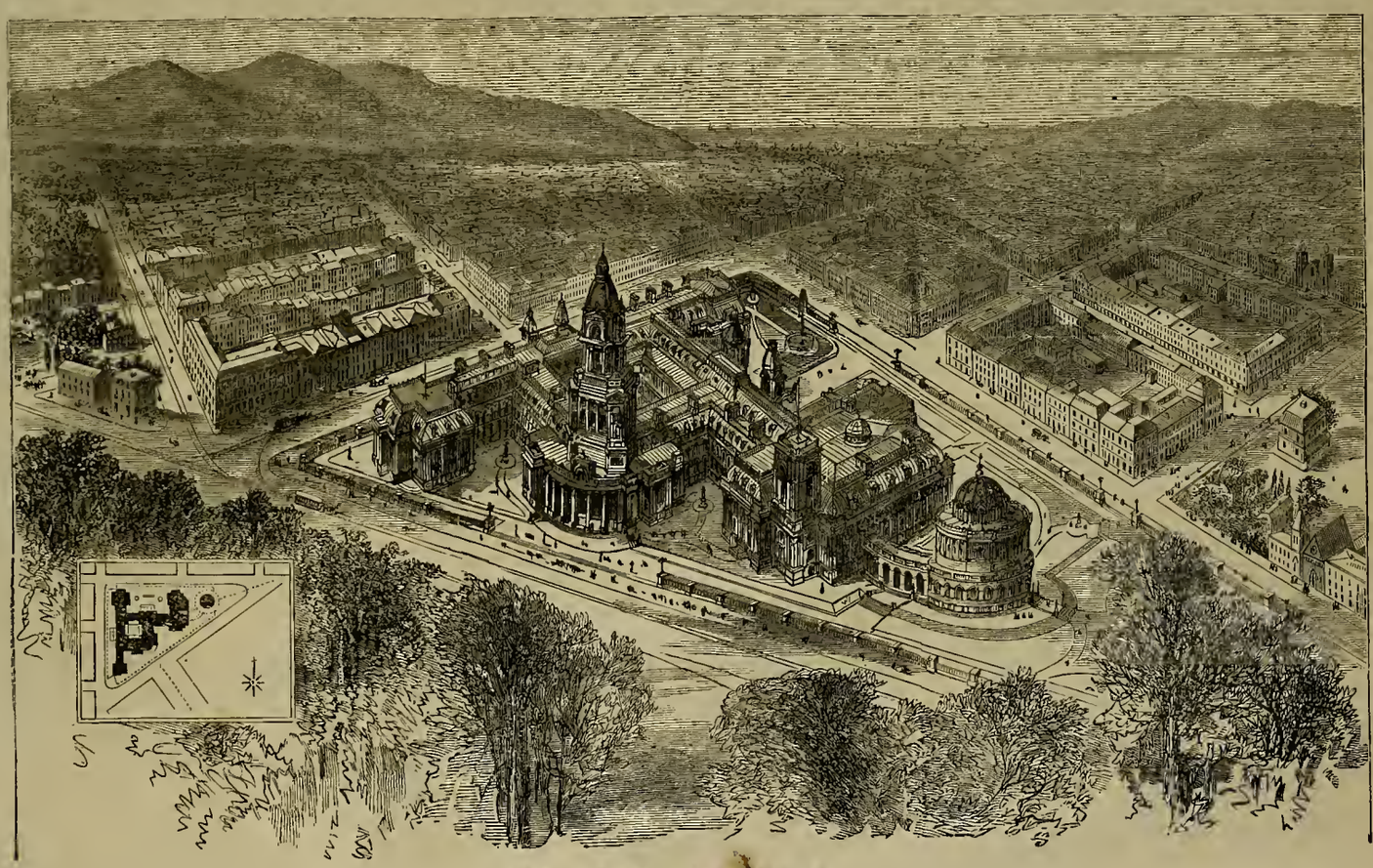
Warming

Every room and corridor with hot water and steam as may be required. A thorough system of ventilation can be secured by driving down through a shaft in the main tower and through flues in the walls or partitions, fresh air by means of fans or blowers, the vitiated air being taken off through extracting shafts in some of the flues or smaller towers.

The Foundation Stone

Was laid on Washington's Birthday 1871, in the presence of an immense crowd which included all our principal City and State dignitaries. Work was first commenced on the building by the laying of the concrete bed on the 13th of September, 1871. The stonework of the foundation was completed on the 17th of April last. The work is being carried on under the supervision of Messrs. R. H. Canavan, J. G. Eastland and C. E. McLane, the Commissioners appointed by the Legislature. Of these Mr. Canavan is Chairman, Mr. Robert George, Secretary, and Supervisor H. L. King is General Superintendent of the building, and Mr. R. Laver of Messrs. Fuller & Laver, New York, the architects who carried off the prize for design, is the supervising architect. The work when completed will be an honor to the munificence of this capital of the West, and will be an eternal monument to the genius and skill of the designers.

The work when completed will, of course, be a grand accomplishment; but as to the wisdom of such an immense outlay for such a purpose in the present period of the development of our young city there is, to say the least, a candid difference of opinion among our citizens.



NEW CITY HALL, SAN FRANCISCO.

MEN EMPLOYED IN MINING IN 1870. — Some industrious statistician has discovered that in 1870 the number of hands—men and boys — actually employed in mining operations, above and underground, in the United States and Territories, was 154,328. Of these 81,241 were employed in Pennsylvania mines, 7,589 in California mines, and 11,241 in the mines of Ohio—these being the three largest mining States in the Union. Next to California comes Illinois, and then Michigan. Of the $152,598,994 produced by the mines of the country that year, the Pennsylvania mines turned out $76,208,390, and the mines of California $8,281,633. The mines of Pennsylvania produced about $973 per head, and those of California a little over $1,000.

ABOUT 100 men are now employed upon the Hell Gate improvements. Six Burleigh drills, driven by compressed air, are working day and night, the diamond drills having been discarded, except for testing. On an average, 950 cubic yards of rock—the hardest gneiss, which is really preferable to a softer material, as it contains few seams and fissures to admit water—are removed monthly, by the use of about 1,000 lbs. of nitro-glycerine in eight ounce cartridges.

THERE are now fifteen narrow-gauge railways in operation in the United States, the lines comprising altogether 700 miles of track. The gauge of these roads is 3 ft., and one has been built and equipped at the rate of $17,500 per mile.

PENNSYLVANIA COAL.—For the year 1872-3 the deliveries of anthracite were 7,807,409 tons and of bituminous coal, 8,778,663, against 7,703,508 and 8,580,203 respectively for the year 1871-2.

"LIBERAL trade is good scholarship popularized; and commerce is literature on a sign board."

THE HOOSAC TUNNEL is nowhere less than 24 ft. wide nor less than 24 ft. high in the center.

CORRESPONDENCE.

The Vienna Exposition.

[By our Special Correspondent—GUIDO KUSTEL.]

Since my last letter a great many more articles have been exhibited in the American department, but nevertheless, the unpacking of goods still continues. The largest part of the space in the yard is taken up hy sewing machines from most of the prominent factories, exhibited in a very elegant style. The water pumps of Coving & Co., Duglas and Churchhill, New York, are also well represented, each one exhihiting a great number of pumps nicely arranged. There is also a good model of a United States Sanitary Commission Hospital car, showing the arrangement of heds inside.

Carriages and Buggies.

Jarven's patent wheels (for carriages and buggies) give some idea of how light a carriage may be if supported by such wheels. I examined the different carriages of France, Anstria, Hungary and Russia; they do not vary much in construction in the different styles; all are elegant and comfortable, but clnmsy—especially the Russian coaches. All are heavy, doubtlees corresponding with the strength of the material of which they are built; but those which should he light, as, for instance, hnnting and excursion carriages, cannot be compared with the American, for the simple reason that there are none here of the latter to compare with.

The American Geographical Society of New York exhibits a fine set of maps, about fifty-five in number, some of a large size, representing Hudeou River, Chesapeake Bay, Portland Harbor, San Francisco Peninsula, etc. The Northern Pacific Railroad Company makes a display of the products of the land belonging to that company. One can see wheat, barley, rye, corn, oats, fruit, vegetables, grass, minerals, woods, etc.; also, pamphlete, entitled, "Guide of the Northern Pacific Railroad Company's Lands in Minnesota." There is an immense map hung above thoee articles showing the railroad and lands belonging to it. The Company did all possible to attract the attention of those who are inclined to emigrate. The State of Alabama is represented hy a small collection of cotton in different phases, from Mobile, and two frames of butterflies and beetlee from there; iron ore, specimens of wood, bamhoo sticks from Lounder County, nicely finished, and in the natural state, eweet potatoes, etc. Both the gentlemen of Northern Pacific Railroad and Alahama in attendance have to answer many questions. California also probably wants emigrants, but where ie California? Where her Commissioners? Even that little contingent that came from there, representing the silk industry of California, is taken away, to serve the interests of Alabama. The California Commissioners may have done a great deal for their State, but it is not evident.

The American Exposition in Vienna

Is well arranged, offers a great many interesting objecte, hut when one thinks that it is a contrihntion of forty millions of people, whose industry occnpies the first rank, it presente a very unsatisfactory particination in the industrial combat of all civilized natione, and in view of thie fact, the exhibition of a large map of the city of Philidelphia, showing the spot of the world's exposition of 1876, marked by a good sized red star, with explanation in several langaugee, as an invitation for participation, seems to be improper. Much more satisfaction is fonnd in the American department in the machinery hall. There are in all 4,694 objects exhibited, contributed by different nations, in the following proportion: Austria, 1297; Germany, 1182; United states, 539; England, 496; Belgium, 289, France, 276; Switzerland, 164; Russia, 120; Hnngary, 198; Sweden, 43; Denmark, 46: Italy, 25; The Netherlande, 19.

Of the 539 American machines, there are five motore, 35 appertaining to metals, 24 to wood industry, three to textile industry, 450 miscellaneous, 22 for transportation, one street car. The agricultural machines are not included.

North of our "means of education" exhibition ie the Venezuela department; it occnpiee a limited space and is not yet ready. From here yon enter

The Brazilian Deparlment.

The most prominent expoeition of Brazilian producte is the coffee. This important article is richly repreeented by quite a number of different eorts, from Rio de Janeiro and other dis-ricte. Cotton is exhibited by several parties. There is a cotton grotto, very iugeniously arranged, giving a true idea of a stalactite cavern, fine wool and vegetable fibre, india-ruhber in the raw state, boots and shoes, leather, and leather articles of different decriptione, sugar, winee and liquors, silk and cocoons from Rio Grande de Sur; a large caee of arms of savages, consisting of arrows, spears, shields, wooden utensils; tobacco, chocolate and tea (the latter raised in the provinces of Rio de Janeiro, Miuas, Parana aud San Panto). There are several cases of minerals of not much interest, showing a number of quartz crystals, amethyst, calc and heavy spar specimens, lead ores, some gems of poor quality, coal, and some petrifactions. The exhibition of Brazilian woods is magnificent; there are over 300 specimens in all, the most polished on one side, so the texture and color can he examined. These woods are principally from the provinces of Rio de Janeiro, Santa Catharina, Pernamhuco and Parana. There is

One Case in This Deparlment

That absorhs the attention of all visitors, young and old, gentlemen and ladies. It is an exposition of different articles (all for sale) made of feathers and heetles. The splendid color of the plumage of the Brazilian birds and heetles gronped and made hy skillful hands into flowers, fans ear-rings and brooches, make quite fascinating articles. There is a number of elegant fans, with prices fixed to each at from $15 to $50, hut, although very dear, the most are already sold. There are imitated flowers so artfully made, that only hy a close examination one can perceive that leaves and flowers are composed entirely of feathers, with their natural colors. Another kind of flowers is made cf those little brilliant, gold-shining feathers, with which the throat and forehead of humming birds is so beautifully clothed. Several kinds of heetles, mostly of light green and hlue color, are framed in gold and used as ear-rings, etc. There are several piles of those beetles for sale from $2 to $4 per dozen. I was surprised to find a lot of $4 beetles of a greeuish-blue color, of which I could have gatherd thousands on the Rio Fuerte, Chihuahua. Skins of birds and a collection of large, beautifull hurter-flies, all sold, conclude thie iuteresting exhibition.

It is really very difficult to make a

Comparison of Arlicles of the Same Class

Between different natione, being ecattered and far apart. It is eo troublesome that one might say that it is impossihle. The arrangement of having as many groupes of one and the same kind of articles, as their are nations interested in the exposition, offers some advantage or rather comfort to the general superintendency; but, considering the object of a world's exposition, this reason should not he regarded at all. Doubtless this question will he coneidered carefully for onr Centennial Exposition in 1876, and a different principle adopted. The juries are now hard at work, and in a hurry. They have a "heap" of work on hand and little help from sourcee whence they have a right to expect it. I observed it iu onr department. A few days ago the jury of Group II came in and wanted explanation, but nohody wae there who had charge of that group. I tried to find somebody for them, but in vain, so the jury proceeded without information.

Metals and Minerals.

After an inquiry of three days I snceeeded in finding out that the jury of Group I would examine the minerals this morning. The jury came, not for the minerals, but for metals, and minerals relative to those metale. Again nobody to give account. Professor Richter is one of the jurors in this section. I went into the office, plenty of officere there, but not the right one. There are metallic nickel and cohalt and ore from Pennsylvania, exhibited by J. Wharton, of Philadelphia. The jury said they could not report on those metals unless they got a piece of each plate for analysis. Finally they left, without taking further notice of thie interesting exposition, and Mr. Wharton will be the eufferer. This don't look like business, hut on the other hand our officere are husy in measuring out the occupied space, in order to make out the bills for the exhibitors, and to my surprise and that of all the exhibitore, not only the space occupied, but aleo the walking space all round. This indirect doubling or trebling of the original tax in the progrmme will cause a row.

Railroad Cars.

Are exhibited by Germany, Austria, Hungary, Russia, Italy and Switzerland. Noue arrived from the United States, Englaud or France. Before the exposition was opened, it was expected that one or two Pullnan cars would be exhibited, hut to general regret, nothing of the kind was sent. The idea that a warm car in winter is more comfortable than one with a temperature of 10° seeme to be considerd now in Europe. The coupé eystem, so much in favor in Europe where eight persons are compelled to study each others physiognomy, whether they like it or not, is as useful in keeping up an approximately uniform temperature, as ie the case in the American oare. Opening the door coole down the small space in a most disagreeable way and for the same reason no stoves can be used. At present long oval tin or eheet iron boxes, filled with hot water keep the feet at least warm. There are some new systeme of heating exhibited, by direct heating of the air, aud also by pipes in which hot water is circulating. In either case there must he a fire place in the car. It ie not improbable that in course of time our comfortable and practical through paeeage cars will he introduced again here. A few sleeping cars, principally Auetriau, are also in the exposition, but they are not suitable for general nse and there is no comfort in them either. The picayunish economy of space requiree a proper ventilation which is not provided for, and, after all, they are constructed only for persons of high rank. This exhibition, perfect and iustruotive in many other respects, shows a new feature in the desire to do eomething also for travelers.

G. K.

Vienna, June 30.

Notes of Travel in White Pine County, Nevada.

[By Our Traveling Correspondent.]

The Towns.

The district of White Pine iucludes Hamilton, Treasure City, Eberhardt and Shermantown. Mines of more or less valne still surround each of these places; but as to the towns, some are known only by name, others contain but a small number of inhabitants. Shermantown has not over 25 inhabitauts, Eberhardt about 150, Treasure City, 300, and Hamilton abont 500. These include the entire population of

White Pine District.

While the district never was, or at least never seemed duller, the mines never looked better, nor had such an appearance of permanency as now; a little further on my opinions will be given for the assertion. In my letter of July 12th, I gave your readers the point of divergence from the C. P. R. R. to get here, also the time required and the cost of the trip. Hamilton is the county seat of White Pine county, and within a radius of ten or fifteen miles of that place lie all the mines of importance in this district. On the 27th of June last, Hamilton was almost entirely consumed hy fire. The losses were very large, considering the size of the place, yet not one-half of the first estimates. Ae near as I can learn, $250,000 will restore the place, barring the loss of time.

Treasure Hill

Is located about two miles south of Hamilton, and at an elevation above it of 1,020 feet, and is a little less than 10,000 feet above the sea-level. Water hoils at 185°, and the barometer stands at 21⅛ in fair weather. Treasure City is located a few hundred feet below the eummit of Treasure Hill, and at an elevation of 9,200 feet above tide-water, heing the highest town or city in North America. A great deal might be said about the climate, inhabitants, early settlement, etc.; but as the euhject has been worn threadbare, I will pass on to the development and preeent statue of the minee on Treaenre Hill.

The Original Hidden Treasure M. & M. Co.

This incorporation owns 800 feet of locatione on the extreme north end of Treasure Hill. Their 20-stamp mill (the Big Smoky) is lying idle, and they are working but 25 men, in both mine and tunnel. The work now being done in this mine is interesting to many, hut not so important as the

Wheeler Tunnel,

A work commenced by this company some two years ago, nnder the advice and management of the present Superintendent, Captain John Turner. It starts at a point on the O'Neil grade, on the east side of Treasure Hill, and 600 feet below the croppings. Thie tunnel hae been by different managements run into the hill about 500 feet, on a due west course, cutting the ledge matter at right anglee, 420 feet from the mouth, and rnnning iuto the west limestone rock at 500 feet, at the point where the ledge matter was cut. The present Superintendent has run south 200 feet on the vein, opening in one place a body of ore 15 feet thick. The work of running this tunnel will be continued in the direction of the west, or foot wall, to a point under the present vertical workinge; when they will cross-cut on the vein, and extract ore from the Wheeler tunnel. It ie now a eettled fact that they have the ore body at that point.

Silver Wave M. Co.

This incorporation hae a United States patent on 1,200 feet of ground, next adjoining the Hidden Treasure on the south. The company has what is known to be a fine mine, but for reasons beet known to itself, is now lying idle. Capt. John Turner is also Snperiutendent of this mine. Next adjoining, on the eouth of the Silver Wave, is the Edgar Mine, consieting of 300 feet of claims, and a part of the

Ward Beecher Cons. M. Co.

Theee, with the Ward Beecher North, consisting of 650 ft. of patented ground, constitute the above named incorporation. Capt. Turner is also Superintendent of this company. They are employing about 60 men and extract a snfficient quantity of ore to keep their mill (the Manhattan), of 24 stamps, steadily crushing, night and day. The mill is located about 1½ miles north of Hamilton and 4 miles from the mines, and is able to reduce 28 tons of ore per day of 24 houre. The rock ie transported by contract from the mine to the mill at $2.50 per ton. The mill is now dry crushing, having been altered, and has reduced an average of 800 tone monthly.

The Edgar Tunnel.

Starts at a point west of the center of that claim and about 150 feet below the croppinge of this mine, runs about 150 feet east on a level, passing through a variety of broken and disturbed calcareous matter and through the spar footwall. Here the ore body makes its appearance—low grade, but only 30 feet from the surface. Following the pitch of the foot-wall at this point an incline is sunk about 50 feet, dipping about 40°. From the foot of this, known as the 90 foot level, a drift is run 60 feet northerly, all in first class ore. There are also drifts to the south and 70 feet to the east, all in very fine ore, with no hanging wall visible. A vertical shaft is snnk 53 feet deeper, to the

One Hundred and Fifty ft. Level.

The shaft passes through the foot-wall and into the lime. The level is run eastward, striking the ore body at 39 feet, here twice the value of that of the upper levels. Some drifting, north and south, has been done, showing the foot-wall to be perfect and pitching at the same angle as before. The level has been drifted nearly 100 feet east, all in ore, and 100 feet in height explored show no hanging wall. This ore is now milling an average of $45 per ton. From these lines of development, I think it is almost conclusive that this is a regnlar

Contact Vein.

Although hut one wall is found, it is all that is necessary at the depth of their present workings. The pitch of the foot-wall and ore hody at this point is exactly on a line with that of the ore hody 500 feet below, in the Wheeler tunnel. As fine a prespect for a coutinuous body of ore for great depth as any I ever saw. The amount of ore now in sight and ready to be breasted out makes the Ward Beecher Cons. Mine a very valuahle one; hefore another year it will certainly be among the large dividend-paying mines. Next adjoining, on the south, is the

North Aurora Mine,

Owned hy the Eberhardt and Aurora M. Co., and at present the only ore of this company's miuee extracting ore. In my next I will give your readers eome additional particulars about this mine. I will now state, however, that they are employing about 100 men, day and night, and extracting good pay ore, which they are reducing at the South Aurora Mill at Eberhardt.

South Aurora Cons. M. Co. (Limited),

M. J. Goodfellow, Superinteudent. This company owns a mine of 800 feet, located ou Treasure Hill, and adjoiniug the North Aurora ou the south and the Eberhardt on the north. At present they are idle, bnt will soon start their diamond drill again in search of ore. In yeare past this was among the first of the hullion-producing mines. They own one of the best thirty stamp mille in the district, located at Eberhardt, Nev., ahout 2⅛ miles from the mine. It is now in active operation and running on ore from the Eberhardt and Aurora, employing 30 men regularly.

The Conover Bros'. Mine,

On Babylon Hill, about 1½ miles southwest from Hamiltou and about 2 milee west from Treasure City, is owned hy James L. and C. Conover. These gentlemen own, by original location, 1,000 ft. of a ledge running east and west, with a dip to the south. The croppinge are marked and distinct, standing above the country rock for a distance of over 500 ft. The country rock is limeetone. A tunnel has been run in 80 ft. Here a ehaft, following the incline of the ledge, hae been eunk to a depth of 30 ft., and at the bottom ie abont 50 ft. from the snrface.

The ore hody at all points thus far developed ie on both sides of a spar seam 4 ft. wide, and has a width of 4 ft. on either side. 15 tons of ore worked at Shermantown, milled $154.40 per ton, working to 92 per cent. aesay value. Assaye have giveu from $140 to $2,500 per ton. The ore mille freely; ite most important element ie silver, hut it contains also traces of gold, arsenic and antimony. At present the mine ie lying idle, but I underetand that some New York capitaliste are about to take hold and thoroughly develope it.

L. P. Mc.

Mint Operations for July.

The Mint operatione for the month are indicated ae follows:

Unparted gold bullion received in exchange from the Mint of the United States by San Francisco Assaying and Refining Works dnring Jnly, 1873:

	Ounces.	Value.
Gold	39,025,63	$717,324.46

Refined gold and silver deposited in United Stated Mint during July, 1873, hy San Francisco Assaying and Refining Works:

	Ounces.	Value.
Gold	70,147.06	$1,438,568.51
Silver	50,168.70	63,466.60
Gold deposited in Mint	70,1+7.06	$1,438,568.51
Gold sold in market	30,714.64	630,051.99
Total Product of Refinery	100,861.70	$2,068,620.50

Of the above fine silver, $60,000 was deposited for Trade Dollare. Of these, $43,000 have heen executed and go to China. There was also received from New York for China $15,000, Trade Dollars, which had heen coined in Philadelphia. Thie was probably better than to send the Mexican; hut if the silver had heen sold in New York and the Trade Dollars ordered made here from fine eilver, the cost of transportation would have beeu saved. As compared with last year the refining operations are ae follows:

	1872. Ounces.	1872. Value.	1873. Ounces.	1873. Value.
Fine Gold deposited in Mint,	51,612.21	$1,035,146.68	70,147.06	$1,438,568.51
Fine Gold sold in market,	59,773.91	$1,226,224.68	30,714.64	630,051 99
Standard Gold sold in market,	23,468.80	436,627.46	.....	.....
Product of Ref'y,	134,854.92	$2,697,998.82	100,861.70	$2,068,620.50

There has been an increase of coinage, and there is also some $300,000 left over iu the Mint that will come into next month's coinage. The quantity of gold sold in the market for shipment has considerably diminished.

MECHANICAL PROGRESS.

Important Information if Valid.

Views of a Practical Worker in Steel.

The opinion expressed recently by one of our best informed iron manufacturers, to the effect that the iron manufacturers and workers in iron and steel of the present day, instead of understanding the nature of iron and steel, really know comparatively but little about either, having only acquired as it were the alphabet of the business, is frequently corroborated in a practical way that leaves little room for debate.

The latest instance brought to our knowledge is embraced in the experience of a practical steel maker, who has expended forty years over the forge, and who, according to his own statement, worked in the traditional grooves trod by his predecessors, for many years, unquestioningly accepting the common theories of the craft, until accident afforded him an opportunity to examine into, and decide some things which led to a conclusion differing wholly from the commonly received opinions of his fellow-craftsmen. If his conclusions are correct (and every intelligent worker in steel can satisfy himself upon that point, and, at all events it would be well for steel workers to subject the theory to a fair test) very little care will secure to steel workers an immense saving.

According to our informant, in the language of the shop, when a piece of steal is overheatheated, and flies to pieces under the hammer, it is cast aside as worthless, the opinion obtaining that the life is burned out of it. This jargon of the shop is not unfamiliar to us. We hear it every day among iron workers. Our old steel worker informs us that experience has demonstrated to him the incorrectness of this conclusion, as commonly applied to steel. His statement will be regarded in some quarters as opposed to the recognized principle upon which the steel manufacturer bases his operations. In substance it amounts to this: That the heat ordinarily derived from a forge cannot, as an agency affect the character of the steel; that steel is not injured by overheating in the forge, and no absolute loss can ensue, save the low percentage lost in scales, as in the working of all hard metals.

Our old steel worker's mode of reasoning is so simple that we present it as we receive it from him. Beginning with the manufacture, he argues (what all will acknowledge) that no forge can produce a heat of half the intensity at which the metal is poured into the flasks. Where steel is subjected to intense heat in the forge, the moment the hammer strikes it, it parts, not because the principle is in any manner changed, but simply because it possesses less cohesive power. If, instead of throwing the steel thus easily broken aside, in the belief that it is ruined, the worker in steel will permit it to lie on his anvil until it falls to a lower temperature, he will find that he can do what he pleases with it; that it has not been in any way injured by the overheating. To prove this, it is only necessary to take up any of the pieces of steel thus cast aside as worthless, reheat them, and place them under the hammer, when it will be found that they can be drawn down precisely in the same manner as before the overheating process. Any workman employed at the numerous forges in this city, in making steel hammers, can satisfy himself upon this point in half an hour's time. Let him take up a fragment of the steel which, when he endeavored to punch the eye of the hammer, flew to pieces, reheat it, and see if he cannot work it as before. If he can do this, it follows then that the large percentage of waste growing out of "overheating" is, in effect inexcusable where the truth is known.

Our informant is James Patterson, of Brooklyn, at present in this city upon private business, and favorably known as an inventor. Mr. Patterson is convinced that a knowledge of the facts he sets forth will incure an immense saving to his old craftsmen, basing his calculations upon the average waste incurred under his own observation, and at the hands of workmen in his own employment at various times.—*Evening Telegraph.*

Deposits in Boiler Flues.

Professor Hayes gives in the *American Chemist* the following opinion regarding the formation of these deposits: "They are of two kinds, both of which are capable of corroding the iron rapidly, especially when the boilers are heated and in operation. The most common one consists of soot (nearly pure carbon) saturated with pyroligneous acid, and contains a large proportion of iron, if the deposit is an old one, or very little iron if it has been recently formed. The other has a basis of soot and fine coal-ashes (silicate of alumina) filled with sulphuric acids, and containing more or less iron, the quality depending on the age of the deposit.

"The pyroligneous deposits are always occasioned by want of judgment in kindling and managing the fires. The boilers being cold, the fires are generally started with wood, and when partially under way they are nearly extinguished (smothered) with large charges of coal or wood, pyroligneous acid then distils over into the tubes, and, collecting with the soot already there from the first kindling fires, forms the nucleus for the deposits, which soon become permanent and more dangerous every time wood is used in the fire-places afterwards.

"The sulphur-acid deposits derive their acids from the coals used, but the basis material, holding these acids, is at first occasioned by cleaning or shaking the grates, soon after adding fresh charges of coal. Fine ashes are thus driven into the flues at the opportune moment for them to become absorbents for the sulphur compounds distilling from the coals, and the corrosion of the iron follows rapidly after the formation of these deposits."

Measurement and Loss of Power—Improvement in Journal-Boxes.

One of the most important features of modern science is the precision with which we are enabled to subject to exact measurement those subtle forces which in a former age entirely escaped the grasp of the mathematician. Not only can we give in exact figures the precise quantitative value of the power exerted by mechanical agents, but even those etherial forces which in former times were considered "imponderable" and "immensurable" can now be subjected to the balance and the measuring instrument. The energy developed by a flash of lightning can be expressed in numbers quite as readily as can the acres in a field, or the tons in a block of granite, and the power developed by any of our modern motors can be measured and expressed as easily as can the number of yards in a piece of broad-cloth, or the number of pounds in a bar of iron.

This accuracy and precision is not, however, a thing of mere theory, nor is it a mere refinement of science without practical value in the affairs of the workshop. It enables us to subject to the closest scrutiny the different parts of our mechanical arrangements, and points out precisely where power is lost and wasted. It enables us to form clear ideas of the enormous loss which occurs in the ordinary steam-engine—a loss amounting to 90 per cent. of the total energy involved; and it gives us the means of expressing in definite terms the further loss which occurs in all machinery from the influence of that subtle destroyer of power—friction. As a practical result, we find that the attention of our best mechanics and engineers is being more directed to the *saving* of power; that is, to the prevention of loss. The character of our lubricators; of the material and finish of our journals; the form and weight of our shafting and gearing, and the construction of our journal-boxes, are all being subjected to rigid scrutiny, in the hope of devising means whereby the extravagant loss which now occurs may be lessened.

Amongst the numerous devices for lessening the friction incident to machinery in motion, is improvement in the journal-box. In the common form of box, where the journal is firmly held between two semi-circular blocks tightly screwed down, or by a moveable cap similarly held in place, the pressure is *wholly in one line*, and the result is that in a short time the journal works loose, from the fact that the hole in which it runs becomes oblong, instead of truly circular, and the result is a continual vibration, which soon proves destructive to the machinery.

But a Mr. Ellis, of Jersey City, has recently devised an improvement by which the pressure can be most accurately adjusted and maintained. Instead of the usual single cap, two *hunters*, as they are called, are employed. These hunters are made so that each covers a little less than one-quarter of the circumference of the journal, and are brought to their bearings and held there by screws passing through slots whereby they are made adjustable. By this arrangement the pressure is in two lines instead of one, by which arrangement the opening in which the journal runs cannot wear oblong; but must retain its circular shape—the pressure and wear being distributed into four points.

It is said that experience has fully shown that this mode of holding the shaft in place is far superior to the old system, and that there is little or no vibration, and, consequently, the bearings last much longer, while the quality of the work that is turned out is surprisingly improved.

THE NEW METAL INDIUM.—The last number of the *Revue Scientifique*, contains the first complete description ever published. of the new metal Indium, discovered by Dr. Reed. Like thalium, it was first revealed by its spectrum, which consists of two bright indigo bands, the more brilliant of the two being a little more refrangible than that of strontium, the other a trifle less than that of potassium. It is found in one or two varieties of wolfram, and in zinc and its ore, in exceedingly small quantities—the zinc of Freiburg, Germany, in which it was first observed, containing not more than one part in two thousand. When zinc is dissolved in sulphuric acid, the new metal remains in the spongy residuum. To obtain it, dissolve this residuum in nitric acid, and treat it with ammonia and carbonate of barytes, when the hydrate of indium is precipitated. This indium sponge may then be melted with cysnide of potassium, resulting in a whitish metal, which, after a while, assumes the tint of bismuth, and gradually loses its color so as to resemble lead. It has a density of 7.4, melts at 176 centigrade, burns at a red heat, and emits hydrogen when dissolved in sulphuric acid.

COAL OIL FOR LOCOMOTIVES IN RUSSIA.—According to Van Nostrand's Magazine, the Russians are experimenting quite successfully in the use of crude coal oil for steam generation with locomotives.

SCIENTIFIC PROGRESS.

Outlines of Mountains.

In an article in *Silliman's Journal*, Professor Joseph Le Conte discusses the causes of the difference in outline as follows: "The great bulge of the earth's crust which constitutes a mountain chain is doubtless produced by general causes affecting the whole earth, probably by shrinkage of the interior more than the exterior, by which the face of the old earth becomes wrinkled; but the smaller inequalities are almost always produced entirely by erosion. How any one who has ever been among the high Sierras can for a moment doubt this fact, I cannot understand. Standing amongst these mountains, all that constitutes scenery, every peak, ridge or dome, every valley or cañon, is evidently due to this cause alone, except in those parts where recent volcanic action has taken place.

"Now the forms produced by erosion depend partly upon the kind of rock, and partly upon the kind of erosion. The forms determined by water are different from those determined by ice. Standing in the middle of the San Joaquin plains, on a clear day, the crests of the Sierras are seen on one side and of the Coast range on the other. Nothing can be more striking than the contrast between the two—the sharp saw-like, teeth-like outlines of the former and the rounded outlines of the latter. The reason is, that the one has been determined by the action of snow and frost—the other by water only. The contrast is still more conspicuous when we are among the summits. In all the region where perpetual snow still lingers, the Sierras are studded with peaks and spires and comb-like ridges—so sharp that they seem ready to fall over, and especially with great amphitheaters bounded on several sides by almost perpendicular palisade-like walls with sharp serrated edges. These great amphitheaters are the wombs of the ancient glaciers and are still filled with snow.

"Such is the contrast in the summits. On the higher slopes it is equally striking. During the period of the ice-sheet, probably all the Sierra slopes, even to the summits themselves, were covered with rounded forms on a grand scale. Subsequent action of ice and snow and frost and rivers have destroyed these except in some localities. Water tends to form deep V-shaped cañons, while ice produces broad valleys with lakes and meadows. A camping party in the Sierras is made painfully aware of having passed beyond the limits of ancient glaciers by the sudden and entire disappearance of meadows, and therefore of grazing for horses. I know not how general these distinctions may be, but certainly the coast-range of California is characterized by rounded summits and ridges, and deep V-shaped cañons, while the high Sierras are characterized, on the contrary, by sharp, comb-like summits and broad valleys. And this difference, I am convinced, is due in part at least to the action of water on the one hand and of ice on the other."

SUGAR A TEST FOR POTABLE WATER.—From an article on "The Discrimination of Good Water and Wholesome Food," in the *Pharmaceutical Journal and Transactions*, we take the following simple directions given for testing water, whether it is good and drinkable. "Good water should be free from color, unpleasant odor and taste, and should quickly afford a good lather with a small proportion of soap. If half a pint of the water be placed in a perfectly clean, colorless, glass-stoppered bottle, a few grains of the best white lump-sugar added, and the bottle freely exposed to the daylight in the window of a warm room, the liquid should not become turbid, even after exposure for a week or ten days. If the water becomes turbid, it is open to grave suspicion of sewage contamination; but, if it remains clear, it is almost certainly safe. We owe to Heisch, this simple, valuable, but hitherto strangely neglected test."

A NEW EXPERIMENT.—It has been found that tinfoil, if wrapped about a few crystals of chlorate of potassa, can be made to detonate loudly upon being struck smartly with a hammer upon an anvil, or in a mortar, the phenomenon being precisely analogous to the well-known experiment of triturating sulphur and the chlorate. To the best of our knowledge the observation that such metals as tin can be oxidized in this way is a new one and worthy of notice.

OZONE BY SLOW OXIDATION. — If a small quantity of benzine be placed in a large vessel and exposed to direct sunlight for a few days in summer, the vessel being frequently opened and shaken, the air in the vessel will contain ozone. The same change will take place in diffused daylight, or even in the dark and at a low temperature, but a much longer time is required.

THE METALS OF THE SUN. — The latest researches by many distinguished physicists have shown that the following terrestrial elements are present in the vaporous condition round the sun: sodium; calcium; barium; magnesium; iron; chromium; nickel; copper; zinc; cadmium; cobalt; hydrogen; manganese; aluminum; titanium—fifteen in number.

Chemical Prizes Offered in France.

The Society for the encouragement of Industry in Paris offers the following prizes for 1873:

	Francs.
Economical preparation of oxygen	2,000
Economical preparation of ozone	3,000
Combination of the nitrogen of the air to produce cyanides	2,000
For a new and useful alloy	1,000
Writing ink that does not corrode metallic pens	1,000
Permanent disinfectant for water closets	6,000
Manufacture of graphite for pencils	3,000
Synthesis of a useful organic product, quinine, alizarine, sugar, etc	4,000
The theory of steel founded upon actual experiments	6,000
Application of endosmose to liquids	1,000
Application of endosmose to gases	1,000
Filters for drinking water	1,000
Improvement in agricultural machines	1,000

There is something very suggestive in such a list as the above. Although nearly a hundred years have elapsed since Priestley announced the discovery of what is now known as oxygen gas, and although chemists agree in saying that one-half, if not two-thirds, of the actual weight of the world is made up of this gas, we find the tacit admission implied in the large prize offered for 1873, that even at the present time we have no cheap and economical method for the preparation of oxygen. Many methods have been proposed and many tried, but the conviction still obtains that the problem has not yet been solved. So, also, with the use of the nitrogen of the atmosphere for manufacturing purposes. For the production of Prussian blue, we obtain our nitrogen from animal matter; why not from the air? It is believed that ozone is capable of extensive use in the arts, could we make it cheaply, hence the offer of a prize relating to it.

The whole list is instructive, and ought to set our inventors and chemists at work to solve some of the questions raised.—*Ex.*

A NEW RELATION BETWEEN ELECTRICITY AND HEAT.—Dr. Guthrie, in a paper read before the Royal Society of London, gives the results of his study of a new and possibly important relation between electricity and heat. He finds that when an electrified insulated body is presented to a heated body (especially when the latter is in communication with the earth), the latter has the power of completely discharging the former of its electricity. The discharging power of a heated body diminishes with distance and increases with its temperature, and specially depends upon the heat rays of high intensity. The discharging power of a small white-hot platinum wire exceeds that of a large cannon-ball heated to the temperature of boiling water. This power does not depend upon the temperature of the electrified body. Negative electricity is always discharged more easily than positive, but the difference in this respect diminishes (with certain variations) as the temperature increases. Similar effects are obtained whether we use galvanic or static electricity. As hot iron discharges electricity most easily, so on the other hand, a ball of white-hot iron refuses to be charged. As the white-hot ball cools it becomes first possible to charge it with negative, and subsequently, as it grows cooler, with positive electricity.

THE VARIABLE SIZE OF THE SUN. — Secchi, the astronomer of Rome, has concluded from certain observations made during the past year, that he is justified in affirming that there is a periodic variability in the size of the sun. The many startling revelations of science during the past ten years have prepared the way for acceptance of even this conclusion, though the observations on which Secchi founds his belief are as yet so few as to still leave room for some possible doubt on the subject. It would seem that the outer surface of the sun—the photosphere as seen by us—is a gaseous envelope in a state of continual and perhaps periodic change, such that the diameter of the solar orb, as measured by the aid of the telescope, is least in the region of the greatest spot activity—that is, the solar equatorial bolt does not bulge out as does that of the earth, but, on the contrary, the solar polar axis is the longest diameter of that body. The excess of the polar over the equatorial diameter is, however, a very small quantity, and may be referred either to tides in the photosphere or to the influence of the solar spots themselves.

THALLIUM FROM VESUVIUS.—Professor Palmieri has made many spectroscopic analyses of the sublimations of the fumeroles, or small holes on the crust of the volcano of Vesuvius through which vapores escape, and finds the metal thallium in most of them. Thallium is the new metal discovered in 1861 by Dr. Crookes. In weight and appearance, it resembles lead. When burned in oxygen it yields a splendid green flame, and its chlorate, it is supposed, might be used in fireworks to advantage. Thallium is found in various mineral waters; its sulphate is very soluble in water.

COMBUSTION OF THE DIAMOND.—An experiment lately made by Mr. Spence, of Manchester, seems to prove that under certain conditions the diamond is combustible at a much lower temperature than has been hitherto supposed. A South African diamond of the size of a pea, coated with refractory clay, was placed in a crucible with a mixture of soda and hydrate of lime, and then heated in a muffle for three days and three nights. On opening the mass, it was found that the diamond had entirely disappeared, although the heat had never exceeded a cherry-red.

Weekly Variations in Stocks.

[Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Aug. 6, 1873.

NAME OF COMPANY.	ASSESSMENTS IN MINE.	SHARES IN MINE.	Aug. 6 High	Aug. 6 Low	Advance.	Decline.
WASHOE.						
Alamo Gold and S. M. Co						
Alpha Consolidated	300	6000	20	18		
Alta	3600					
American Flat		30000	6½	5		⅜
Arizona & Utah	1900	18000	2	1½		
Bacon Mill & Mining Co.	65	24000	2½	1½		
Baltimore Consolidated		24000	8¾	7½		
Belcher	1040	104000	77	66½		
Best & Belcher	224	22400	3½	3		
Bowers	20	5000				
Buckeye		16000	50c	50c		
Bullion	2500	25000				
Caledonia Silver M. Co	5000	20000	17	10	3	
Central	150	10800				
Central No. Two	100	24000				
Challar Potosi	2800	28000	40	33		1½
Confidence Silver M. Co	130	24960	6¼	5½		¼
Cons. Gold Hill Quartz	3400	20000	1¼	⅛		
Consolidated Virginia	1160	23600	89	75	8	
Cook & Geyer	1600	32000				
Crown Point G. & S. M. Co	600	100000	86	78		
Daney	2000	24000	2¾	1⅜		½
Dardanelles	1200	24000				
Eclipse	70	7000	4½			½
Empire Mill & M. Co	75	50000	4½	3½		¼
Exchequer	400	8000	8½	7		
Flowery	3000	12000				
Franklin						
Globe		20000		10c		½
Gould & Curry S. M. Co	1200	48000	9¾	7⅞	1	
Hale & Norcross	400	16000	28½	17	2	
Imperial	184	100000	4½	3⅞		¼
Indns						
Insane	2000	20000				
Jacob Little		1		50c		
Jnlia Gold and S. M. Co	2000	30000	1½	1		⅛
Justice	3000	24000	6⅞	5¼		¼
Kentuck	85	20000	7¼	6¼		
Kninckerbocker	1200	24000	3¼	2	⅜	
Lady Bryan						
McMeans	3600	36000				
Mint Gold & S. M. Co	1600	50000	1⅜	87½c		
Nevada	3000	30000				
New York Consolidated	3600	36000	1½	40c		¾
Occidental	800	10000				
Ophir Silver Mining Co	1400	16800	20	18½		½
Overman Silver M. Co	1200	12000	27½	15		½
Phil. Sheridan	1200	24000				
Piotou	2000	30000	40c	30c		
Rock Island		24000				
Savage	800	16000	44½	34		3
Segregated Belcher	160	6400	38½	33½		½
Segregated Caledonia		10000				
Senator Silver M. Co		24000	1	50c		
Sierra Nevada		20000	9	7¾		
Silver Hill		54000	16	15		¾
Sonth Overman		30000	30c	20c	10	
Succor Mill and M. Co	7600	22800	1½	1		½
Sutro		24000				
Trench	20	50 0				
Tyler	2200	30000	62½c	37½c		⅜
Union Consolidated	803	20000	3⅛			
Utah		20000				
Woodville G. & S. M. Co	1400	28000	1⅜	⅜		¼
Yellow Jacket	1200	24000	47	39		1
NEVADA.						
Adams Hill		50000				
Alps Silver Mining Co	800	30000	1½	1		¼
Amador Tunnel & M. Co			1⅝	1½		⅛
American Flag M. & M		30000	6¾	5		¾
Arkansas	300	30000				
Belmont			2⅝	2		
Bowery		30000	1	¾		
Chapman Mill & M. Co		30000				
Charter Oak S. M. Co	1000	30000	5c	5c		
Chief of the Hill		30000	2	1		
Chief East Extension		36000	30c	25c		
Columbus M. & M. Co	10000	50000				
Condor		25000	20c	20c		5
El Dorado South			6½	5		
Eureka Consolidated		50000	14	10	3¼	
Excelsior		12000				
Harper Silver Mining Co		30000				
Hermes	1000	30000	6½	4¼	¼	
Home Ticket						
Huhn & Hunt S. M. Co	3600	30000	1⅞	1½		⅛
Ingomar Silver M. Co	1000	30000	87½c	50c		⅛
Ivanhoe		30000				
Jackson		50000	20c	15c		
Juniata Consolidated	5000	50000				
K. K. Consolidated				4		
Kentucky Gold & S. Co	1000	30000	3	2¾		
Kinston	1000	30000				
Lehigh	1000	30000				
Lillian Hall	1000	15000				
Louise	2400	30000				
McMahon	1000	30000				
Marion		30000				
Meadow Valley	24023	60000	20	18¼		½
Mocking-Bird	1200	30000				
Monitor Belmont						
Murphy	2000	30000				
Newark Silver M. Co	800	32000	5½	4½		1¼
Pacific Tunnel & M. Co						
Page & Panaca S. M. Co	2400	40000	1⅛	1		⅛
Peavine	2000	30000	25c	25c		5
Phœnix		50000	35c	20c		5
Pioche Silver Mining Co	1000	20000	7½	5⅞		⅜
Pioche West Extension		35000	1½	1½		
Pioche-Phœnix		40000	3⅜	2½		⅛
Portland						
Raymond & Ely	5000	30000	72	55	12	
Silver Peak		30000	2	1.65		¼
Silver West Consolidated						
Standard Mill and M. Co						
Star Consolidated	18000	50000				
Starlight	6900	25000				
Sterling		30000				
Spring Mountain		20000				
Spring Mountain Tunnel						
Ward Beecher						
Washington and Creole	200	30000	2	1½		⅛
Yellowstone						
CALIFORNIA.						
Alpine	1200	12000				
Bellevue	8000	20000				
Calaveras Gold M. Co	3200	20000				
Cederberg Gold M. Co		24000	4	3¾		
Consolidated Amador						
Cottonwood Creek		20000				
Dunderberg M. & M. Co						
El Dorado Ind. Quartz M						
Eureka Gold Mining Co	1650	20000	20	19		
Gillis		24000				
Independent Gold M. Co	1800	25000	2	1½		⅛
Keystone Quartz		10000				
Mt. Jefferson	1500	25000				
Oakville Quartz M Co						
Rye Patch			7½	5		⅛
St. Lawrence M. & M. Co						
St. Patrick	1800	20000				
Tecumseh	3000	30000				
Yule Gravel	400	10000				
IDAHO.						
Empire		25000	50c	25c		⅛
Golden Chariot	750	10000	28	19	7	
Ida Elmore	1300	10000	5½	3	1⅜	
Mahogany G. & S. M. Co	720	10000	9	8		
Minnesota Gold & Silver	1070	20000	22¾	14⅞	5¼	
Red Jacket			3½	3		⅛
Sonth Chariot	660	20000	2	1⅞		⅛
War Eagle	1000	10000	50c	50c		
WHITE PINE.						
General Lee	1000	20000				
Mammoth Silver M. Co	1800	36000				
Noonday	1000	20000	10c	10c		
Orig. Hidden Treasure	800	21333	4½	4½		
Silver Wave						
Ward Beecher		24000				
UTAH.						
Deseret Consolidated	2400	30000				
Wellington		50000				
OREGON.						
Virtue	2300	20000				

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No. Amt. Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business.
American Flat M. Co.	Washoe	50 July 22	Aug 26	Sept 16	G. W. R. King,	411 California st
Arizona & Utah		5 1 00 June 16	July 21	Aug 12	Joseph Magnire,	419 California st
Buckeye G. & S. M Co.	Washoe.	8 1 00 July 14	Aug 19	Sept 8	J. Maguire	419 California st
Confidence M. Co.	Cal.	1 1 75 Aug 4	Sept 4	Sept 22	H. Hampton,	217 Sansom st
Cons. Gold Hill Quartz M. Co.	Nev.	1 75 Aug 4	Sept 3	Sept 29	R. Wegener,	414 California st
Charter Oak S. M. Co.	Ely District.	25 July 16	Aug 25	Sept 15	G. W. R. King,	411 California st
Caledonia S. M. Co	Nevada.	5 2 00 July 11	Aug 21	Sept 11	R. Wegener,	414 California st
Consolidated Virginia M Co.	Washoe.	15 3 00 June 11	July 16	Aug. 7	H. T. Bagley,	401 California st
El Dorado Sonth Cons. M. Co.	Nev.	1 1 50 Aug. 6	Sept. 12	Oct. 2	Wm. Willis.	419 California st
El Dorado Quartz M. Co.	Cal.	10 July 3	Aug 11	Aug 29	G. W. R King,	411 California st
" 420 " M. Co.	Nevada.	8 12½ July 25	Aug 28	Sept 16	H. C. Howard,	523 Montgomery st
Globe M. Co.	Nevada.	3 25 July 2	Aug. 4	Aug. 25	Joseph Maguire.	419 California st
Hale & Norcross S. M. Co.	Washoe.	5 00 July	Aug 2	Aug 22	J. F. Lightner,	438 California st
Ida Elimore M. C.	Idaho.	10 1 50 July 25	Aug. 29.	Sept. 20	Wm. Willis.	419 California st.
Justice M. Co.	Nevada.	6 1 00 Jnne 24	July 29	Aug 19	R. Wegener,	414 California st
Jackson M. Co.	Nevada.	10 Jnne 25	July 29	Aug 18	H. C. Kibbe,	419 California st
Julia G. & S. M. Co.	Washoe	15 Aug 5	Sept 8	Sept 27	A. Noel,	419 California st
Keatnckv G. & S. M Co.	Ely Dist.	6 1 50 Jnne 2	Aug 5	Aug 26	J. P. Cavallier.	509 Montgomery st
Kentucky G. M. Co.	Cal.	4 20 Jnne 23	July 24	Aug 8	Geo. Fletcher,	Grass Valley
Knickerbocker M. Co.	Am. Flat.	6 1 00 July 24	Aug. 26.	Sept. 15	Henry Boyle.	Stevenson's Bld'g
Lady Elgin G. & S. M. Co	Cal.	50 July 16	Aug 15	Sept 15	J. S. Luty,	507 Montgomery st
Mammoth S. M. Co.	White Pine.	10 July 26	Sept. 1	Sept. 22	J. L. King.	411 California st
McMahon S. M. Co.	Nevada.	4 25 Jnne 19	July 25	Aug. 19	Geo R. Spinney.	320 California st
New York Cons M. Co.	Nevada	5 25 Aug 4	Sept 6	Sept 25	H. C. Kibbie,	419 California st
C. H. Treasure M. Co.	White Pine.	1 00 July 31	Sept 6	Sept 30	D. A. Jennings,	401 California st
Ophir M. Co.	Washoe.	26 3 00 Jnne 24	July 29	Aug 18	J. Marks,	Merchants' Ex
Pictou M. Co.	Nevada.	3 20 Jnne 19	July 21	Aug. 8	S. Phillips.	408 California st
Rock Island G. M. Co.	Washoe.	1 50 Jnne 20	July 20	Aug. 12	W. E. Dean.	419 California st
Rose Creek M. Co.	Nev.	1 10 Aug. 5	Sept. 9	Sept. 30	S. Phillips.	408 California st
Savage M. Co.	Washoe.	5 00 July 24	Aug. 27	Sept. 15	E. B. Holmes.	Cr. Cal.& Sansomo st
South Charlot M. Co.	Idaho	50 July 28	Sept 8	Sept 29	J. L. King.	411 California st
Snocor M. & M. Co.	Washoe	6 75 July 31	Aug 30	Sept 22	W. H. Watson,	302 Montg'y. st
St. Lawrence M. Co.	Cal.	2 1 00 July 25	Aug. 23.	Sept. 16	R. B. Noyes.	411½ California st
Senator S. M. Co.	American Flat.	8 50 Jnne 24	July 29	Aug 18	Henry Boyle,	Stevenson's Bld'g
Silver West Min. M. Co.	Nevada.	4 25 Jnne 10	July 17	Aug 9	F. R. Bunker,	36 Montgomery st.
Spring Mountain Tunnel Co.	Nev.	6 20 Jnne 20	Joly 29	Aug 18	J. M. Buffington,	37 N. M. Exchange
Star Con, M. Co.	Nevada.	3 10 Jnne 19	July 24	Aug. 18	Geo. R. Spinney.	320 California st
Teoumsch G. S. & C. M. Co.	Cal	25 Aug 1	Sept 5	Sept 30	J. F. Hermann,	418 Kearny st
Tyler M. Co.	Washoe.	2 25 July 25	Aug 23	Sept 13	A. K. Darbrow,	Merchants' Ex
Yellow Jacket M. Co.	Washoe	16 5 00 July 10	Aug 15	Sept 15	G. W. Hopkios,	419 California st
Woodville G. & S. M. Co.	Washoe.	2 75 July 16	Aug 19	Sept 6	A Noel,	419 California st

Other Companies (not on the Lists of the Boards.)

Alpine G. M. & M. Co.	Cal.	50 July 21	Aug 25	Sept 17	J. F. Lightner,	438 California st
Atlantic & Pacific Con. M. Co.		5 Jnne 20	July 24	Aug. 12	A. Noel,	419 Californiast
Beckwith M. Co.	Ely District.	15 July 7	Aug 11	Sept 2	W. H. Watson,	302 Montgomery st
Brown's Valley Cons. M. Co.		1 50 Jnne 27	Aug 2	Aug 25	R. B. Noyes.	411½ California st
Cederberg First Sth. Ext. M. Co.	Cal.	4 5 July 31	Aug 30	Sept 19	J. N. Webster,	506 Montg'y st
Carson Cons. M. Co.	Nevada	10 July 28	Aug 30	Sept 22	A. D. Carpenter,	605 Clay st
Caroline M. Co.	Ely District.	1 20 Jnne 30	Aug 8	Sept 4	C. E. Elliot.	419 California st
California Beet Sugar Co.	Cal.	10 00 May 25	June 30	Aug 12	Lonis Franconi,	314 California st
Clear Lake Water Co.	S. F.	3 40 July 30	Sept 4	Sept 22	S. J. C. Swezey,	3 & 5 Front st
Cherokee Flat Blue Gravel Co.	Cal. 30	5 July 23	Aug. 26.	Sept. 15	H. Pichoir.	603 Washington st
Cosmopolitan	Cal	5 July 7	Aug 18	Sept 1	Wm. Small,	313 Kearny st
Commercial Coal M. Co.	Cal.	50 July 9	Aug. 16	Sept. 3	S. B. Hanson.	402 Montg'ry st
Day Spring G. M. Co.	Cal	5 Aug. 4	Sept. 10	Oct. 1	C. F. Brown.	302 Sansome st
Empire Tunnel & M. Co.	Utah	3 July 22	Aug 30	Sept 22	P. A. Eakins,	230 Kearny st
East Idaho M. Co.	Cal. 1	5 June 18	July 28	Aug 16	F. R. Bunker,	Grass Valley
Eclipse & Keystone G. M. Co.	Cal. 1	25 June 13	July 19	Aug. 11	A. Treadwell,	411½ California st
Emerald Hill M. Co.	Utah.	25 June 24	Aug 1	Aug 26	F. Madge,	Merchants' Ex
Equitable Tunnel & M. Co.	2	10 May 5	July 17	Aug 8	C. S. Healy.	Merchants' Ex
Golden Eagle M. Co.	Cal. 1	10 July 15	Aug 18	Sept 8	R. Stevenson,	305 Montgomery st
Grand Prize M. Co.	Cal.	1 50 July 11	Aug 18	Sept 10	Joel F. Lightner,	438 California st
Granite Tunnel M. Co.		10 Jnne 27	Aug 4	Aug 22	W. G. Holmes,	Cor. Wash. & Battery
Grace M. Co.	Schell Creek.	1 10 Jnne 20	July 26	Aug 20	W. H. Knigbt,	331 Mont. st
Hermiguera Mining Co.	Lower Cal.	7 3 00 May 6	July 2	Aug. 18	J. H. Applegate.	729 Montgomery st
Homegnera M. Co.	Lower Cal.	7 3 00 July 29	Sept 5	Oct. 25	J. H. Applegate,	729 Monty'g. st
La Paz M. Co.	Ely District.	50 Jnne 16	July 21	Sept 1	W. W. Hopkins.	411½ California st
Lady Emma M. Co.	Cal. 3	30 Jnne 25	July 26	Aug 18	A. D. Carpenter,	605 Clay st
Lncky G. M. Co.	Cal. 1	10 Aug. 6	Sept. 6	Sept. 29	R. B. Noyes	411½ California st
Mendoa S. M. Co.	Nevada. 1	1 00 Jnne 9	July 15	Aug. 11	Geo. R. Spinney,	320 California st.
Manhattan Marble Co.	Nevada.	10 Jnne 23	July 24	Aug 11	D. M. Bobeen,	319 Pine st
Orient S. M. Co.	Nevada. 2	10 Jnne 14	July 19	Aug. 11	Joseph Maguire,	419 California st
National M. Co.	Nevada	50 July 31	Sept 5	Sept 29	B. B Minor,	411½ California st
Placer G. M. & Canal Co.	Cal.	10 July 8	Aug 11	Aug 30	Geo. W. R. King,	411 California st
Phenix Tunnel & M. Co.	Utah.	10 July 2	Aug. 21	Aug 5	C. S. Healy.	Merchants' Ex
Pioneer Cons. M. Co.	Nevada. 1	10 Jnne 19	July 25	Aug 13	C. S. Neal,	419 California st
Plymouth Rock M. Co.	Utah. 1	5 Jnne 11	July 18	Aug 18	Jas. Mason,	422 California st.
Rising Star M. Co.	Cal. 5	6 July 11	Aug 13	Aug 30	J. M. Buttington,	37 Merchants' Ex
Sandrson G. M. Co.	Cal. 6	15 Aug. 4	Sept. 1	Sept. 17	Wm. Stnart.	113 Leidesdorff st
Seattle Coal & Trans'n. Co.	Oregon	2 20 Aug 4	Sept 5	Sept 25	H. L. Hutchinson,	507 Market st
San Jose M. Co.	Nev. 3	5 00 July 24	Aug. 25	Sept. 25	A Carrigan.	107 Front st
Stanislaos Water Co.	Cal.	2 July 2	Aug. 10	Aug 26	C. C. Tripp,	526 Kearny st
Summit M. Co.	Cal. 4	25 July 21	Aug 26	Sept 15	Geo. Davidson,	734 Montgomery st
South Emma M. Co.	Utah.	25 Jnne 11	July 21	Aug 15	Henry Boyle,	Stevenson's Bldg
Silver Sprout M. Co.	Inyo Co., Cal. 3	June 3	July 15	Aug 12	T. B. Wingard,	318 California st
Stickle Quartz M. Co.	Cal.	50 Jnne 11	July 17	Aug. 30	E. Wheaton,	401 Montgomery st
San Jacinto Tin Co.	Cal. 9	10 Jnne 14	July 28	Aug 31	L. Franconi,	314 California st
The City Gardens,	S. F.	60⅔ June 27	Aug 7	Aug 25	G. S. Ladd,	522 California st
Victoria and Imperial T & M. Co.	Utah.	20 July 1	Aug 5	Aug 27	W. H. Watson,	302 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Alta M. Co.		Wm. H. Watson.	302 Montgomery st	Annnal	Aug. 21
Baltic Cons. M. Co.		Robt. H. Goodwin,	507 Montg'y. st	Annual	Aug 16
Caledonia S. M. Co.	Nevada	R. wedgner,	414 California st	Annual	Aug 20
Cerbat Cons. G. & S. M. Co.	Cal	T. E. Jewell,	507 Montgomery st	Annual	Aug 11
California Pacific R. R. Co.	Cal.	E. H. Miller, Jr.		Annual	Aug 11
Chief of the Hill M. Co.	Ely District.	C. S. Neal.	419 California st	Annnal	Aug. 21
Clay Street Hill R. R Co.	S. F.	C. P. Campbell,	Cor. Clay & Montg'y	Annual	Aug 21
Eastport Coos Bay Coal M. Co.		R. D. Chandler	Jackson st	Adjonrned	Aug 12
Eureka M. Co.		R. B. Noyes.	411½ California st.	Annual	Aug 12
Fanper Blue Gravel M. Co.	Cal.	Wm. Watson.	302 Montgomery st	Annnal	Aug. 21
Haslee M. & M. Co.		W. Tripp,	408 California st	Annnal	Aug 13
Mohave Cons. G. & S. M. Co.		T. E. Jewell,	507 Montgomery st	Annnal	Aug 9
National M. Co.		B. B. Minor.	411½ California st	Annual	Aug 8
North Beach & Mission R. R. Co.		H. W. Hawborne,	Cor. 4th & Lonisa	Annual	Aug 25
Noonday S. M. Co.	Nevada	I. Livingston,	426 Montg'y. st	Special	Aug 7
Overman S. M. Co.	Wasboe.	Called by Trustees	414 California st.	Specisl	Aug. 12
Pacific Mining Tunnel Co.		Wm. H. Knight,	331 Montg'y st	Annual	Aug 28
Silver Peak	Idaho	David Fay,	Merchants' Ex	Annnal	Aug 18
Pacific Rolling Mills Co.	S. F.	S. J. C. Swezey,	3 & 5 Front st	Annnal	Aug 11
Southern Pacific R. R.	S. F.	J. L. Wilcutt,		Annnal	Aug 11
Saucelito Land & Ferry Co.	S. F.	J. H. Sayre,	331 Montg'y st		Aug 7
Woodville M. Co.	Washoe.	A. Noel,	419 California st	Annnal	Aug 16
Ward Beecher Cons. M. Co.,	White Pine	D. A. Jennings,	401 California st	Annual	Aug 19

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	L. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	7 00	Aug 9
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	4 00	July 12
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Coo. Amador M. Co.	Cal.	F. B. Lathsm.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Fassett.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Aug 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 21
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	July 21
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Aug 9
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	July 10
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		June 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Aug 7
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	5 00	Feb. 1

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May 1
First National Gold Bank of S. F.		N. K. Masttck, Ch'r,	M'rkt. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	Pichoir,	210 Front st	1½ per cent.	July 15
German Savings & Loan Society,	S. F.	Geo. Lette,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st.	9 6-10, 8 & 4 per cent.	July 15
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Lonisa sts.	½ per cent.	April
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 percent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

Our Weekly Stock Review.

THURSDAY EVE., Aug 7, 1873.

The Stock Market tbis week has been in a very depressed condition; prices bave been weak and tbe volume of business llgbt. A slight reaction set in last week, but there was not mucb excitement, and on Tuesday the market began to droop again. Nobody seems disposed to invest in stocks just at present, though tbere is little apparent reason for it, otber than the general business depression. Tbe late long-continued and still existing dullness was to have been anticipated, to some extent, as tbe months of July and August are usually the low tide of the year in the stock market.

Sales at the San Francisco Stock Board amounted to $2,172,000 for the week. The number of shares sold of the more active stocks was as follows: Newark, 15,400; Imperial, 9,100; Belcher and Meadow Valley over 7,000; Baltimore Consolidated, Caledonia, Gould & Curry and Savage over 4,000 each; Eureka Con., Huhn & Hunt, Minnesota, Raymond & Ely and Washington & Creole over 3,000 shares each.

The reports from the Comstocks are as good as ever, but the actual production of bullion is less than usual, on account of the lowness of water in the Carson River, where tbe mills are. The production of bullion is nevertbeless larger than it was last year, when the water was lower, the Crown Point, disabled by a cave, and, further on, all the mines partially stopped by the fire in tbe railroad tunnel.

The only dividends announced thus far for August are as follows: Minnesota, $1.50 per share, aggregating $30,000; Eureka, (Grass Valley,) $1, aggregating $20,000; Belcher, $7 per share, or $728,000 in all. The dividend of tbe Minnesota is the first ever paid. It is an Idaho mine and levied an assessment in January. The Crown Point ore product for July was 10,172 tons; valued at 65 per cent. of assay, $627,770.97; average, $61.71. Several other mines will probably announce their dividends for the month next week.

On Friday the stock market was weak and low with a light business. A few stocks however showed a slight advance. Belcher went up $2; Challar $1; Savage $2 Golden Chariot $3; and Minnesota $2.

On Saturday some little improvement was manifest and prices rose to some extent. At close Belcher went up $1; Crown Point $1; Challar $1; Savage $4; S g. Belcher $3; Hale & Norcross $1; Opbir $1; Overman $1. Raymond & Ely, which was $74 before the Board, sold down to $69 and was $68 after the Board. Hermes sold $4.75; Kentucky $2.75; Minnesota declined $2.50.

On Monday the market was better than usual on that day of tbe week, but still signs of weakness were apparent. Crown Point was $3 better than on Saturday; Hale & Norcross, $2; Baltimore Con., 50 cents. Raymond & Ely fell $1; Newark, $1; Eureka Con., $1.

On Tuesday the market was considerably stronger, but the amount of business was small. At the afternoon Board a general decline was evident.

On Wednesday there was no change in the Stock Market, and prices closed even lower than on the previous day.

To-day there is little change to note. From yesterday morning's quotations Crown Point has advanced $2, Belcher $1.50, Gould & Curry, Raymond & Ely and Yellow Jacket $1 each; Sierra Nevada is $1 lower, and Overman and Seg. Belcher each $2 since yesterday.

OSCILLATION OF SUN SPOTS.—It has been found that during periods of great solar disturbance there is a tendency in the spots to change from one hemisphere to the other, the translation occupying about twenty-five days. No such systematic movements were noticed in times of comparative quiet. The cause of this strange phenomenon is as yet unknown.

THE COAL MINE on Black River, 10 miles from Seattle, is spoken of as exceeding, for quantity, quality and facility of access, any thing of the kind yet developed upon the Pacific Coast, and even the mines in the famous coal regions of Pennsylvania and Virginia.

NEW METHOD OF PROTECTING THE PLATES OF IRON SHIPS FROM CORROSION.—To prevent the corrosive action of bilge water upon the iron plates of iron ships, James Young has suggested and tried the use of lime, to neutralize the acid of the water. Actual experiment, continued for several months, shows that a small quantity of lime in the bilge water wholly prevents the corrosion of the iron plates.

THE OVERMAN COMPANY have gained a dismissal of the appeal by the Dardanelles Company from the Land Office of Nevada. The dismissal decides that the protest filed by the Overman before the Register is good.

BULLION.—On the 3d inst. Wells, Fargo & Co. shipped from Winnemucca 4 bars of Minnesota bullion, worth $16,152; it came to this city. They forwarded to New York three bars of Golden Chariot bullion worth $6,754.

THE Lancanshire miners of Wigand District are on a strike for an advance of wages and reduction of hours.

A RICH QUARTZ discovery has been made on Deadwood Ravine, near Forbes' Town, Butte county.

THIRTY TRAINS per day are now running over the Virginia and Truckee Railroad.

ANOTHER strike, is reported in the Mono mine, Utah.

Mining Summary.

The following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

AMADOR COUNTY.

Silver Ore.—Amador *Ledger*, Aug. 2: Mr. John S. Campbell left at this office on Wednesday, several pieces of metal-bearing rock, resembling in external appearance specimens of silver ores from the Virginia mines. Mr. Campbell informs us, in sinking a well on his premises, at the depth of thirty feet he came upon a body of ore, (of the kind brought to the office) about 5 ft. in width, the entire body being entirely charged with sulphurets, and as far as sunk upon, having all the appearance of a well defined and permanent lode of metal-bearing rock. From the general appearance of the rock left by Mr. Campbell we are satisfied that it is silver-bearing, but of what value, we have no means of knowing. The deposit is about one and a half miles southeast of Jackson, and its value should be fully tested.

The Alpine Mine.—This mine, located at Plymouth, we are informed is turning out very fine rock, with most flattering indications of continuing. We have no doubt of the ultimate success of this mine, situated within the great gold-bearing belt of the county; its present development gives flattering promise of future returns.

Quartz Lode in Jackson.—Mr. Danl. Hertee, in sinking a well near his machine shop on Broadway, at the depth of ten or twelve feet, came upon a well defined ledge of quartz rock, about three feet in thickness, having all the indications of a regular ledge, with walls and gangue peculiar to the mines in the vicinity. The rock not only shows gold-bearing sulphurets, but also free gold visible to the eye. The rock as far as taken from the well, bears a striking resemblance to the Kennedy rock. This discovery may yet prove of value.

Kennedy Mine.—The main shaft on this mine is now down 700 ft., and connected with the old shaft; the mine is looking remarkably well, the ledge well defined and the rock abundant, and well charged with free gold and gold-bearing sulphurets; at no time in the history of this mine, has it ever presented a more flattering appearance than at the present. The Kennedy, with its present development, may be safely recorded as one of the valuable and permanent mines of the county.

Amador Canal.—As far as we can learn, our quartz mines are looking as favorably as at any former period, and the gold yield satisfactory. In placer mining but little activity prevails except in the vicinities of Volcano and Aqueduct City. The Amador Canal in that section of country is furnishing water to all who require it on accommodating terms, and will be able to do so through Summer. There is a large scope of country within reach of the waters of the above named canal that ought to be developed, and for that purpose miners should avail themselves of the present supply to unlock the golden treasures hidden away beneath the hills and flats of that section of our mines.

CALAVERAS COUNTY.

Railroad Flat District.—Calaveras *Chronicle*, Aug. 2: The new pump of the Sanderson mine is in position. Sinking will be resumed as soon as the Superintendent can find miners for that purpose. A contract has been let to sink the Prussian Hill mine 100 ft. deeper at $16 per ft. The old portable engine of the Sanderson is being used for hoisting purposes to complete the contract. The Essex, E. Beals, Superintendent, is working two shifts in the tunnel. The fissure is very large and well defined, containing highly mineralized vein matter. A new shaft has been commenced on the old rich chimney of the Herzer mine. Clark's ponderous hydraulic is still thundering in the Flat, but the scarcity of water will soon suspend operations for this season. Many of the mine owners of this district, West Point and Mosquito, are complaining for the want of a necessary force of miners. Competent under-ground miners are very scarce.

Coal.—We are informed by Mr. Mathew Murray, of Lancha Plana, one of the proprietors of the recently-discovered coal mines in that vicinity, that operations are progressing and that very favorable developments are being made. A much better article of coal is now being obtained than heretofore, and it improves in quality as the tunnel is being driven ahead. Mr. Murray has promised to send us some specimens. When we receive them we shall be able to speak more definitely in regard to their quality.

EL DORADO COUNTY.

Taylor Mine.—Mountain *Democrat*, August 2: This mine is situated near Greenwood on the line of the St. Lawrence and Stiger ledge. For some time until quite recently, work has been suspended, but has lately been resumed with flattering results. Some time was consumed in cleaning out the shaft and fitting up. A depth of two hundred feet has now been reached, from which point we are in receipt of samples of rock that make a liberal showing of free gold and is full of good looking sulphurets. A battery of 5 stamps was set in motion at the Taylor mine last Wednesday. The cams and shafts are in position and the mortars and stamps for 5 more have been ordered. The Superintendent, N. D. Burlingham, who is one of the most experienced and efficient miners in the country, is quite confident that the Taylor will soon rival the St. Lawrence and Stiger.

INYO COUNTY.

Shut Down.—Inyo *Independent*, July 26: Our Cerro Gordo correspondent informs us that it is probable both the Belshaw and Beandry furnaces will be compelled to shut down for a time. It is scarcely possible to obtain either water or men to run them until a supply of the former is obtained through the new water company, who are actively engaged in their work. Many of the furnace hands and miners are unable to work through sickness, more prevalent than usual while the weather is so extremely warm, and are going off to the fishing grounds and elsewhere to recuperate. Among others, Mr. Beandry and his Superintendent, Mr. Porter, are obliged to repair to the coast for relief, both having long been in very bad health. Money is scarce, and, pending a final decision of the great mining suit, is not likely to be more plentiful—so, we presume, it will not justify to be at such a continual heavy expense in adding to those immense piles of bullion now awaiting shipment, and, of course, paying no returns to the owners. In other respects the prospects of the camp were never more encouraging. The other important mining enterprises are going on there, with the certainty of an abundant supply of water early this fall, together with the active working of the Swansea Company, will do much toward maintaining the usual financial balance of the county.

A cinnibar lode has been discovered in Humboldt county Cal., about 20 miles from Yreka. It is said to be rich.

The Cottonwood Flume.—Inyo *Independent*, August 2: Is progressing finely. Last week about one mile of the flume, from the head, had been laid. This is over the heaviest incline and the ruggedest portion of the entire route. As fast as completed in short sections the flume is used in sending down material for the next succeeding, and thus its efficacy is being tested at every step. In this essential point it is a success in every respect, and Colonel Stevens is delighted accordingly. The sawmill, at the head of the flume, besides the main saw, is fitted with an Edgar and cross-cut, used in preparing flume timbers, and altogether is considered the best mill in the county. An accident occurred a short time since, which will delay its work a short time. This was by twisting off the shaft of the turbine, which has to go to San Francisco for repairs. There is enough lumber already out, however, to keep the work going ahead on the flume until the wheel is in place again.

Lida Valley.—Times are very quiet in Lida Valley since Hiskey & Walker's mill shut down. This result was caused, not by any failure of the mines or mill, but by the San Francisco firm, Parker Watson & Co., whose property, including an interest in this mill, is under attachment, hence the stoppage. It is thought an early arrangement can be effected so that the mill and work will soon start up again, a consummation most ardently desired in that region.

Still Running.—Notwithstanding the report to the contrary, which by the way, was based on good authority, both the Cerro Gordo furnaces will continue in operation. At least Beaudry's is now while Belshaw's is undergoing repairs, no doubt with a view of a steady run. The Swansea furnace is and has been running steadily, except a few days in the beginning of last month, when work was suspended to rebuild.

Nevada.

CHERRY CREEK DISTRICT.

Ploche *Record*, July 25: There is but one mine being worked to any considerable extent, and that is the Exchequer mine, which has been bonded to Hoffman and his associates, who express great confidence in its future value and permanency. There are several other mines in the district which show good ore in limited quantities but the owners prefer to hold them in wait for purchasers to enter upon active development. Purchasers, however, are not easily found nowadays for mining property where only a surface showing can be made. There is no lack of mill facilities for working the ore of the district should it be found in quantities, as Cherry Creek is only about three miles north of the old Egan District, where there are two mills now lying idle.

Remorse Consolidation.—It was rumored on the streets yesterday that a consolidation had taken place between the Hermes, Ploche-Phenix and Kentucky mines, by their respective companies, at San Francisco. It was also stated that the consolidation had destroyed all prospects of a compromise between the Raymond & Ely and Hermes companies, and the new trial granted in the District Court would be hurried up now with all possible speed. If there is to be another trial, this prayer of the camp is that it be had as speedily as possible, as the doubt and uncertainty in which we are involved have all the agonies of a lingering death for the business interests of the place.

The Crown Point Mine.—The *News* of July 26th, gives the present condition of the mine as follows: "The daily yield of ore is 450 tons. The main south drift on the 1,400-ft. level is making steady progress, the face in porphyry. The flow of water from the east cross-cut from this drift has somewhat decreased, and another cross-cut, sixty feet further south, has been started to assist in draining the water: Both the north and middle winzes on the 1,300-ft level continue in rich ore. The winze from the 1,200-ft. is looking finely.

Ore breasts throughout the mine are all looking and yielding splendidly, and the prospects of rich returns to the shareholders have never been more flattering than at present.

No. 7 Shaft, of the Meadow Valley company is now bringing to the surface some very rich ore, which they have just commenced sending to their mills. There are about 100 tons of this ore now on the dump.

Utah Mine.—The shaft of this mine is now down to the depth of 240 ft., and sinking is progressing at the rate of 20 inches per day. This is excellent progress considering the large size of the shaft and the fact that but three men are working on a shift. The little old pump is still in use, but is not capable of raising the water to a much greater height, and preparations are now being made for putting in a new pump The column of the new pump will be eight inches in diameter and it will be sufficiently large to handle all the water likely to be encountered in a long time. A portion of the machinery for this new pump is now on the ground. It is expected that the shaft will cut the east clay of the lead at the depth of 500 ft. The lead lies very flat where it was cut by the old shaft. The width of vein matter shown by the old works was 80 ft., with an east clay wall 12 ft. thick. Some good ore was found in the old works, but it was in bunches and streaks and was in no place found to be sufficiently concentrated to form a workable deposit.

Territorial Enterprise, July 27: Items.—The Sierra Nevada Company are going along on the even tenor of their way; extracting and crushing 60 tons of ore per day.

Belcher Bullion.—There were yesterday received at the Bank of California 16 bars of Belcher bullion, worth $59,000.

The Occidental mine is yielding 35 tons of ore per day, which is being worked at the mill of the Company.

The Chollar-Potosi mine is yielding 150 tons of ore per day, worth, according to assay, $30 per ton.

The Daney Company have struck a small quantity of water in their new shaft, at a depth of 160 ft.

The silver Hill Company are taking out 60 tons of ore per day, which is worked at the Bacon mill.

WASHOE.

Belcher.—Gold Hill *News*, Aug. 2: Daily yield 450 tons of ore, averaging $65 per ton. All the stopes on the different levels are looking and yielding finely. The ore stopes on both the 1200 and 1300-ft. levels show a decided improvement going south, the ore being all of high grade. The main south drift on the 1300-ft. level is in 303 ft. and still in good ore. The winze on the 1200-ft. level, 100 ft. south of the Crown Point line on the east side of the vein is down 14 feet in splendid ore. The heat on the 1000-ft. level is very great. The general appearance of the south portion of the mine leads to the belief that the ore body is of much greater magnitude than was hoped for, taking the upper level as a standard. The company is prepared to greatly increase the quantity of ore extracted from the mine, but owing to the scarcity of water in the Carson river, cannot get it crushed.

New York Con.—The water continues to increase in the bottom of the shaft, and requires the hoisting of 18 tanks an hour to keep it down sufficiently to permit of the prosecution of the work.

Gould and Curry.—The main northeast drift on the 1500-ft. level is still driven ahead, the face in quartz of a very promising nature. The east cross-cut in the main south drift on the 1000-ft. level has cut through a heavy clay wall into a body of quartz that gives excellent promise of some good ore developments soon. The ore-breasts on the second level continue to yield from 10 to 20 tons of low-grade ore per day, and a drift has been started 100 ft. lower down to prospect the ore body at a greater depth.

Consolidated Virginia.—Sinking the shaft is making excellent progress, the rock in the bottom blasting finely. The flow of water from the face of the main north drift on the 1,157-ft. level, from the Gould and Curry shaft, continues unabated, and no progress whatever has been made since our last report. The erection of the new hoisting and pumping machinery is fast approaching completion.

Caledonia.—The north winze from the 400 ft. level, will make the connection with the main north drift on the 500-ft. level in a very few days more, giving a much needed circulation of pure air, and greately facilitating the prospecting and extraction of ore on the level. The prospecte of the development of a fine body of good ore by the north drift, on the 500-ft. level, are steadily increasing as the work progresses. The Sapphire mill is kept steadily running on ore from the mins.

Silver Hill.—The main northwest drift at the second station is still driven ahead, the rock in the face working finely, with a slight increase of water. The main north drift at the first station has been driven until near the Justice line, the face still in good ore. Daily yield 60 tons of ore, mostly from the ore breast in the north drift at the first stetion. The Bacon mill is kept steadily running on ore from the mine.

Daney.—The shaft is down 155 ft., the water from the bottom steadily increasing as greater depth is attained. Excavating and preparing to put in the pumping machinery has been commenced, and will be prosecuted with the utmost vigor until completed.

Lady Washington.—The steam pipes have been connected with the boilers, the furnaces are ready to fire up, and the new hoisting works will be in full blast in a day or two more. Everything in and about the works has been done in the most permanent and complete manner, good developments may be looked for.

Crown Point.—Extracting ore from the 10, 12 and 1300-ft. levels. Two winzes have been started from the 1300 track floor to connect with the 1400-ft. south drift. The north winze, which is down 22 ft. on an incline of 34 deg., is now in good ore, and has been from the start. Ore of excellent quality has been encountered in the next winze, which is designated as the middle one, owing to the fact that another one will shortly be started on the south line. The various floors and breasts throughout the 1300-ft. level are looking exceedingly well. The Atlas, Potaluma and Pioneer mills, which have been undergoing repairs for several weeks past, will start up next Monday on Crown Point ore.

Tyler.—The shaft is down 135 ft., at which depth a heavy flow of water was struck, which has necessitated the suspending of operations until new pumping machinery, which is now on its way, shall arrive from San Francisco. This machinery is expected to arrive this evening, when it will be immediately erected, and work in the shaft resumed in a very short time.

Overman.—The main west drift at the 1000-ft. level is still driven ahead, with no change to note except a slight increase of water from the face. The main prospecting drift south is making good progress. There is no change of interest in the main northwest drift. The shaft is nearly drained, so that sinking can be again resumed whenever the Company see fit to do so.

Occidental.—Daily yield, 40 tons of ore. The ore breasts are looking well, and the mine premises a profitable, permanent investment and steady return for many months to come for the labor and money invested. There is a good supply of ore accumulated at the mill, and the yield from the mine can be greatly increased whenever the management see fit to do it.

Arizona and Utah.—Sinking the shaft is progressing downward at the rate of 2 ft. per day. The winze in the main east drift at the first station is down 116 ft., the face still in low gradeore. The pumping machinery is working finely, and the water does not impede the progress of the work in the least.

American Flat.—Nothing has been done whatever in the south drift from the 450 ft. level of the Baltimore since our last report, on account of the heavy and continued flow of water from the face of the drift. The water is being rapidly lowered, and work will be resumed in the drift in a very short time.

Crown Point Ravine.—Draining the water from the shaft was commenced on the 25th of last month, and completed so that the men resumed work in the main west drift yesterday morning. This drift has only a few feet more to run to strike the ledge, when there is but little doubt that ore in paying quantities will be found.

Chollar-Potosi.—There has been little or no change during the week in either the quality or quantity of ore produced. The ore-breasts continue to both look and yield well. The cross-cut east from the main northwest prospecting drift at the fourth station, is driven ahead without material change of interest to report.

Justice.—The east cross-cut from the main south drift on the 400-ft. level is still pushed steadily ahead, the face in good ore. The south drift from the 260-ft. level of the old Wailer Defeat Shaft is making good progress, the face in low-grade ore. The main south drift on the same level is making excellent progress.

Utah.—Sinking the shaft downward is progressing at the rate of 3 ft. per day, the rock in the bottom working well and no water to impede the work. The new pumping machinery is fast approaching completion, and the future prospects of the mine look bright and encouraging.

Kossuth.—The shaft down is 100 ft., at which point the sinking has been stopped until the erection of the new steam works and pumping machinery is completed. Excellent progress is being made with the work, and sinking will be again resumed in a very short time.

Dayton.—Sinking the shaft for a sump, below the second station at the 210-ft, is completed. Opening the station and starting a drift west for the ledge will be commenced immediately. Work in the main drift west at the first station, will be commenced in a very few days.

Julia.—The main east drift on 800-ft. level, is in 600 ft., the face in quartz and porphyry. The flow of water from the south cross-cut in the main west drift at the 1,500ft. level is steadily decreasing, the hoisting tanks lowering it at the rate of 3 ft. per day.

Hale & Norcross.—Daily yield 25 tons of ore, mostly from the second and tenth station levels. Cross-cutting north on the 1500-ft. level has not developed anything of value. Sinking the north winze from the 1700-ft. level has been discoutinued for the present.

Yellow Jacket.—The cross-cuts from the main north drifts on the 1400 and 1500-ft. levels have developed nothing of value during the week. Everything in and about the mine is working finely, and good hopes are yet entertained of finding ore on these levels.

Baltimore Consolidated.—The water is being steadily drained from the second station, so that work can be again resumed on that level by the middle of next week. Prospecting at the first station goes steadily on, without change of interest to report.

Jacob Little.—The east cross-cut from the main west tunnel is in 23 ft., the face in fine ore. Assays taken from the face of the drift, gave $500 per ton in silver and $240 per ton in gold.

Knickerbocker.—The south cross-cut from the main west drift on the 400-ft. level, has made but slow progress during the week, on account of bad air. A patent blower has been erected, however, and this trouble overcome, so that good progress can be made. The face is in a mixturo of quartz and porphyry.

Sierra Nevada.—The ore breasts are being gradually extended farther to the north and westward, with but little change in either the yield or quality of the ore produced. Daily yield 60 tons of ore, keeping the mill steadily running.

Ophir.—Sinking the shaft is making steady progress, the rock in the bottom somewhat better than at our last report. Prospecting the different levels of the mine continues without any new developments of interest to report.

Savage.—Sinking the incline is making steady progress, the rock in the bottom working finely. Prospecting the 1,700-ft. level continues without any new developments of interest.

Empire.—Still cross-cutting on the 1,700-ft. level without any developments of material value to report. The upraise on the 1,500-ft. level is making good progress.

Buckeye.—The ore breasts on the different levels are looking and yielding as finely as usual. The mill is kept steadily running on ore from the mine.

Mexican.—Cross-cutting from the main east drift, at the second station, is vigorously prosecuted without change of interest to report.

Franklin.—The main tunnel is still driven ahead with excellent prospects of soon striking the ledge.

Imperial.—Prospecting as usual, with nothing new to report.

WHITE PINE.

International Mill.—White Pine *News*, July 26: Matters about the mill are in a forward state of preparation. The half-burnt and badly twisted machinery has been collected, and men are busily at work scraping off iron rust, stacking up bolts, nuts, screws, etc., ready for use in the various places they may be needed. The new building proper is to be 154 ft. long, with machine shop and outbuildings additional. There are to be 30 stamps with 16 pans, 8 settlers, and 4 agitatore, making a crushing capacity of 40 tons of ore per day. Much of the heavy timber, not destroyed by the fire, will be used in construction, and but little new machinery, if any, will be required; in fact, from the appearence of things, the energetic engineer seems to be making arrangements to manufacture all missing portions on the spot.

Mill at Shermantown.—J. B. Osborne's failings mill at Shermantown is rapidly assuming an appearance of completeness, and we are informed that it will soon be ready for a start. In view of the fact of the many improvements which have been added, we can confidently predict a success. There is a good lot of money to be realized from the enterprise, and we know of no man whom we would rather see make it than our friend Osborne. As soon as all is ready for a start, we shall visit the mill and give a description of it.

Stanford Mill.—This fine mill is constantly running on rock from the mines of the Eberhardt & Aurora Co., and thus far has obtained as high a percentage under the administration of Dr. Goodfellow as any institution in the country. The diamond drill, now being worked on the Hill, is for the purpose of developing the ground belonging to this company.

Eberhardt and Aurora.—From Manager Frank Drake we are informed that the mines of this company are looking splendidly, and producing their usual quota of ore. We shall take occasion to visit them next week, when a full report will be given.

Robinson District.—The Defiance is owned by McCauley, T. E. Yates and John Hall. A shaft has been sunk a depth of 95 ft., at which point a level was run easterly in a large body of good milling ore, assaying on an average some $35 per ton. There are now 150 tons of pay ore on the dump, and the mine is being constantly worked in a large body of mineral. As soon as the Watson Company's mill is finished the owners of the Defiance intend having a quantity of rock worked there, the proceeds of which will enable them to carry on their work of development.

Ward Beecher Consolidated.—On Tuesday last, we visited the principle mine owned by the above named company, known as the Edgar, and were able to glean the following facts: Since our last visit some weeks ago, work has been continuously prosecuted revealing daily larger and more valuable bodies of ore until a depth of 152 ft. from the surface has been attained, most of the way through good pay ore. The most wonderful development occurs at the first level (so-called,) 115 ft. from the surface, consisting of a body of ore-bearing rock of an assay value of $60 per ton, extending a width of 80 ft. east and west, across the vein, which has been explored thus far a distance of 100 ft. in length, with a prospect of continuity to an indefinite extent, the same width. Fifty men are now employed breaking down the ores from this vast area, and 35 tons are daily being shipped to the Manhatten mill, leaving considerable accumulated rock remaining in the mine and on the dump. Below the first level a continuation of the same body described above appears, and a force of men are engaged extracting the same. The fact that this ore body shows no signs of diminution, and that its course seems to be easterly, and downward, or into the hill, demonstrates to us beyond a doubt that the theory of permanency in the mines on Treasure Hill is established beyond a question. The principal and main difficulty now seems to be the want of proper and sufficient facilities for raising the ore to the surface. Instead of 35 tons, which is now the daily product, 70 could be laid upon the dump through the aid of machinery, instead of horse-power.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's office, San Francisco:

Utah Excelsior M. Co., July 31: Utah Territory and Nevada. Directors: C. W. Gilmore, W. A. Swadley, Jerry H. Stevens, Frank Cunningham, James K. Herlot. Capital Stock, $4,000,000 in shares of $100 each.

Meetings and Elections.

New York Consolidated Mining Co., August 4. Trustees: J. D. Fry, (President), A. K. P. Harmon, Robert Sherwood, C. L. Weller, and T. W. Colburn; H. C. Kibue, Secretary; Thomas Brooks, Superintendent.

Consolidated Gold Hill Quartz M. & M. Co.—Aug. 5. Trustees: G. W. Besyer, R. F. Morrow, H. H. Flagg, M. Lewis and W. W. Stetson.

Tyler M. Co.—Aug. 5.—Trustees: Alpheus Bull (President), S. W. Lee, F. A. Sawyer, Philip Kitz and Geo. D. Roberts; Alfred K. Durbrow, Secretary.

Mining Pumps.—We sss by ths Virginia *Enterprise* that ths thrss largs pumps made in this city by David Stoddart, No. 114 Beale strsst, for ths Sutro Tunnsl Company, havs arrived at their dsstination. Ths pumps ars quits large, wsighing thrss tons each. Thsy ars of ths "Cameron" pattsrn, with soms slight modifications to suit ths requirsmsnts of ths company. Ws ars plsased to sss ths Tunnsl company buying their machinsry in San Francisco, for thsy havs procured a largs portion of it in ths Eastern States. Our foundrymsn can manufacturs all classss of mining machinsry much bsttsr and chsapsr than it can bs dons East, and thsy should always bs givsn ths prsfersncs by the mining companiss of ths Coast.

The San Dimas Mines in Msxico, aftsr many difficultiss ars now in a fair way to pay. Capt. C. B. Dahlgren of that placs, writss to a Nsvada papsr that aftsr 2¼ ysars work thsy havs finally gottsn thsir tsn-stamp mill running and ors comss in from all sides. Ths rssult of ths first run was $8,014 from 94 tons of ors, or $85.39 psr ton which was 84 psr cent of assay valus.

Joseph LeConte, Professor of Geology at ths Stats Univsrsity, has gons to Oregon, whers hs will in company with Rsv. Mr. Condon maks an sxamination of ths cliffs of ths Columbia rivsr. Ths locality to bs visited is rich in fossil rsmains, and Profsssor Ls Conts will collect for ths Univsrsity.

Woon Destroyed.—A firs occnrrsd on ths 2d inst., a fsw miles from Carson City, which destroyed soms 8,000 cords of wood, worth $7 psr cord. Half a mils of track and about a mile of flums wsrs also dsstroyed. All this wood was intsnded for uss at ths mills and hoisting works of ths Comstock mines.

The Victoria and Impsrial Tunnsl and Mining Co. havs rsscindsd ths asssssmsnt of 20 cents psr shars on account of valuabls dsvelopmsnts mads since it was lsvied.

Arlington District.

A correspondent of the *Alta*, writing from Los Angeles, says:

The newly discovered silver ledges of Arlington District are attracting much attentiou in this section. Returning from a trip thither, I am enabled to furnish the *Alta* with a brief sketch of their charecter, surroundings and whereabouts.

The Locality.

Arlington District, is found in Sau Bernardino county, on the desert slope of the mountains, eome sixty-fivo miles nearly east from Cajon Pass. From Los Angelee the route and distance may be given as follows: To Cucamonga, 43 miles; Cajon Pass, 26; Mojave River, 21; Rabbit Springe, 24; Cusenberry Springe, 10; Arlington District, 10 milee. Total from Loe Angeles to the mines, 134 miles. A wagon road leads directly to camp, and good water aud grass for animals can be had on the desert at each of the points named beyond Cajon Paee; none elsewhere on the desert portion of the ronte.

The District.

The discoveries leading to the preeent active operations were made last February, by a young prospector named Chileon (acting for himself), Capt. James E. Bryan and othere, of Anaheim, and the district was organized early in April. The camp has now upward of thirty occupants, and eome forty locatione have been made. The Fairfax, the first location, has received a large ehare of attention and been moet worked. On it are three exteneione of 1,500 feet each, the croppings being clearly traceable for that distance. Oliver Smith & Co., of Oakland, are interested in this ledge, and have an agent on the ground superintending ite development. Other locations on the eame ledge are controlled by eome of our connty capitaliets, and work is being puehed forward nnder the snperintendence of Capt. Bryan. Within thirty days there will have been completed a ehaft 100 feet deep, and a conuecting tunnel of equal length, every foot of which will, according to present indicatione, yield paying rock. From thie ledge some tons of rock have been shipped to San Francisco, and another shipment will be made per next steamer. The first lot returned per ton, in silver, $360; gold, $220. At a depth of eight feet, the ledge showe a width of about three feet. The Red Oxide, Home Ticket, Cash, Last Chance, Lone Mountain and othera are held in high esteem by their ownere, and jnstly so, if future developments sustain preeent promise. Work is being pushed forward on several of the claims as rapidly as the means of those engaged will permit. The ledges thus far located vary in width from one to four feet, and are all found in a eolid limeetone formation. They run northwest and sontheast with an easterly dip. The oree carry galena, some of them a large percentage, all bear more or less gold, are copper stained and ehow traces of the baeer metale. It is probable that the smelting procees will be found practicable in the reduction of many of these ores, at least such ie the belief of many who have given attention to the matter.

The Outlook.

There is no question regarding the richness of these deposits—ths miner'e pick and shovel, powder and drill, must demonstrate their extent. Should the developments on the Fairfax prove satisfactory, reduction worke will be at ouce thereafter erected at Cusenberry Springs, where there is an abundance of water, with an ample supply of wood growing in the adjacent cañons and upon the grim old monntain sidee. Both wood and water have been secured. The locations already made are embraced within an area of five miles long by two wide; but new prospectors are daily arriving, and are pushing their reeearches in every direction. Among others I noted the presence of Dr. Fonda, of Oakland, who was in good humor over a newly discovered ledge, specimens of which he had forwarded to San Francisco. Cabine for the winter are erecting, and all are confident that what are now mere ledges will be developed into lasting and payable mines. As matters look at the present the field is an inviting one for the prospector, and the capitaliet will not find it unprofitable to give the district eomething of attention.

Speaking of the great Sierra Madre Tnnnel in Colorado, tho Black Hawk *Journal* says: The map of the line of the tunnel shows that in a distance of two miles from the cover thirty-six known veine will be cut at depths varying from 200 to 1,000 feet. The Bobteil will be cut at a depth of 834 feet, which is about 400 feet lower than the Bobtail Tunnel cuts it. It cuts the Gregory 775 feet below the surface, there heing a depreesiou at that point.

Bankrupt.—Charles E. Pearson has filed a petition in the United States District Court to declare the Woodhill Gold and Silver Mining Company bankrupt, alleging that the Company is indebted to him in the sum of $3,000. Since the petition was filed the Company has consented to an adjudication.

Michigan Capitalists continue to invest in Utah mining property. The Laet Chance and Galena minee in Bingham, were eold this week to eome of them for $25,000.

A Peep at the Fishes—Woodward's Aquarium.

The annexed engraving gives a somewhat fanciful illustration of what an aquarium is. The artist has pictured on the right one of the most singular varieties of the *Octopod*—one which Victor Hugo has immortalized under the name of "devil fish," diminutive specimens of which are often caught by our fishermen near the Golden Gate. One of these monstrosities was brought to Woodward's Gardens on the 4th inst., but it arrived in a dying condition, and was not placed in the aquarium. Just above is seen a specimen of the *Nautilus Argonaut*, better known among sailors as the "Portuguese Man-of-War;" below this is seen something which the artist has evidently intended for the next new thing which is to be discovered in the "vasty deep." To the left is shown a variety of marine plants, an almost infinite number of which are found growing in the sea, varying in character and size from the tiniest, grass-like blades to huge growths, fairly rivaling in height and dimensions the tallest trees in our forests. The importance of this marine growth, not only in the sea, but in aquaria, as well, is given in another article, already referred to.

We have introduced this cut at this time more especially to call attention to the fine aquarium exhibition which Mr. Woodward is now making at his Gardens, on Mission street.

This aquarium consists of 16 Frear-stone tanks with plate glass fronts, arranged on either side of a spacious hall, constructed in imitation of a subterranean grotto, faintly lit up by the light which is thrown from above upon the surface of the water in the tanks, and rendering every movement of the finny captives perfectly distinct to the observer. The most perfect exhibition possible is thus obtained, and it is difficult to describe the novelty and the surpassing interest of the sight.

The work of stocking such an aquarium is a large one, and some of the tanks are still empty; but enough is to be seen to satisfy every one. Both salt and fresh water fish are shown, each in its appropriate element.

The tank containing the crabs, craw-fish and lobsters attracts the most attention. These queer animals can be seen in all their grotesqueness, crawling and creeping about, now upon the gravelly bottom and now climbing, in their awkward manner, up the side of the rough stones, piling themselves upon one another and sometimes bracing themselves up against the glass front, as though to take a leisurely view of their curious observers upon the outside. These are the *scavengers* which eat up the filth and decaying matter, the presence of which is so deleterious to the members of the finny tribes.

Perhaps the most curious of all is the tank containing the sea anemones, which look so much like plants, and which in fact form the connecting link between the flowery kingdom and active marine life. These anemones are in reality animals. If a morsel of fresh meat or fish is dropped into the centre of one of these beautiful floral crowns, these countless tentaculæ will instantly close upou it, and convey it to the capacious mouth around which they play, waiting for the chance morsel which may come in their way. After this movement the florescence will again expand and nothing will be seen of the food.

Several small sharks are seen disporting themselves in one of the tanks, in company with some "devil fish," not those of the Victo Hugo stripe, however. Several other queer looking finny curiosities are also keeping quiet company with the sharks, the usually sharpened appetite of the latter being probably subdued by the abundance of food furnished them by their generous proprietor—for everybody knows that Mr. Woodward is a generous provider, whether for man or animal.

But we have no time to allude, in detail, to the rich and rare treat here presented to the curious, and would close this notice by remarking that this interesting exhibition of animated nature has been devised and carried forward to its present degree of success, under the especial supervision of Mr. Chas. Schumann, who, at Mr. Woodward's instigation, has recently visited all the principal aquaria of Europe to study their models and management, in order to leave nothing undone to make this a success in every particular.

AQUARIUM AT WOODWARD'S GARDENS.

The History, Development and Utility of Aquaria.

Ichthyology is a hard word to master, but it is, nevertheless, so fast assuming a prominence that it promises soon to become a household word. Very little was known, until quite recently, of the habits of the denizens of the deep. The movements of a few edible fishes, which inhabit shallow water, had been studied a little; but of the great mass of the finny tribes we knew absolutely nothing,—not so much because of a lack of interest in such knowledge, as for the reason that we had no means of acquiring the desired information. In fact, the inhabitants of our rivers, oceans and lakes were nearly as much concealed from observation as they would be, were they inhabitants of another world. But the activity and persistence of thought and research, at the present day, have most effectually overcome the principal obstacles to studies of this kind, and finally laid open to the most common observatiou well-nigh all the conditions and curious facts connected with life in the water. The dredging of ocean-beds and even the deepest sea-soundings have revealed the most astonishing fact that life exists even at very great depth, and under conditions of pressure which seem almost incredible.

But little difficulty has been found, to learn what of life the sea contains; but to become acquainted with the habits, mode of life, etc., of the denizens of deep water was almost impossible until the aquarium was introduced, whereby we could preserve the lives of fishes under conditions which would permit of our constant examination of them while free to move and act at will.

It has long been known that animals living in water may be kept in transparent glass vessels, by frequently changing the water; but it is only by the modern discoveries of chemistry and physiology that means have been pointed out, whereby aquatic life may be long maintained without the frequent and inconvenient renewals of the water. Science has now taught us that plants, growing in water, restore to that element the oxygen so necessary to the life of the fish, and remove therefrom, by absorption, the carbonic acid thrown off by them as by land animals in the process of respiration.

Again, it has been found necessary to add certain varieties of water animals, which feed on decomposing animals and vegetables, to act as scavengers for the more particular members of the fish community, to whom any considerable amount of decaying matter is found injurious or fatal. The discovery of these facts and conditions has made the employment of aquaria on a large scale a practical possibility, and introduced to the world a new and most interesting means of material progress in the study of natural history.

The first experiment of this kind, on a large scale, was undertaken at the Zoological Gardens, Regent's Park, London, in 1853, only twenty years ago. Quite a number of tanks were there fitted up, the largest of which were six feet in length by thirty inches in depth. They were fitted very much as those now shown at Woodward's Gardens have been, and were supplied with sand, gravel, appropriate vegetation, molluscs for scavengers, etc. The water was simply allowed to run off and be pumped backed again, falling into the tanks, as seen at Woodward's, in such a manner as to carry considerable quantities of air entangled with it. Thus a given quantity of water can be used indefinitely, care being taken to secure the presence in the tanks of such fish as will act as scavengers in removing any decaying substances which may be present.

It should be borne in mind that air is as necessary to sustain life in aquatic animals as it is for those which live upon land; the gills of the former serving the same purpose as the lungs of the latter—the blood being decarbonized or purified by the particles of air, which are mixed with the water, coming in contact with the gills, just as the blood of land animals is purified by coming in contact with the air in their lungs.

The success which attended the aquarium at Regent's Park induced the construction of aquaria in several of the large cities of Europe, and finally in our own country. The largest and most complete work of this kind has been recently constructed at Brighton, one of the most famous and charming watering-places in England. It was opened to the public about one year ago, after nearly two years of time and a vast outlay of money had been expended in its construction. This aquarium is divided into a series of corridors, the largest of which is 220 feet long, most beautifully and appropriately ornamented. The aquarium contains a great number of tanks, some of unusual size, and the largest of which is 120 feet long!

The London Crystal Palace aquarium, though smaller than that at Brighton, is nevertheless 400 feet long by 70 broad—all the tanks having a capacity of 200,000 gallons of water, equal to 500 tons in weight. There are now, we believe, three aquaria in England; one each in Berlin, Hamburg, Havre, Paris, and one quite recently opened in Naples, 100 by 70 feet in dimensions.

Several works of the kind have been constructed in the United States, but that recently opened by Mr. Woodward, at his Gardens in this city, is the largest and most complete, and that gentleman is deserving of the highest credit for the enterprise and zeal which he has displayed in furnishing the public of California with such an extensive and useful medium for the study of one of the most interesting branches of natural history.

A most complete opportunity is here provided for watching the movements and habits of living creatures, possessing most interesting and remarkable characteristics, but whose haunts have heretofore been confined to the most obscure and unapproachable recesses of ponds, rivers and oceans. By the facilities which Mr. Woodward has here provided, the student is able to actually walk amid the very habitations of the most curious and recluse of the finny tribes, where their every movement is as open and free to observation, as is that of the tiny gold-fish which disports itself in a crystal globe upon a parlor table. Such an exhibition cannot fail to prove a source of unlimited interest to the sightseer, and an object of the most intense gratification to the scientific investigator. A volume of natural history is opened here, illustrated and illuminated in a manner which cannot fail to excite the interest and attention of the most indifferent; and certainly no one who will look upon it can go away uninstructed or unimpressed with the volume and its pages. A writer upon Natural History, says:

"Studies of animated nature have been pursued with increased ardor and success since the establishment of aquaria. Vast regions of animal and vegetable life, the mere existence of which was known to but a few of our leading naturalists ten years ago, are now explored by thousands of observers, and the wonders of the brook, the river and the mysterious sea have become familiar things among persons of intelligence and scientific inquiry, who, without the help of the aquarium, must, for lack of leisure and means, have remained content with brief technical descriptions conveyed in ponderous books, to the perusal of which there would have been no sympathies to attract them. It has created a taste for deep sea studies and then fed that taste with wholesome truths; and by giving delight to the eye and stimulating through the medium of recreation the spirit of scientific inquiry, it has brought subjects of profoundest interest within the practical reach of the bumblest student of the ways of God and Nature."

Who can tell the interest or enthusiasm in scientific study and research which may be engendered in the minds of the thousands of children and youth who weekly visit the vast and instructive collections in all the various branches of natural history, botany, mineralogy, etc., which have been collected and thrown open to the public in this vast conservatory of art and science. If Mr. Woodward had never done anything else, this work alone would form a monument of industry, genius and usefulness which any man might well be proud to leave as a legacy of life-work to future generations.

A grand safeguard for doing right is to hate all that is wrong.

Utah Smelting Works.

The Salt Lake *Tribune* has been visiting the Smelting worke at Fleck's Station and says: Through the courteey of Henry Sieger, Esq., the Superintendent of the

Germania Separating and Refining Works.

We learn the following particnlare regarding the progress made during the past month, and the future intentions of thie enterprieing and very commendable compeny.

From the third day of June to the first day of the present month, the works turned out 85,000 ounces of silver bars, 400 tons of pure lead, and 858 onnces of gold.

Another blast furnace hae been added to the establishment, which is intended to work over the drop end ekimmings from the bullion.—The worke can now with the addition of thie other furnace and some slight modificatione in the working, work off in ten days the whole stock of silver, gold and lead contained in the dross, skimmings, etc.

One of the furnacee hae been altered for the purpose of running copper from the bullion, a good deal of the former of which is contained in the latter. During the stoppage of the works, an estimate wae made which proved that by the Flach's system the whole loss of lead did not reach four per cent., whilst on the silver there wae absolutely none whatever.

The company has purchased the exclusive right of the Flach's process for Utah and California, and the capital etcck has been raised to $600,000. Mr. Sieger will, in a few days start for San Francisco, for the purpose of superintending the erection of exteneive worke in that city for eeparating and refining bullion, also for the manufacture of white lead. The buildings in question will be commenced next September, and it is expected that they will be finished and in operation by the first day of April, 1874.

The Wassach Smelting Works.

Extensive additions and improvements are being made to this eetablishment.

During the last nine working days eighty-five tons of bullion were produced from one furnace from two hundred and thirty-nine tons of ore.

The old chimney stack has been pnlled down and another and much larger one, seventy feet high, has been built to meet the requirements contemplated.

Tho old and reverberatory furnace which was inconveniently huilt alongside of the blaet furnaces has been also demolished, and a new one has been built on the floor above, while the foundation of two othors has been laid.

The new blast furnaces of a capacity of thirty-five tons of ore each per diem are to be added, making in all three, to correspond with the number of the reverberatory furnacee.

The ore being now worked ie from the Spanish mine, Bingham Cañon, and assaye on an average, fifteen ouncee in eilver, and forty-five per cent in lead.

The American Smelting Company.

This establishment, formerly known as the Robbins works, is undergoing exteneive alterations to meet the requirements of a large custom bnsiness during the preeent season.

A new forty-horse power steam engine is being put np, also the largest sized blast ever introduced into this Territory.

The old engiue and blast will be retained for working the blast fnrnace erected by the Messre Robbins.

The new furnaces have just been completed, one with two tuyeres and the other with three tuyeree. These furnaces are of different construction from those commonly in use in the territory, being provided with dust chambere for the pnrpose of saving the ore which it is contended is lost in the ordinary furnaces.

The reverberatory furnace which wae in the building at the time the present company took possession, will be used for the purpose of roaeting the ore before it goee into the blast furnacee.

The ore now subject to treatment is from the Wellington mine, Little Cottonwood, and the Miner'e Delight, belonging to the Ophir Silver Miuing Company (Limited).

Leaching. — The Reese River *Reveille* describes the leaching process in uee at the El Dorado works as follows: Thie process is very simple, cheap and effective. Three large tubs, six feet in diameter and five feet deep, are placed convenient to the Stetefeldt furnace. The tubs have a false bottom, perforated with quarter-inch holes. This false bottom ie tightly covered with canvae and the edges corked tight. The false bottom is placed one foot above the bottom of the tub; the tnb is well filled with the ore as it comes from the furnace. Hot water is then turned in; the plug below the falee bottom is drawn, and the leeching procees commencee. The chloride of copper, chloride of iron, sulphate of soda, as well as any excess of salt, pass off in solution through emaller tubs which contain scrap copper to precipitate any silver that may have found ite way out in the eolution. From the small tubs the eolution pasees off through shicee which are charged with metalic iron, decomposing the chloride of copper, precipitating cement copper and forming chloride of iron. The base metals are thus run off from the big tub, leaving the pulp containing the silver quite pnre and ready for amalgamation. It is expected to extract abont eight per cent. of copper per month. The procese takes about one and a-half to two hours. The bullion will be much finer than heretofore, eaving 25 cents per pound in its shipment. The other portione of the El Dorado mill are in splendid working order.

Useful Information.

The Pin Machine.

This machine is one of the closest approaches that mechanics have made to the dexterity of the human hand. It is about the height and size of a lady's sewing machine, only much stronger. On the side at the back a light belt descends from a long shaft in the ceiling that drives all the machines, ranged in rows on the floor. On the left side of the machine hangs on a peg a reel of wire that has been straightened by running through a compound system of small rollers. The wire descends, and the end enters the machine. This is the food consumed by this voracious little dwarf. He pulls it in and bites it off by inches, incessantly—140 bites to the minute. Just as he seizes each bite, a little hammer, with a concave face, hits the end of the wire three times, "upsets" it to a head, while he grips it to a counter-sunk hole between his teeth. With an outward thrust of his tongue he then lays the pin sideways in a little grove across the rim of a small wheel that slowly revolves. By the external pressure of a stationary hoop these pins roll in their places as they are carried under two series of small files, three in each. These files grow finer toward the end of the series. They lie at a slight inclination on the pins, and a series of cams, levers and springs are made to play like lightning. Thus the pins are dropped in a little shower in a box. Twenty-eight pounds are a day's work for one of these jerking little automations. The machines reject crooked pins, the slightest irregularity in any of them being detected.

Heat.—Many common practices can easily be explained by noticing the different absorbing and radiating powers of various substances. A dish-cover or metal tea-pot is kept as bright as possible, so as to prevent the escape of heat by radiation; a black earthenware tea-pot, on the other hand, has a dull and dark surface, so that it may absorb the heat. So, too, if a kettle is to heat quickly, the part exposed to the fire should be covered with fur and soot, to absorb the heat; the other part should be bright to radiation. These things, like many similar ones, were known, and put in practice long before their true causes were known, but science shows us now how to account for them.

The laws of radiation likewise account for the deposition of dew at night. The air is then cooler than the surface of the earth, and the latter accordingly radiates its heat into space. Those bodies, therefore, which are the best radiators, become cool most rapidly, and therefore condense the vapor which exists in the air. Plants radiate freely, and hence become coated with dew, while a smooth road remains almost dry. Clouds of great extent prevent this radiation, and hence the dew will be most plentiful on a clear and cloudless night. A very thin layer of calico, or matting, is likewise sufficient to retard radiation, and for this reason gardeners often place a covering of this kind over delicate plants to protect them from injury by the cold. When the temperature of the ground is very low the dew freezes as it is deposited, and constitutes hoar-frost.—*Popular Educator.*

Breathing and Thinking.—Let any one think for a moment what he experiences when he breathes and attends to the act. He will find that his whole frame heaves and subsides at the same time; face, chest, stomach and limbs are all affected by his respiration. Now let him feel his thoughts, and he will see that they, too, heave with the mass. When he entertains a long thought he draws a long breath; when he thinks quickly, his breath alternates with rapid alternations; when the tempest of anger shakes his mind, his breath is tumultuous; when his soul is deep and tranquil, so is his respiration; when success inflates him, his lungs are as tumid as his conceits. Let him make trial of the contrary; let him endeavor to think in long strctches at the same time he breathes in fits, and he will find that it is impossible; that in this case the choppiug lungs will still mince his thoughts.

Hair of Different Races.—Somebody who has been studying the matter of the form and substance of the human hair in different races, finds that the hair of the North American Indian is cylindrical, that of the white race is oval, and that of the negro may be termed elliptical. It is also found that when the hair is cylindrical, the stretching and shriuking powers are equal on all sides of the filament, and this condition gives it the lank, strait appearance of that of the pure-blood Indian. The oval hair displays a greater number of fibres upon the flattened side than elsewhere, a condition which gives to such hair a tendency to curl or curve in that direction. When eccentrically elliptical, it not only always curls, but often assumes a spiral shape, as on the head of the negro. The hair of the Chinese is nearly cylindrical, and hence it is that curled hair is almost unknown among that people.

What is a "Stone" Weight?—A stone, horseman's weight, is 14 pounds; a stone of butcher's meat, 8 pounds; a stone of iron, 14 pounds; a stone of glass, 5 pounds; a stone of hemp, 32 pounds; a stone of cheese, 16 pounds. Clear and simple, certainly!—*London Builder.*

To Remove Paint from Stone.—A correspondent of the *London Builder*, having to clean a pulpit and sedilia in which the carving and tracery were almost filled up with successive coats of paint, was informed that common washing soda, dissolved in boiling water, and applied hot, would remove it. He says, "I found that 3 lbs. of soda (cost 2½d.) to a gallon of water, laid on with a common paint-brush, answered the purpose admirably, softening the paint in a short time, so that it was easily removed with a stiff scrubbing-brush; afterward, on adding a few ounces of potash to the solution, it softened more readily than with the soda only. The stone in both cases was a fine freestone."

Chestnut Timber. — The London *Garden* says the roof of Westminster Abbey, which has long been supposed to be of oak, when examined some time ago as to its soundness, and found to be perfect, was discovered to be of chestnut. It has stood for eight centuries already, which would go to show that chestnut timber would at least serve any such purpose now very excellently. Another very valuable quality it possesses is, that its growth is many times more rapid than that of oak.

The cohesive force of the best red sealing wax has been proved to be equal to 1,500 lbs. per square inch, and that of the black sealing wax rather more than 1,000 lbs. to the square inch; the deficiency in the latter is attributed to the diminished quantity of lac used in the composition. The cohesive force of solid glue was found he 4,000 lbs. per square inch; that of cast iron is 25,000 lbs.

Catching Rats.—A gentleman who has tried it says the best way to catch a rat, which has found its way into your room, is to lay a boot flat upon the floor, close to the mold-board. The rat will run into the boot leg for protection, when he is readily captured.

Good Health.

The Abuse of Appetite.

The appetite is one of the least appreciated of Nature's gifts to man. It is generally regarded in this work-a-day world as something to be either starved or stuffed,—to be gotten rid of at all events with the least inconvenience possible. There are people who are not only not glad that they have been endowed with sound, healthy bodies, for which nature demands refreshment and replenishment, but they are actually ashamed to have it known that they are sustained in the usual manner. The reason of this we are at a loss to conceive. Everybody admires beauty, and there can be no true beauty without good health, and no good health without a regular and unvarying appetite. We are disinclined to let appetite take any responsibility on itself. If we happen to consider it too delicate, we try to coax it, perhaps stimulate it with highly seasoned or fancifully prepared food. There are times when this may seem necessary, as in the case of a person so debiliated as to depend for daily strength on what he eats. But, usually, the cajoling process is a mistake. If the appetite of an individual in fair bodily condition be occasionally slender, it is no cause for alarm, and it should be allowed to regulate itself. It may safely be considered Nature's protest against some transgression, and it is wise not to attempt coercion.

At certain seasons, as in spring and summer, the appetite of even the very robust is apt to fail, and the relish for meats and heavy food to wane. This is all right enough, for animal diet in warm weather heats the blood, tends to headaches, and is generally unwholesome, unless sparingly used. On the other hand, fresh vegetables, berries, fruit and bread are cooling, corrective, and what the palate most craves. Don't be afraid to go without meat for a month or so, and, if you like, live purely on a vegetable regimen. We will warrant that you will lose no more strength than is common to the time, and that you will not suffer from protracted heat, as when dining on the regulation roast.

Many persons regard a hearty desire for food as something unrefined, indelicate, and to be constantly discouraged. This is a greater and more harmful mistake than that of coaxing the appetite. It is just as necessary for the man who works only with his brain to eat beef and mutton, as for the man who labors solely with his hands. The stomach and the brain are twins; the former being the elder, and having prior right to care. Let that be well provided for; and it will sustain its brother. The people who strive to cheek a wholesome and natural appetite are the people who regard dinner merely as a feed, not the center of an agreeable social custom and as the domestic event of the day. We are sorry for them, as they must regard eating at all as a prosaic duty, obligatory on them because they have a bias in favor of living. We all know that we must eat to live; but we by no means live to eat simply because we enjoy what we eat. We are not gourmands because we relish chops, nor are we invalids because we want strawberries.

A good appetite is a good thing; but not if it is to be worried by urging or by neglect.—*Scribner.*

How to Sleep.

With many the inability to sleep, as a growing habit, is the first step toward certain madness; in every disease it is an omen of ill. Hence, to cultivate sound sleep, do not sleep a moment in the day-time. Go to bed at a regular hour, and never take a "second nap" after waking of yourself in the morning. Take nothing after dinner but a piece of bread and butter and one cup of hot drink—not China tea, as it makes many wakeful. Never go to bed with cold feet. Read nothing after supper, listen to nothing, talk about nothing of a very exciting character; avoid carefully every domestic unpleasantness, as to child, servant, husband or wife. Let no angry word be spoken or thought harbored for a single instant after tea-time; or sleep may not come before the morning light. Grown persons generally require about seven hours' sleep in summer and eight in winter. Few indeed, except invalids, will fail to sleep well who go to bed at a regular, early hour, on a light supper, in a large room, and clean, comfortable bed, if there is no sleeping in the day-time, and not more than seven hours in any twenty-four are passed in bed. One week's faithful trial will prove this. Children, and all persons at school, should take all the sleep they can get, and should never be waked up in the morning, after having gone to bed at a regular, early hour. Every humane parent will make it a religious duty to arrange that every child shall go to bed in an affectionate, loving and glad spirit. If wakeful during the night, get up, draw on the stockings, throw off the bed-cover to air it, walk the floor in your night gown, with the mouth closed, all the while rubbing the skin briskly with both hands, until cooled off and a little tired. Except from August first to October first, in fever and ague localities, a chamber window should be open two or three inches in length.—*Herald of Health.*

Blushing.—Darwin, in his new work, on "The Expression of the Emotion in Man and Animals," has an interesting chapter on blushing. This act, he tells us, is the most peculiar and human of all expressions. Animals never blush, although monkeys redden from passion. We cannot produce blushing by any physical means; it is the mind which must be affected and blushing is not only involuntary, but the wish to restrain it increases the tendency. While the young blush more freely than the old, infants do not blush; women blush more than men; the blind and the deaf do not escape. It is usually the face, ears and neck only, that redden; the blush does not extend over the body; but certain races who go habitually nearly naked, blush over their arms and chests, and even down to their waists. The limitation of blushing to exposed parts is explained by the fact that these portions of the surface have been habitually exposed to the air, light, and alternations of temperature, by which the small arteries acquire the habit of readily dilating or contracting. Hindoos blush but little; the Chinese rarely blush; the Polynesians blush freely; the young squaw of our American tribes has been seen to blush; the Kaffers of South Africa never blush, neither do the Australians.

Farming and Insanity.—Reports of lunatic asylums are sometimes instructive reading. For instance, the popular notion that the life of the farmer, and especially in those sections where the farmer and his wife devote themselves to unremitting hard labor, is most conducive to the mental stability, is dispelled by the statistics of lunatic asylums in general.

In the Michigan asylum the farming class preponderates over all other classes; and taking the asylums of the country together, it appears that more than one-fourth of all the lunatics of the country are farmers and merchants. With the farmer the cause unquestionably is too much work, too little recreation and habitual violation of the laws of health—too frequently the laws of cleanliness. Speaking of the farmer's wife, says the writer: Her scant ablutions are performed in haste; she has little time to spend on her person, and none in which to read. Night finds her weary with much doing. She goes to bed tired out, to be kept awake half the night, perhaps, by a fretful babe. From January to December her only recreation is going to church—it may be every Sunday, it may be twice a month. Is there any wonder she becomes an inmate of the lunatic asylum? This is not only the case with wives of small farmers, but those who have added acre to acre, and grudge money spent for household labor.

It appears from the researches of Dr. D. J. Macgowan, of Shanghai, that the medical virtues of fish oil as a cure for lung complaints was known to the Chinese many centuries ago. But instead of codfish, they take the oil from the shad. Acting on this hint, our apothecaries may perhaps be saved the necessity of sending to Newfoundland for their supplies, as the waters of the Hudson, Connecticut, Chesapeak, and other rivers will afford an abundance of the medicine.

Put the Bright Side Out.—Like most garments, and most carpets, every thing in life has a right side and wrong side. You can take any joy, and by turning it round, find troubles on the other side; or you may take the greater trouble, and by turning it round find joy on the other side. The gloomiest mountain never casts a shadow on both sides at once, nor does the greatest of life's calamities.

Domestic Economy.

How to Make Good Bread.

Prof. Horsford recently gave a public lecture in New York upon "The Philosophy of the Oven," in which the whole history of bread-making was discussed. We extract from the report of the lecture the following directions for making good bread: "Select good, plump, fully ripened, hard-grained wheat. Have it freshly ground and not too finely bolted. Prepare the yeast as follows; boil thoroughly with the skins on, in one quart of water, enough potatoes to make a quart of mashed potatoes. Peel the boiled potatoes and mash them to fineness; mix intimately with them one pint of flour, and stir the whole to an emulsion with the water in which the potatoes were boiled. Cool the product to about 80° (lukewarmness), and add half a pint of the best baker's fresh yeast, and a tablespoonful of brown sugar. Set aside the mixture at an even temperature of about 80°, till it works well, or is in active fermentation. Of this yeast take half a pint to a gallon (7 lb.) of flour, mixed with three pints of water, or two of water and one of milk, all at the temperature of 80°; add a little salt, knead thoroughly, and set aside to raise at the temperature mentioned. When it has risen to nearly the full volume for the dough, divide it into loaves, knead again, set it aside at the temperature already named until it attains the full size of the loaf, and place it in an oven heated to not less than 450°. Let the loaves of dough be smaller than the tins. Keep them covered with flat tin plates or stiff paper until the dough is fully raised and the heat carried up to, and sometimes maintained throughout the loaf at 212°, to convert all the starch to the mucilaginous or emulsion form and destroy the ferment. Then remove the cover, and permit the browning to take place. If the loaves are large, a higher temperature will be required, Seven pounds of flour will make eight loaves of 1¼ lb each when baked, or four 2½lbs. each. Such yeast as is above described will keep a week in winter and from two to four days in summer. Bread made with it, in faithful obedience to these instructions will be good."

Squirrel Stews.—Half-a-dozen of these marauders make a nice dish to set before as many grown-up people who relish fresh meat for dinner. The squirrel lives upon the best of food, and lives a free, active life, but its very activity gives its muscles a tendency to toughness. This can be overcome by sufficient boiling. In the first place, it must be carefully skinned and dressed while yet warm. If the entrails are left in the animal until the body is cold they will injure the flavor of the meat more or less. Put them in cold water enough to cover them, and skim the pot carefully when it comes to boiling (this always in boiling or stewing meat or in making soup). Two hours' gentle boiling is not too much for young squirrels, and three hours for old ones. Never season them until they are done tender, and then you will add salt and cream, or a bit of butter, according to your judgment. A little thickening (a tablespoonful of flour stirred smooth in half a cup of milk or water) stirred in while the pot is boiling will make a nice gravy. Pour the whole over slices of bread or split gems. The strong flavor of squirrels comes from the fat. Cut this all away carefully before cooking.

A First Rate Pumpkin Pie.—Cut the pumpkin in half, put it in a dripping pan, skin side down, (after the seeds are removed) in a slow oven; bake until all the good can be easily scraped from the rind with a spoon; if it is as brown as nicely baked bread all the better; mash finely, and to one quart add a quarter of a pound of butter while hot; when cool, sweeten to the taste one pint of milk or cream, (if cream be used three eggs will be sufficient, if milk four will be better,) beat them separately, stir in the yolks, two teaspoonfulls of cinnamon, one of nutmeg, a wine glass of wine or brandy; lastly add the white of the eggs, stirring but little after they are added to the mixture; bake in a quick oven.—*Germantowne Telegraph.*

While ten men watch for chances, one man makes chances; while ten men wait for something to turn up, one man turns something up; so while ten men fail, one succeeds and is called a man of luck, the favorite of fortune. There is no luck like pluck, and fortune most favors those who are most indifferent to fortune.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

DEWEY & CO., Publishers.

A. T. DEWEY, GEO. H. STRONG
W. B. EWER, JNO. L. BOONE

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San Francisco:

Saturday Morning, Aug. 9, 1873.

Legal Tender Rates.—S. F., Thurs., Aug., 7. – buying 86⅛; selling 87.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—New City Hall, 81. A Peep at the Fishes—Woodward's Aqusrium, 86. School of Mines, Columbia College; Description of a New Species of Alcyonid Polyp, 88. Pops Valley Quicksilver Mines; Acsdemy of Sciences; Circulsr Iron Clads, 89.

ILLUSTRATIONS.—New Clty Hsll, San Francisco, 81. Aquarium st Woodward's Gardens, 86. Map of Pope Valley Quicksilver Region, 89.

CORRESPONDENCE.—The Visnna Exposition; Notes of Trsvel in White Pine County, Nevada, 82. A Plea for "The Civil Damages Act," 90.

MECHANICAL PROGRESS.—Important Information if Valid; Deposits in Boiler Flues; Messurement and Loss of Power—Improvement in Journal-Boxes; The New Metal Indium; Cosl Oil for Locomotives in Russia, 83.

SCIENTIFIC PROGRESS.—Outlines of Mountsins; Sugar a Test for Potato Water; A New Experiment; Ozone by Slow Oxidation; The Metals of the Sun; Chemical Prizes Offered in Frsnce; A New Relation Between Electricity and Hest; Ths Variable Size of ths Sun; Thallium from Vssuvius; Combustion of the Diamond, 83.

MINING STOCK MARKET.—Table of Dsily Sales snd Prices and Comparstivs Prices for tbe Week; Notices of Assessments; Meetings snd Dividends; Review of Stock Market for the Week, 84.

MINING SUMMARY from various counties in Californis and Nevads, 85.

USEFUL INFORMATION.—The Pin Macbins; Heat; Bresthing and Thinking; Hsir of Different Races; What is a "Stone" Weight? To Remove Paint from Stone; Chestnut Timber; Rats, 87.

GOOD HEALTH.—The Abuse of Appetite; How to Sleep; Blushing; Farming and Insanity, 87.

DOMESTIC ECONOMY.—How to Mske Good Bread; Squirrel Stews; A First Rate Pumpkin Pie, 87.

MISCELLANEOUS.—Mint Operations for July, 82. Arlington District; Utah Smelting Works; Lescbing, 86. Valuable Mineral Deposits; Weights of the Different Metals or Ores to the Cubic Foot; The Public Domain; Iron Pyrites and Fire Arms; Patents and Inventions, 89.

THE COBBLE CUTTING MACHINE.—The crowded state of our columns forbids any detailed description of the new machine for cutting cobble stones for pavements, which was tried this week. It worked very well and accomplished the object for which it was invented, with apparent eaee. We puhlished in March last an illustration of the cohble stones as they appear after having been operated on hy the machine. Since that time, however, some improvements have been made in the device, and it is now run by steam instead of by hand. The machine was made at the Miners' Foundry for Messrs. Jacoh Bollinger, Louis Dutertre and E. D. Sawyer. We hope to he able to explain this novel invention in detail in a future issue.

MR. GUIDO KUSTEL, well known in mining circles on this coast, who has been writing letters to this paper from Vienna, will shortly return. Before doing so, however, he will visit several mines and works and obtain drawings of whatever is of interest to this coast in mining machinery. He writes us that in the matter of concentration of oree, the old systems are entirely changed. Mr. Kustel will continue writing of what he saw of interest at Vienna, after he returne here.

AT the Fourth of July dinner, in Vienna, the toast "The International Exhibition of 1876—The United States Centennial Commission and its Work," was responded to in a happy manner by W. P. Blake, a member of the commission. Professor Blake is well known as editor of the American official reports of the Paris Exposition, and also in his connection with the mining interests of the United States and the Pacifio Coast in particular.

IRON ORE.—The Commissioner of the general land office has decided that parties desiring to acquire land containing valuahle deposits of iron ore, must comply with the previous articles of the act of May 10th, 1872, except in the states of Michigan, Wisconsin, and Minnesota, which by Act of Congress of March 3d, 1873, are expressly relieved from ite operations.

The School of Mines, Columbia College.

We have before us the last annnal catalogue of the School of Mines, Columbia College, New York City. This scientific school, while very thorough in its branches of Civil Engineering, Geology, Natural History, Analytical and Applied Chemistry, is better known on this coast for the excellence of its departments of Mining Engineering and Metallurgy. In these and in Analyticsl Chemistry it nndonbtedly stands at the head of our American schools. The attention of mine and mill owners is being turned more and more to onr professionsl institutions. It is to them that we must look in fnture for competent snperintendents and engineers, for however perfectly a "practical" man may nnderstand how to perform the usual rontine of work laid before him, he is ever at a loss when the perpetually recurring, nnforseen emergencies happen. Bnt with the broad basis of a liberal education and with that experience which should, more properly, come in place snbsequently to theoretical training, one will always be prepared and able to grssp and master any nnexpected difficnlty that may occur. We are glad also to note that more interest is shown in the scientifio professions by onr yonng men. Time was, when the popular taste ran exclusively to the study of law and medicine. Time is, fortunately, when practicsl science comes in for its share of attention and perhaps even a little more—if that be possible—for it is now even more cultivated, in proportion to the field of occupation, than the other professions.

The course of study comprises three regular yesrs, with a preparatory department added. A graduate of a college is admitted, without preliminary examinstion, to the first year. We omit details of the general mode of instruction employed, and pass at once to the depsrtment of

Mining Engineering.

Mining engineering is taught dnring the second year. The instruction comprises a conrse of lectures illustrating the theory and practice of mining operations at home and abroad; giving the general principles of reconnoitering and surveying mineral property and mines; the attack, development, and administration of mines and the mechanical preparation of ores, with the exhibition and use of all necessary reconnoitering and surveying instruments, particularly the mining theodolite, and the exhibition of various models. In surveying, the student is taught to make surface and subterranean surveys, to direct and adjust his works; also the solution of some problems of underground surveying hy descriptive geometry, and many special examples of determining lines on the surface corresponding to given lines below, etc. Attack describes the miners' method; the use of drills, picks, powder, nitro-glycerine and new explosives, compressed air, etc.; the proper location and construction of tunnels, slopes, shafts, wells for senndiug, artesian wells, salt and oil wells; preceded by a theory and description of the most typical veins, trne or irregular, and other deposite of ore, salt, coal, and oil, exemplified at home and abroad. Development includes the description of the best methods in experience of laying out snbterranean works for production and conservation in the present and future; for proper and economic ventilation, transportation, hoisting, pumping or draining, distribution of workmen, etc. Adminietration includes a review of the foregoing, with regord to the concentration of ideas and general compsrison of production cost to market price of untreated ore. Here the student is taught to forecast the expense of the establishments he muet make; their annnal cost; the cost of miners, employés, machines, material, etc.; and offset these with the result of production, eo endeavoring to solve the problem of making a given mine pay in given circnmstances, by scientific attack, distribution, and general rational economy. Mechanical preparation describes the various accepted methods of reducing maseive ore to a condition either yielding metal or fitting the material for metallurgical processes. Models of stamps, crushers, shaking tables, sluices, etc., are exhibited, with plans and sections of mills, and coal-breakers at home and abroad.

Assaying.

During the third year the student is admitted to the Assay Laboratory, where he is provided with a snitable tahle and a eet of assay apparatus; and where he has accees to crncible and muffle furnaces, and to volumetric apparatns for hullion assay by the wet process. The general principleeas well as the special methods of aesaying are explained in the lecture-room, and at the eame time the ores of the various metals are exhibited and described. The student is then eupplied with suitable material. ores of known composition, and ie required to make assays himself. He first receivee oree of lead, the sulphide, carhonate, and phosphate, which he mixes with the proper fluxes, and heats in the furnace, obtaining a button of lead, which he carefully weighs, thus determining the percentage of metal in the ore. He then determines by cupellation the amonnt of silver in the lead. Silver ores are next given him, at first those which are most easily sssayed, such as mixtures of chloride of silver with quartz; afterwards more complex ores, such as galena, ruby silver ore, mispickel, fahlerz, etc. These he is required to assay both in the crucible and in the scorifier. Ores of gold are next snpplied, auriferous quartz, slates, pyrites, blende, etc., which are assayed hy the most reliable methods. To facilitate the assay of ores of the precious metals a system of weights has heen introdnced, hy which the weight of the silver or gold glohule obtained in the assay ehows at once, without calculation, the number of troy onnces in a ton of ore. The student then passes on to the assay of silver and gold bullion, the former hy Gay Lussac's volumetric method, the latter hy "qnartation" "parting." Ores of tin, antimony, and iron, are then assayed by the dry methods, when the conrse is completed. Each student thus executes two or three hnndred assays himself, nnder the immediate supervision of the instructor.

Metallurgy.

The Metallurgical course includes lectures on the preparation of fuels, construction of furnaces, the mannfacture of metals, projets and estimates for the erection of metallurgical works. The lectures cover a period of two years, and discuss in detail the methods in nse in the best establishments in this conntry and in Enrope for the working of ores, with practical details of charges, labor, and oost of erection obtained from the most authentic sonrces. Special attention is given to ores of this conntry which are difficult to treat, and to the solution of practical problems which are likely to occur. The lectures are illustrated hy models, drawings of furnaces, and by collections of metallurgical products obtained from works in this country and Europe.

The plan of instruction inclndes lectures and recitations; practice in the chemical, mineralogical, blow-pipe, and metsllurgical laboratories; projects, estimates and drawings for the establishment of mines, and for the construction of metallurgical and chemical works; reports on mines, industrial establishments and field geology. The degrees of C. E., M. E. and Ph. B. are given on the completion of the course, according to the special branches of stndy pnrsued hy the student.

THE CINCINNATI MINE in Kelsey District, El Dorado Connty, Cal., snd owned by parties in this city, has, we are informed, developed wonderfully of late. The ledge at 100 feet, ehows from 8 to 10 feet of good vein matter, yielding at mill $45 per ton. One hundred tons are now being crushed at a custom mill near hy, and drifts north and south in the mine are being run night and day. Mr. Geo. A. Gates, the Superintendent writes very enconragingly and is driving the work ahead with energy. He hopes from present prospects to pay a dividend soon. The prospects for so young a mine are flattering.

THE NEW DISTRICT near Elko, has been named the "Cornucopia," and the rush there is great. Numhers of men have left other camps for the new district, and the reports of exceedingly rich rock having heen found are many. Gold float is said to be very ahundant in the vicinity of the camp, and several epecimens brought in exceed in richness anything ever fonnd in the county hefore. The formation is granite, and the surrounding country shows no evidence of volcanio eruptions.

THE OCHOCHO MINES, about which eo mnch has heen written, are not turning ont as well as was expected, more particularly on account of want of water. A correspondent of an Oregon paper, who has been to the mines, says the men are fast leaving for other localities. Some prospecting is, however, still going on. There is a rumor that silver has been discovered in the vicinity of the mines.

THE Virginia and Gold Hill Water Works have completed their work, and the water ie now rnnning into the cities, much to the delight of the inhabitants. The highest presenre on the pipe is 1,720 feet—figures which will astonish engineers all over the world. We will shortly give a complete deecription of the works.

THE McMAHON Mining Company at Schell Creek, are going to huy or have bought a mill to pnt up at their mine. The mill belonged to the Pennsylvania Mining Company at Silver Cañon, about 8 miles from Schellhourue, and will he moved over. It is a heavy, 5 stamp mill with Blake crusher, and will work 10 tons per day.

QUICKSILVER has gone up, or rather been put up, to $1.10 per pound, higher than it has ever been before, to our recollection. This is pretty rough on the miners, but unfortnnately they mnst have the metal and must pay the price asked hy holders.

Description of a New Species of Alcyonoid Polyp.

BY ROBERT E. C. STEARNS.

At a meeting of the California Academy of Sciences, held on the third day of February, 1873, a paper was resd by me, entitled "Remarks on a New Alcyonoid Polyp," from Burrad's Inlet,"* in which I gave a resumé of the discussions, published notices, etc., in this country and in Europe, arising from the examination hy seversl naturalists of certain "switch"-like forms, which had heen recognized by different parties from the Gulf of Georgia, more particularly from Burrard's Inlet in said gulf, several specimens of said "switches" being in the Mnseum of the California Acsdemy.

These "switches" or rods were referred by Dr. Gray, of the British Musenm, to his Genus "Osteocells," and hy Mr. Sclater's correspondent stated to belong to "a sort of fish;" but by the majority of scientific gentlemen who had seen these "switches," they were regarded as helonging to a species of Alcyonoid Polyp; I expressed the belief that they belonged to a species of *Umbellularia*.

At a meeting of the California Academy, held on the evening of Aug. 4th, 1873, Dr. Jss. Blake presented a specimen of the polyp, of which these so-called switches are the axes, which had been sent to him from the Gulf of Georgia, by his friend Captain Doane, this specimen was one of six or seven sent at the same time, all of which were in a tolerable state of preservation, though as might have been anticipated the more delicate tissnes of the polyps are somewhat decomposed, snd some of the specimens are in some plsces lacerated; they all are however sufficiently perfect to determine their true position, and ehow, that the switches are as was snpposed the supporting stalks or axee of an an alcyonoid polyp "related or pertaining to the group *Pennatulidæ*."

On the day after the meeting of the Academy (August 5th,) through the courtesy of Dr. Blake I wss permitted to inspect the other specimens, snd said from examination have written the following description.

Genus Pavonaria, Cuvier.

Pavonaria Blakei, n. s.

Polyp-mass or polypidom of a flesh or pink color, linear elongate, attenuate; polypiferous portion ahont three-fourths of entire length, rounded oval to ovate-elliptic in cross section, and from three fourths to one inch in greatest diameter, flatly tapering toward the tip, as well as decreasing in the opposite direction to where the polypiferous rows terminate or become obsolete; from this latter point to the heginning of the hase or root a portion of the polypidom equal to about one-sixth of its entire length is quite slender being only ahout twice the diamater of the naked axis, and the surface quite smooth; said portion as well as the base is round (in cross section); the hasal part is from one-niuth to one-eleventh of the entire length, and ahout one inch in diameter, with the surface longitudinally wrinkled, or contracted, presenting a ridged or fihrous appearance.

Style or axis, long, slender, white, hard, bony, somewhat polished, abont three-sixteenths of an inch in diameter in the thickest part, tapering gradually toward the tip, and attenuated, with eurface roughened towards the basal extremity; enclosed in the polyp mass or polypidom the axis is central from the base to where the polyp-rows begin, when it eoon becomes marginal or lateral forming a prominent rounded edge (free from polyps) on one side of the polypiferous portion of the whole; from near the sides of the axial edge the polyp-rows start and run ohliquely upward to the opposite side where they nearly or qnite meet, presenting when that side ie observed from above, a concentric chevron or Λ like arrangement; the more conepicuons polyp-rows ehow from nine to fonrteen polyps with occasional intermediate rows of three or more polype.

The length of the most perfect of Dr. Blake's specimens was eixty-six (66) inchee, of which, commencing at the top, a length of forty-eight and a quarter (48¼) inches was occupied by the polyp-rows, which numbered two hundred and forty-five (245) or twice that number when both sides or arms of the chevron or Λ is considered; the number of polype in each row, waa in this specimen, from eight (8) to (11) with occasional intermediate short rows of from three (3) to seven (7); estimating ten to the row, thie epecimen exhibited ahout *five thousand* polyps, all of which, as well as the polyps in the other specimens, were filled with diminntive ova of an orange color. In the next section of this specimen the length hetween the last polyp row and the swell of the hase or root, is eleven (11¼) inches, thence to the termination of the hase, six (6) inchee.

The average dimensions of thirty-six (36) of the axee in the mnseum of the California Academy is five feet eix and one-third inches in length, and the diameter of the largest nine thirty-seconds of an inch; diameter of smallest epecimen one-eixteenth of an inch.

In connection with the ahove description, some allowance should be made for the contraction and injury of the tissues hy the alcohol in which the specimene were placed after they reached this city.

Additional specimens of the ahove species have been received from J. S. Lawson Esq U. S. Coast Survey, hy Geo. Davidson, Esq., Preeident of the Academy from the same locality.

*Vide Procesdings Csl. Acsd. Scisnces, Vol. V, Psrt I, pp. 7—12.

Pope Valley Quicksilver Mines.

On a recent tour through Napa county, one of the gentlemen connected with onr office took occasion to visit tho several mining companies' works located in Pope Valley, and furnishes some items about them together with a map. The locality is reached by stage from St. Helens over a good mountain road and is about 18 miles distant from the latter place. It is the east end of the cinnabar belt that can be tracked from here up to the Geysers. Many s good mine will probably yet bo discovered on this line, and lively prospecting is going on. There are several creeks in the immediate neighborhood, and in fact enough water is taken out of some of the claims to supply the necessary wants in the water line. Timber, which is quite an item about the furnaces, is found in the adjoining mountains, and but for the price of hauling the same, would be equally as convenient as the water is. The cinnabsr belt is continuons from Pope Valley to the Geysers. There are soda springs on the Pope Valley end and indications of them on the whole line. The distance from Pope Valley to the Geysers, on the line of the belt, is about 24 miles.

By reference to the accompanying map a good idea may be had of the relative location of the different mines in this district, of which the

Phoenix Mine

Is the principal one. This mine averages 30 flasks of metal per week out of about 125 tons of ore. The shaft is down 150 feet. The main tunnel is in 1,100 feet and the lower tunnel runs back in the mountain 600 feet on the lowest level of the shaft. There is also a tunnel running forward 175 feet from the bottom of the main shaft. Most of the ore is taken out of the "Antone Spout" nearly at the end of the main tunnel; vein averages from 3 to 18 feet thick. It has been taken out about 60 feet down, leaving 90 feet to get ont before the lower level is reached.

They have enough ore in sight to run at the present capacity for about two years. The mine is cleaned up now to get at the heavy body of ore below the lower level of the main shaft. Heavier machinery will be required to take ont the better ore below. To drain the mine from the main shaft a No. 8 Blake pump is kept running constantly, which discharges about 5,000 gallons per hour. This amount is largely increased during "flood times" or rainy seasons. The mine is well ventilated throughout. There are 51 men employed at present, as follows: 8 work on waste rock; 6 on the furnace; 9 in the adobe yard; 2 on the boiler; 2 on the pumps; 1 engineer at the head of the shaft; 1 blacksmith; 3 carmen; 2 in wood yard; 10 miners; 2 men to wheel ore; 1 foreman; 1 book-keeper; 2 men in kitchen; and 1 superintendent.

The mine has been successfully worked for over 3 years. The main office is at Napa city. They are using 5 cords of wood per day at this season at $4 per cord. They are now running a tunnel from the hillside about 60 feet below the main tunnel, and have good prospects of striking a rich body of ore. They expect to largely increase the present yield. The mine is in Pope Valley, 18 miles from St. Helena over a fair grade wagon road and about 8 miles in a direct line to Calistoga. A road from Knoxville passing the camp to Calistoga is in contemplation, which if carried out would greatly facilitate transportation. A post office is now established at the mine with J. H. Cowan as postmaster; stages arrive tri-weekly. C. Langley and Co. are San Francisco agents for the sale of the quicksilver, and a ready sale is easily had.

The furnace is the Knox & Osborne patent, the second one of the kind ever built, and since the last re-modeling gives very good satisfaction. The machinery consists of one boiler with a Blake pump for feeding; one 12 horse power pumping engine at top of shaft. Pump in shaft and also a steam pump to use in sinking an air shaft. One 12-horse power engine for driving the Root Blower at the furnace. George Fellows is Superindent; George Porter, underground foreman. Wm. P. Cook, engineer at main shaft; Morris Mehon, foroman at furnace; and J. H. Cowan, book-keeper.

The Aetna Mining Co.,

Formed from the Silver Bow, Valley and Pope mines, is not doing much at present, they being engaged puttiug in a new engine, but they expect to start up the furnace this month. They have enough ore and adobes to supply the furnace for a month. These three mines are not very much developed as yet, but the ore taken out so far proves good. The Knox and Osborne furnace is used here also.

The Silver Bow, belonging to the Aetna Mining Co., is the most elevated claim, and machinery is used to force up the necessary water. The main tunnel is in over 200 feet. It is worked by Chinamen, who take out very good ore.

The Valley and Pope claims, which also form part of the Aetna Mining Co., are not shown on the map, they being located further down in the valley.

The Washington Mine

Is not worked by the owners but by D. Patten, former superintendent of the Phœnix. The working is done on a very cheap plan. All the ore is being taken from a surface cut on the hillside, so the rock requires no blasting. Few hands are employed. No systematic method of working is in vogue, as the lessee wants of course to get out as much ore as possible, and as cheap as possible. Dr. Stillwagon of Naps, is the principal owner. Taking out ore and reducing it costs about $4, only at this mine. The capacity is about 30 flasks of quicksilver per month from 100 tons of ore. The main tunnel is in 279 feet, 44 feet from surface. The ore-bearing ground measures 23 feet on bottom of this tunnel. Only six men are employed, two in the mine, two in the adobe yard, and two in the furnace. The mine is at present being worked without machinery. They can sink 80 feet deeper at a reasonable expense, without pumping. A drift is run 32 feet west and 60 feet east from the main tunnel, showing good ore all through. The situation of the mine can be seen by reference to the accompanying map. Langley & Co., also have the agency for the sale of the product of this mine. The furnace is the same as that at Almaden with a section of iron condensers attached. It is charged 10 times per month, and 10 tons at a charge. They have a good spring on the ground and a creek running through, well supplied with trout. There are 180 acres of timber land belonging to the mine. It will be seen from the location and cheap working of this mine, that the cost of extracting the metal is much less than at the others, and consequently it pays a fine profit.

The Red Hill mine is partly developed, but not worked at present. D. Patten is the principal owner. Several tunnels have been run from 120 to 180 feet in length, all showing good ore.

The Chapman Expedition which has been engaged in exploring the valley of the Colorado on the Eastern base of the Lower California

POPE VALLEY QUICKSILVER REGION.

Mountsins has been heard from. Captsin Bsiley, who has returned, has furnished the San Diego *Union* with a few items in relation to the progress of the survey. They first proceeded from the base of the mountains of Lower California to the overflowed banks of New River, or Hardy's Colorado. This natural irrigating canal, bearing the back water of the Colorado to the depressed basin of the Desert, is below the level of the sea. Along the southwest side of this canal runs a sandy ridge. Crossing this ridge there is found, not many leagues below the Mexican boundary line, a lagoon, filled with salt water connected by means of a slough with the head of the Gulf of California. The problem was to ascertain whether a practical plan could be devised for connecting this lagoon with the New River canal, so as to flood the greater portion of the desert with salt water and form a lake. This, it is found, can be done at a comparatively small cost. There is a place where the distance between the lagoon and this desert canal is quite short, and the cut required to be made may be easily accomplished, and, at a slight cost, kept open. Further details will no doubt shortly come to hand.

The Artesian Shaft at Virginia, upon which no work has been done for a month or so, has been started up again. The work is being done by a method described by us some time since. Holes are bored as deep as possible and then filled in with sand. In putting in a blast the sand is cleaned out for eight or ten feet, and the blast put in and fired. It is quite a saving of time, as the men can work faster than they can by drilling and blasting alternately. The holes being already drilled and filled with sand, all that is then to be done is to take out a few feet of sand, blast, remove the debris and repeat the same operation. In the shaft spoken of, only one more hole is to be drilled of the several which mark out the shape of the shaft.

Academy of Sciences.

The regular meeting of the California Academy of Sciences was held on Monday evening last, Prof. J. D. Whitney in the chair. Messrs. David J. Staples, Solomon Goldsmith, Alfred Wheeler, R. H. Plummer and Albert Williams Jr., were elected resident members. Donations were received as follows: A full set of the publications of the State Geological Survey of California, presented by the State through Governor Booth. Specimens of fish, sometimes called the "King of the Herrings," caught off the Farallone Islands, presented by Mr. C. P. Dameron. Mr. C. D. Gibbes presented the nest and eggs of marsh wren, (*Troglodytes Palustris.*) These nests are abundant throughout the swamp lands; they are purse-shaped and composed of flexible grasses ingeniously woven together. They are suspended three or four feet from the ground attached, to the tules by being woven around them. A small entrance is left near the top and the nest is lined with soft grasses and down from the plant known as the "cat-tail." The eggs are of a light-brown, mahogany color, with darker dashes varying in intensity of shade. Although Mr. Gibbes had seen many of the nests, this is the only one in which he had discovered eggs.

Dr. Blake presented to the Academy a specimen of *Pennatula*, which had been taken in the Gulf of Georgia in about seven fathoms of water. A paper was read by W. A. Goodyear, of the State Geological Survey, on the "Situation and Altitude of Mount Whitney," the substance of which we will give in our next issue.

James R. Smedberg, Consulting Engineer of the San Francisco Gas Light Company, announced that the work entitled "A Synopsis of British Gas Lighting," upon which he has been engaged for five years, is now in press, and will be issued in November. This new work is one which has been expected anxiously for some time by parties interested in the subject. It comprises the essence of the *London Journal of Gas Lighting*, from February 10th, 1849, to December 31st, 1868, with the monographs read before the British and North British Associations of Gas Managers between the latter date and November 1st, 1873. There is added a zincograph of the latest form of that valuable American contribution to the art, the Sabbaton Multitubular Condenser. Part 1. (700 pages and 170 illustrations) sets forth the whole argument of Gas Lighting. Part II (250 pages and 35 illustrations) gives abstracts of 900 patents in this art and its allied industries. The whole work is quite a comprehensive one, and the illustrations, some of which were exhibited, are gotten up in excellent style. Mr. Bosqui is publishing agent, which is sufficient guarantee of the typographical appearance of the book. All the work on the publication will be done in this State.

Concentrating Ores—We see by the Salt Lake papers that a gentleman has come over from England to superintend the erection of concentrating machinery for the Utah Silver Mining Co. of Utah. Mining operations will be suspended during the erection of the machinery, but there are 2,000 tons of ore on the dump ready for working. If a success is made of this experiment, which is highly probable, the example will be followed by many other mining companies in Utah. More attention is now being paid to the concentration of ores than ever before on this coast.

The Owyhee mines are turning out remarkably well this season, and the people there think the camp is not a permanent one. Mining machinery is being brought in and business is brisk. Workmen are reported to be scarce.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents]

By Special Dispatch, Dated Washington, D. C., August 5th, 1873.

For Week Ending July 22n, 1873.

Candle Guard.—Benjamin Morgan, S. F., Cal.

Spring Joint for Watch Cases.—John Gordon, S. F., Cal.

Scroll Sawing Machine.—Marquard Hansen, S. F., Cal.

Blast Furnace Breast-Plate.—Robert A. Fisher, S. F., Cal.

Tauss Bridge.—Alfred Bannister, S. F., Cal.

Tuck Marker.—Frederick L. Tileston, S. F., Cal.

Shoemaker Pincers.—Wm. H. Hanna, Chico, Cal.

——The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Circular Ironclads.

For many years the idea of constructing a perfectly circular ironclad has been advocated, but it has remained for Admiral Popoff, of the Russian navy, to put in practice what others had only suggested. The new type of war vessel is called, in his honor, the "Popoffka." The first specimen of the class was lately launched at the navy yard at Nicolaef, and is called the Novgorod. Other vessels, from the same plans, are now being constructed.

The "Popofika" is, in effect, a Monitor, with the distinguishing and most valuable qualities of the latter carried still further to completion. As compared with our typical Monitor, the "Popoffka" has many advantages. To make these more apparent, compare a vessel of each build of the same displacement, say 1,535 ft.' This size of "Popoffka" will be 90 ft. in diameter, 9 ft. in draught, with armor 10 in. in thickness and carrying 2 guns of 11 in. caliber, as against the following figures for the same size of Monitor: Length, 200 ft.; beam, 40 ft.; draught, 11 ft.; thickness of plating, 5 in.; guns, 2 of 9 in. caliber. The "Popoffka," therefore, gains in these particulars: 2 ft. less draught, armor of double thickness and guns of much greater size. It is further stated, that the cost of a "Popoffka" is only two-thirds that of a Monitor of equal size. The former has also immense advantage in increase in resisting strength and enlargement of available storage room, from the peculiarities of construction.

Having enumerated the easily understood good points of the new vessel, we turn to the question of comparative speed and seaworthiness. It appears from reports of a trial trip of the Novgorod that 6 knots were made on half pressure. Complete turns were made in 1 min. 19 secs. without movement forward. In rough water there was no plowing up; the water slipped by her sides quite easily. Now it is a notorious fact that our Monitors do plow dreadfully, and are only expected to make from 7 to 8 knots per hour at full steam. So even in this direction, very unexpectedly, the comparison is still in favor of the Russian model.

The Novgorod has twelve keels of 8 in. depth, and six pairs of compound screw engines, having their shafts arranged parallel to the lines of the keels. To turn quickly, the three screws on one side are slowed, stopped or backed, while the three on the other side continue to revolve.

The Napa Gold Mine, according to the Calistoga *Tribune*, has $10,000 worth of ore on the dumps; some of it has been worked in this city, and yields $38 per ton. It is stated that it can be worked at the mine for $3.50 per ton. Arrangements have been perfected for the construction of a mill, and 20 men are now a work on the mine.

The Newly Completed Shaft of the Nortonville coal mine will enable the company to increase their production, and employ a larger number of miners. New buildings, bunkers, etc., are to be erected, and a branch railroad track will connect them with the present track.

The El Dorado canal in Baker County, Oregon, is 97 miles long, and supplies a mining country 40 miles in extent. The ditch is paying handsome profits.

Valuable Mineral Deposits.

The Commissioner of the General Land Office, having received a number of communicatione in relation to obtaining title to lands having upon them borax, carbonate of lime, sulphur, etc., etc., has issued the following circular, defining the term, "valuahle mineral deposits," nnder the Mining Law of May 10th, 1872:

Department of the Interior, General Land Office, Washington, D. C. July 15, 1873.

GENTLEMEN: I have had under consideration a number of letters, mostly from California, wherein inquiries are msde as to the proper course to pursue to obtain title to public lands containing valuable deposits of borax, carhonate and nitrate of soda, sulphur, alum and asphalt. Among them is one from the Nevada Consolidated Borax Company, from which it appears that this company intends to commence the utilization of the alkaline plains of Nevada.

The first section of the act of Congress approved May 10, 1872, reads as followe: "That ALL *valuable mineral deposits* in lands belonging to the United States, both surveyed and nnsurveyed, are hereby declared to he free snd open to exploration and purchase, and the lands in which they are found to occnpation and purchase," etc.

The second section declares "that mining claims upon veine or lodes of quartz, or other rock, in place-bearing gold, silver, cinnabar, lead, tin, copper, or *other valuable deposits*, heretofore located," etc.

The sixth section refers to "a patent for any land claimed and located for *valuable deposits*.

It will be observed that in the first section of the act the expreesion "valuahle *mineral* deposits" is employed, while in the second and sixth sections the language is, "valuahle deposits." Allowing, however, that it was the intention of the law-makere by tbis act to dispose of "valuable *mineral* deposits," the question becomes tnis, "What is a valuable mineral deposit?"

The meaning of the word valuable need not be discussed. Anything a pereon is willing to give money for, or that is nseful or precions, or that has merchantable qualities, is valuahle.

The word deposit has always been construed hy thie Office to be a general term, embracing veins, lodes, ledges, placers and all other forms in which valuable metals have ever hcen discovered.

In the eenee in which the term mineral was used hy Congress, it seems difficult to find a definition that will emhrace what mineralogists agree sbould he included. The several authorities consulted in tbis connection seem to find it an eaeier task to determine what is not, than what is, mineral. However, in all the works on mineralogy that have come under my notice, horax, nitrate and carhonate of soda, sulphur, alum and asphalt are classified and discussed as minerals.

Alger's edition of Phillip's Mineralogy speaks of "the crust of the glohe as consisting chiefly of earths and earthy minerals." Between earths and minerals there is a clear line of demarkation, and, tbough difficult to express in a few words, chemical composition and crystalization are the principal means of tracing the distinction.

Webster seems to he the most accurate in his definition of a mineral, for he recognizes chemical composition as the important consideration. He defines a mineral to he "any inorganic species having a definite chemical composition."

From a careful examination of this matter, the conclusion I reach as to what constitutes "a valuable miueral depoeit" is this:

That whatever is recognized as a mineral hy the standard antborities on the subject, where the same is found in quantity and quality to render the land sought to be patented more vsluable on tbis account than for purposes of agriculture, should be treated hy this Office as coming within the purview of the mining act of May 10, 1872.

The language of the statute is so comprehensive, and capable of such liheral construction, that I cannot avoid the conclusion that Congress intended it as a general mining law, "to promote the development of the mining resources of the United States," and to afford a method whereby parties holding the possessory right under local laws and regulations could secure title to tracts containing valnable accretions or deposits of mineral snbstances, except where a special law might intervene, reserving from ssle, or regulating the disposal, of particularly specified mineral-bearing lands.

To the several inquiries in the letters referred to, I therefore reply that lands valnahle on account of borax, carbonate of soda, nitrate of soda, sulphur, alum and asphalt, ae well as "all valuahle mineral deposits," may be applied for and patented under the provisions of the mining act of May 10, 1872.

In case an application should he presented to you for a survey of land valuahle for other minerals than those specified herein and in the act itself, you will first refer the questiou to this Offio', iu order that applicants may he saved the expenee of applying for lands that may be reserved by a special act of Congress.

It will be observed that the mineral-producing lands are divided into two classes—the one class embracee lauds where the mineral matter is within "rock in place," or, geologically apeakiug, "*in situ*;" and the second includes placere and all forms of deposite excepting those in "rock in place."

In this connection, I deem it a matter of importance to give the construction this Office placea upon the expression, "vein or lode of quartz or other rock in place," to prevent mistakes in locating the two classes of mines referred to, thereby saving to claimants considerable expense and delay.

In geology and among miners, veins or lodes imply generally an aggregation of mineral matter found in the fissnres of the rocks which inclose it, but are of great variety, veins differing very much in their formation and appearance. Lode is a term in general use among the tinminers of Cornwall, and was introduced on the Pacific coast by emigrants from the Cornish mines, and signifies a fissure filled either by metallic or earthy matter.

In several of the mining-districts the terms lead and ledge are employed in the local regulations concerning mines. Lead is used to convey the same idea as lode, while ledge would seem to indicate a layer or stratum of mineral interposed between a course or ridge of rocks.

Veins may be either sedimentary, plutonic or segregated. or of infiltration or attrition, depending upon the peculiar formation or the mode of occurrence of tbe mineral deposit. There is also another form of deposit different from either of those mentioned above, called *contact deposit*.

European miners mention still others, called in England "floors," in Germany "Stockwerke," and a form of deposit known as "Fahlband." These latter are, more properly speaking, ore-bearing helte, irregular in their dimensions, but presenting a certain degree of parallelism with each other. Similar in some respects to the Fahlhands are the metalliferous zones, or "amygdaloidal bands," which are said to exist on Mount Lincoln and Mount Bross, Colorado.

However, if the question were raised, neither of the forms of deposit known as contact doposit, Fahlhands, or segregated veins could be accepted as true metalliferous veins, nor could it frequently he made to appear, without expensive excavation, whether the metal in the mine for which a patent is sought occurs in the form of a true vein or not.

But there is no reason for supposing that the terms were employed in their strict geological signification. The plain object of the law ie to dispose of the mineral lands of the United States for money-value, and whatever form of deposit can he embraced in the general phrase "vein or lode of quartz, or other rock in place," must he sold at the rate of five dollare per acre.

It is evidently the policy of the Government to include as much land as possible nuder the designation, for the reason that, as the most valuahle metals and minerals occur in the several vein-formations, it is desirable that the lands whereiu they are discovered should be sold in limited quantitics, thereby preventing the few from monopolizing large tracte, which ought to remain open to all for exploration and development; and for the further reason that the Governmeut derives a larger revenue from the sale of lands of this description.

In fine, I include in the first class sll lands wherein the mineral matter is contained in veine or ledges, occuping the original hahitat or location of the metal or mineral; whether in true or false veins, in zones, in pockets, or in the several other forms in which minerals are found in the ORIGINAL ROCK, whether the gangue, or matrix, is disintegrated at the surface or not.

You will please give puhlicity to this communication where it can be done without expense to the Government.

Very respectfully, your ohedient servant,

WILLIS DRUMMOND,
Commissioner.

To Surveyors-General and Registers and Receivers.

Weights of the Different Metals or Ores to the Cubic Foot.

Metals and Ores.	*Weight.*
Gold, native	1,250
Silver, native	643.75
Vitreous	449.37
Red	362.05
Hern	237.05
Copper, native	525
Vitreous	349.75
Pyrites	259.37
Purple	312.05
Grey	296.87
Red	375
Malachite	250
Oxide	406.25
Sulphuret	268.78
Lead, native	709.37
Galena	468.75
Carbonate	403.75
Zinc blende, or sulphuret	250.05
Carbonate, or calamine	268.75
Antimony, native	412.05
Sulphuret	281.25
Oxide	348.12
Binoxide	300
Nickel, arsenical	456.25
Sulphuret	281.25
Glance	381.25
Cobalt	400
Iron, native	456.25
Pyrites	300
Magnetic	312.05
Iron, arsenical	381.25
Specular	281.25
Brown Hematite	225
Uranium, pitch blend	404.73
Barytia, heavy spar, carbonate	268.75
Lime, cale spar	156.25
Flour spar	196.25
Quartz, or silica	162.05

To find the weight of any of the ahove ores in six feet of the vein, mnltiply the number opposite the same ore in the table hy the number of cuhic feet in a fathom, and the weight per fathom is plainly shown, if eolid, and if not, allowances should be made for cavities.

NOTE.—A vein of ore eix feet square (six feet long and six feet high) and one inch thick will measure three cubic feet, therefore, to find the cubic feet, multiply the thickness in inchee by three.—*H. B. Grose, in Lincoln Co.* (*Col.*) *Sentinel.*

A Plea for "The Civil Damages Act."

EDS. PRESS:—Whatever douhts there may he with regard to the propriety of an article on this suhject in your paper, there can he no question of the grave importance of its consideration to the prosperity and well-being of the people in the times to come. When questions of tbis nature demand our attention, it is not only cowardly, but even criminal, to ignore them hecause they are unpopular. There is something nobler than the time-serviug spirit which "does as Rome does," and glides gracefully into almost every grade of society, apparently finding them alike congenial, for the sake of the lo aves and fishes. And it is by no means flattering to those who love good order and decency, that they *passively* allow their intelligence to be controlled by those who notoriously hreed nearly all the disorders that disturh society.

The Legislatures of the States of Illinois, Ohio and New York, have enacted a law by which any person injured "in person, property, or in means of support by any intoxicated person, or in consequence of intoxication, may recover damagee therefor from the person, who, hy selling or otherwise furnishing the liquor, caused the intoxication." And as this law compels the one who engenders intoxication to make good the damages done by the drunkard, and allows the injured wife, or parent, or child, to sue in a civil action therefor, it is called The Civil Damages Act. In some other places, laws, in restraint of intemperance, have aimed to make intoxication a crime or misdemeanor, to be prosecuted hy puhlic officers, and while there can he no douht that drunkenness is a crime, and as deserving of punishment as some others that are found in the catalogue, yet the law that made it so, failed to mcet the approbation of the people, and hence failed to accomplish its purpose. No law is ever stronger than the public sentiment behind it; and though made hy the angels, it is powerless to effect any good thing among men, unless they approve of it, and, ahove all, enforce it.

But it is helieved and confidently expected that the Civil Damages Act, as it is termed, will not only accomphsh the great resnlt aimed at, but will also meet the approhation of every thinking man and women throughout the land, It is eminently just and proper that there should be such a law in every State; we all feel the need of something of the kind; we constantly see the evil and, too often, criminal results of intoxication, and we know that the responsibility rests somewhere, and it cannot be said that it rests wholly with the drunkard. This new law, then, is only a happy amendment to the old one. When the drunkard transgresses the law he is responsible for his crime, the same as nnder the old law, but for the damages that he does to any one, "in person, property or means of support," the one is responsible who, by selling or otherwise furnishing the liquor, caused the intoxicatiou.

Superficially viewed, the civil dsmages act might seem, to some, unduly severe upon those who vend intoxicating liquors; hut the fact is, it conld not possibly he milder, and serve to accomplish any good purpose, Little as saloon keepere deserve anything favorable from the law and public sentiment, still it would he most unwise, as well as unjust, to infringe upon any of their personal rights. That this law does not do so, will appear, I think, from the following considerations:

1. It is nndeniable that most of the crimes, disorders and indecencies tbat disturb society owe their origin directly or indirectly to intoxication. All unseemly domestic brawls and cruelties epring from the same fountain hcad, so prolific of evil. In short, it ie a school for crime, and does not fail in the fulness of time to graduate CRIMINALS. These are facts that we all know, and, as they are indisputable, it is useless to enlarge upon them. The qnestion naturally arises, is there no remedy? Must the land always groan under thie miasma, with no prospect of even a far-off relief? Surely the means employed must he harsh indeed, if they are not justified by the magnitude of the evil.

2. The object of the law is not to prohihit the sale of intoxicating liquors, but to prevent drnnkenness. To fleece a man of his money while in a state of intoxication—the money which his wife and helpless children are perhaps starving for, ia only robbery, view it ae we may. And is it more than justice to hold the one who does so responsible for the damagea that his victim may do, while in a state of insanity?

3. Thie law infringes on no man'a rights. In the eye of the law, drunkenness is a crime, and certainly those who engender it by furnishing the liquor are accessories to the crime, and are therefore deserving of punishment. Can that law be called severe which only aims to compel the vender of intoxicating liquors to stop before his victim has lost all sense of responsibility? Surely no! A thousand times no, when we consider the countless evils that are caueed hy selling just a few more drinke. Can the paltry sum of money gained by the vender of liquors be weighed against the crimee and disordere that are caused by drnnkenness? From our penitentiaries and jails, our poor-houees and hospitals, the anewer comes back in thnnder tonee, No! No!

But the ohject of this article is not so mnch to discnss, as to call attention to the new law, adopted in three of the greatest States of the East. Your paper, Messrs. Editors, circulates among that class of people to whom we must look for hringing about this mnch needed reform. And I ask each one of your readers, personally, why we should not have the Civil Damages Act in California? Think of it seriously, as it deserves, and then let actions he your conclusion. T. C. MOFARLANN,

Monterey, Cal., July 18, 1873.

The Public Domain.

An officially prepared statement has been msde in contradiction of the recent puhlication, stating, that including sales already made, reservations, grants hy Congress and other disposition of public land, tbe Government has already parted with four million acres more than the whole area of arable lands in the United States, and that here were no tillable lands left for eettlers. The official statement recounts, that as about a billion and a quarter of acres of the public domain, much of which hse not yet been explored, remaine to he surveyed, there are no reliahle data hy which the correctness or incorrectness of the estimatee can he determined. It is impossible to ascertain, even approximately, the number of acree covered by water, or included in mountain ranges or deserts, prior to an actual survey of thie immense area, and therefore no reliance can he placed on the statement of estimates alluded to. Grante and concessions to corporations, and reservations for Indians, etc., being for lands in places stated, of course include the water surface, mountain ranges, desert, marshes and all kinds of untillable lands, as in case of swamp lands. The waste land included in these grants and reservations having already heen deducted as uncultivatable lands, ehould not have been counted in making up lands granted and reserved, or, if so counted, proper allowance should have heen made. Grants to railroads, particularly to those known as Pacific roads, are through waste and mountain districts, where the percentage of unproductive lands is much greater than in other portions of the United States; therefore a much larger deduction should be made for waste lands in considering the grante to these roads. Allowance should also be made for Indian reservations which will ultimately revert to the United States, as well ae for cancelled homestead and other entries, and also for unproductive lands included in tracts held by private partiee in the older States, and grants heretofore made hy Government in States containing public lands, and in grants of sixteenth and thirty-sixth sections for school purposes. The aggregate of these additional items will probably amount to not less than two hundred millions of acres; so that inetead of the United States having disposed of four million acres of arable land more than it owns, it prohahly has left for the disposal of settlers, after making all proper deductions, between three hundred million and four hundred million acres.

Iron Pyrites and Fire Arms.

The connection of iron pyrites with fire-arms deserves to he briefly noticed. When Edward IV. landed at Ravenspur, in 1471, hringing with him 300 Flemings armed with gnns, the latter were simply iron tuhes with a touch-hole, mounted on a straight stock, and fired by meane of a match. The accidents occasioned by carrying lighted matches near gunpowder very evidently caused some now nnknown genius to imagine a method of producing fire when it was wanted only. Pyrites, or the "fire etone," was the substance first tried. A piece of iron pyrites was fixed opposite to the open touchhole, and when sparks were required it was rubbed with a file attached to the barrel. In the time of Henry VIII. a very ingenious contrivance was imagined by another forgotten genius, in order to get rid of the tronhlesome file. The latter was then replaced by a wheel and spring, coincident with the first appearance of a trigger. When the trigger was pulled, the wheel, previously wound up hy a key, spnn round with great velocity in contact with tbe pyrites, and produced a regular stream of sparks. This was an important innovation, and apears to have answered the purpose tolerably, until some period in the reign of Charles II., when flint was hinted at as a substitute for pyritee. The flint lock is supposed to have heen invented in the Netherlands; it was generally adopted about 1692, in the reign of William III., when all mention of iron pyritee for fire-arms had totally dieappeared. In the year 1589, when a large deposit of pyrites was found near the Seefen, the Duke Julius, of Brunswick, caused it to be collected, and formed it himself into the necessary ehape for the fire-arms of the period. In doing ao, weare informed hy Beckmann, the duke "often bruised his fingers, and wae adviaed by his physicians not to expose himself to the sulphurous vapor emitted by that snbstance."

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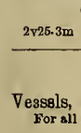

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SEXTUS SHEARER,

President.

July 18th, 1873. 4v27-tf

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This Bank is prepared to grant Letters of Credit on Europe, and to transact every kind of Banking, Mercantile and Exchange Business, and to negotiate American Securities in Europe. Deposits received.

BILLS OF EXCHANGE ON:

New York,	Hamburg,	Winterthur,	Baden,
Liverpool,	Bellinzona,	Bern,	Chur,
London,	Berlin,	Neuchatel,	Shaffhausen,
Paris,	Frankfort,	Locarno,	Fribourg,
Lyons,	Geneva,	Chaux-de-	Lucerne,
Bordeaux,	Zurich,	Fonds,	Aaran,
Marseilles,	Basel,	Solothurn,	Lugano,
Brussels,	St. Gall,	Lausanne,	Mendrisio.

An Assay Office

Is annexed to the Bank. Assays of gold, silver, quartz, ores and sulphurets. Returns in coin or bars, at the option of the depositor. Advances made on bullion and ores.

Dust and bullion can be forwarded from any part of the country, and returns made through Wells, Fargo & Co., or by checks. 1v27-3m

The Merchants' Exchange Bank

OF SAN FRANCISCO.

Capital, One Million Dollars.

LEVI STEVENS.....President.

R. N. VAN BRUNT.....Cashier.

BANKING HOUSE,

No. 415 California street, San Francisco.

25v20-qy

DIVIDEND NOTICE.

The Farmers and Mechanics Bank of Savings.

The Farmers and Mechanics Bank of Savings has declared a dividend for the half year ending June 30th, 1873, at the rate of ten per cent. per annum on term deposits, eight per cent. per annum on class one, ordinary deposits, and six per cent. on class two, ordinary deposits, free of Federal Tax. Payable on and after July 14th, 1873. By order.

jy19-1m G. M. CONDEE, Cashier.

French Savings and Loan Society,

411 Bush street, above Kearny..... SAN FRANCISCO.

4v27tf G. MAHE, Director.

AXLE GREASE.

To Farmers, Teamsters and Others.

Your attention is called to the very superior AXLE GREASE manufactured by us for over 18 years.

Recent improvements in the chemical arrangement of the lubricants used in its manufacture render its use as serviceable on the lightest buggy as on the heaviest team.

The extensive demand for the H. & L. Axle Greaee has enabled the proprietors to reduce its price to as low a rate as any of the inferior compounds, which are continually being forced upon the market.

See that the trade-mark (H. & L.) is on the red cover of the package, and take no other.

HUCKS & LAMBERT,

Manufacturers & Sole Proprietors,

SAN FRANCISCO.

Factory.....145 Natoma Street.

Depot.....312 Jackson Street.

10v5-1amhp-1y

BURLEIGH

ROCK DRILLS

—AND—

Air Compressors.

The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Shafting, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

They are to be used on the St. Gothard Tunnel, Switzerland; Tunnel 13 miles long. We refer to the following gentlemen and works:

Gen. Newton, U. S. A..... .....Hell Gate Tunnel, L. I.

Mess. Shanley.....Hoosac Tunnel, Mass.

J. Dutton Steele.....Nesquehoning Tunnel, Pa.

Sidney Dillon.....Fourth Avenue Work, N. Y.

Col. Rochling .....East River Bridge Company, N. Y.

For further information, etc., address

L. C. PARKE,

VIRGINIA CITY, NEVADA.

AGENT FOR THE PACIFIC COAST. f15

PURCHASERS please say advertised in Scientific Press

Directory.

Menzo Spring---Manufacturer of the Dr. Ely Artificial Limbs, has removed from 101 Jessie street to 166 Tehama street, near northeast corner of Third and Tehama, and between Howard and Folsom streets. Address Menzo Spring, 166 Tehama st., San Francisco, Cal.

DR. AIKIN, 504 Kearny st., N. E. cor. California st., S. F., cures Catarrh, Deafness, Ear Discharges, Dilormities, and all Eye, Ear, Lung, Liver, Kidney, Blood, Nerve, Chronic, Special and Men's Diseases. Friendly advice; skillful treatment for all invalids. Medicines supplied. Hours, 10 to 4 and 6 to 8. Call or write. Ladies, married or single, speedily cured of any ill health. 23v26

H. C. BENNETT,

STATISTICIAN.

Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

RICHARD H. STRETCH, Civil Engineer,

City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

GILBERT H. GRAY. JAMES M. HAVEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,

In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,

SAN FRANCISCO.

JOHN ROACH, Optician,

429 Montgomery Street,

S. W. corner Sacramento.

Sun Instruments made, repaired and adjusted

22v17-3m

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,

BOOKBINDERS,

Papar Rulers and Blank Book Manufacturers.

505 Clay street, (southwest cor. Sansome),

15v12-3m SAN FRANCISCO.

J. F. PAGES,

SEAL ENGRAVER.

AND LETTER CUTTER.

Brass and Steel Stamps and Dies, 608 Sacramento street, San Francisco. Orders by express promptly attended to.

J. M. STOCKMAN,

Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry).

N. W. corner Natoma and Fremont streets, S. F. Entrance on Natoma street. 6v23-3m

San Francisco Cordage Company.

Established 1856.

We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.

TUBBS & CO.,

17v26-tf 611 and 613 Front street, San Francisco.

DR. ABORN,

Physician and Operating Surgeon

FOR CHRONIC DISEASES,

213 GEARY STREET, - - - SAN FRANCISCO.

Diseases of a chronic and obstinate character, especially such cases as have for years, or a lifetime, resisted the ordinary modes of treatment, are the class of maladies in the treatment of which Dr. Aborn has become pre-eminent on the Pacific Coast, as well as throughout the Union, and by his success has achieved for himself an enviable reputation. 23v25-1y

JOSEPH GILLOTT'S

STEEL PENS.

Sold by all Dealers throughout the World.

19v26-1y

PATRICK GIBBONS,

Sole Proprietor for the Pacific States and Territories, of

VAN PAPPELENDAM'S PATENT

Metallic Roofing and Wall Tiles,

(Patented June 13th, 1871.)

SAN FRANCISCO OFFICE—At Messrs. THANOR & KNOX, 513 California street.

RESIDENCE—308 Tenth street, Oakland, Cal. jn21-3m

OAKEY & SON'S EMERY AND BLACK LEAD MILLS, Blackfriar's Road, London, England.

OAKEY'S WELLINGTON KNIFE POLISH. Packets, 3d. each; tins, 6d., 1s., 2s. 6d., and 4s. each.

OAKEY'S INDIA RUBBER KNIFE BOARDS from 1s. 6d. each.

OAKEY'S SILVERSMITHS' SOAP (NON MERCURIAL), for Cleansing and Polishing Silver, Electro-plate, Plate-glass, Marble, etc. Tablets, 6d. each

OAKEY'S GENUINE EMERY, GRAIN AND FLOUR.

OAKEY'S EMERY AND GLASS CLOTH.

OAKEY'S CABINET GLASS PAPER, BLACK LEAD, etc.

OAKEY'S GOODS SOLD EVERYWHERE by Ironmongers, Grocers, Oilmen, Brushmakers, Druggists, etc 21v25-1y

DR. ABORN, OCULIST, AURIST,

Catarrh, Throat and Lung Physician.

The Most Difficult Cases are invited to call.

Offices and Laboratory, 213 Geary street.

Office Hours—10½ A. M. to 3 P. M.; 6 to 7½ P. M.

5v6-3m

Time Tests the Merits of all Things.

1840 For Over 30 Years, 1873

PERRY DAVIS'

PAIN-KILLER

Has been tested in every variety of climate, and by almost every nation known to Americans. It is the constant companion and inestimable friend of the missionary and the traveler, on the sea or land, and no one should travel on our *Lakes or Rivers without it.*

Since the PAIN-KILLER was first introduced, and met with snch extensive sale, many Liniments, Reliefs, Panaceas, and other Remedies have been offered to the pnblic, but not one of them has attained the truly *enviable standing* of the PAIN-KILLER.

WHY IS THIS SO?

It is becanse DAVIS' PAIN-KILLER is what it claims to be, a Reliever of Pain.

Its Merits are Unsurpassed.

If you are suffering from Internal Pain, Twenty to Thirty Drops in a Little Water will almost instantly cure you. There is nothing to equal it for

Colic, Cramps, Spasms, Heart-burn, Diarrhea, Dysentery, Flax, Wind in the Bowels, Sour Stomach, Dyspepsia, Sick Headnche, &c., &c.

In sections of the country where

Fever and Ague

Prevails, there is no remedy held in greater esteem. Persons traveling should keep it hy them. A few drops, in water, will prevent sickness or howel troubles from change of water.

From foreign countries the calls for PAIN-KILLER are great. It is found to

CURE OHOLERA WHEN ALL OTHER REMEDIES FAIL.

WHEN USED EXTERNALLY, AS A LINIMENT, nothing gives quicker ease in Burns, Cuts, Bruises, Sprains, Stings from Insects, and Scalds. It removes the fire, and the wound heals like ordinary sores. Those suffering with RHEUMATISM, GOUT, or NEURALGIA, if not a positive cure, they find the Pain-Killer gives them relief when no other remedy will.

It Gives Instant Relief from Aching Teeth.

Every House-Keeper should keep it at hand, and apply it on the first attack of any Pain. It will give satisfactory relief, and save hours of suffering.

Do not trifle with yourselves by testing untried remedies. Be sure you call for and get the genuine PAIN-KILLER, as many worthless nostrums are attempted to be sold on the great reputation of this valuable medicine. ☞ Directions accompany each bottle.

PRICE—25 cts., 50 cts., and $1 per hottle.

GENERAL MERCHANDISE.

BAGS.

Eng. stand. Wh't	14	@	—
Detrick's Mach'e Sewed, 22 x 36,			
Gilroy E.....	13½	@	—
do, 22x36, do W	14	@	—
do. 22x40, do...	15	@	—
do, 22x40...	15¾	@	16
do, 24x40.....	16½	@	17
Flour Sacks ½s..	13	@	16
" " ¼s.	8¼	@	9½
Stand. Gunnies..	—	@	20
" Wool Sacks.	—	@	65
" Barley do..	—	@	15½
Hessian 45-in.gds	—	@	11½
do 60	—	@	15
Burlaps, yard....	10½	@	10¾

CANNED GOODS.

Asst'd Pie Fruits in 2½ lb cans.	3 00	@	—
do Table do....	—	@	4 00
Jams & Jellies	4 00	@	4 50
Pickles ½ gl..	—	@	3 50

COAL—Jobbing.

Australian, ₹ ton		@	12 50
Coos & Bel. Bay.	8 50	@	10—
Seattle.....	—	@	—
Cumberl'd, cks..	25 00	@	—
do bulk...	—	@	25—
Lehigh.....	20 00	@	—
Liverpool.....	11 00	@	12—
West Hartley....	12 00	@	14—
Scotch.....	10 00	@	11—
Scranton	10 00	@	—
Vancouver's Isl..	12 00	@	14—
Charcoal, ₹ sk....	—	@	—

COFFEE.

Sandwich Island	19½	@	—
Costa Rica per lb	19½	@	20
Guatemala.....	19½	@	20
Java.....	—	@	23
Manilla.....	19	@	—
Ground in cs....	21½	@	—
Chicory.....	10	@	—

FISH.

Pac. Dry Cod, new	—	@	—
cases.....	8	@	10
Eastern Cod.....	10	@	—
Salmon in hlfs..	3 50	@	10
do ½ bbls	4 50	@	6 00
do 2½ lb cans	—	@	—
do 2 lb cans..	@3		25
do 1 lb cans..	2 25	@	—
Pick. Cod, hlfbbls	4 00	@	—
do ½ bbls	11 00	@	—
Eos on Smoked..	—	@	—
Herr'g, hox....	50	@	—
Mack'l, No. 1, ½ bls	—	@	9 50
" Extra....	—	@	50
" in kits....	—	@	2 50
" Ex mess..	—	@	—

NAILS.

Assorted size, lb.	8¾	@	9 —

NAVAL STORES.

Pitch, per lb	6½	@	—
Oakum.....	5½	@	—

OILS.

Pacific Glne Co. Neat F't No. 1.	—	@	—
Pnre.....	1 25	@	—
Castor Oil, No. 1..	1 40	@	1 45
do do No. 2..	1 30	@	1 35
Cocoa Nut...	60	@	—
Olive Plagniol..	5 00	@	—
do Possel....	4 75	@	—
Palm.....	9	@	—
do Bagdolnpl.	—	@	—
Linseed.....	95	@	1 00
China nut in cs..	80	@	82½
Sperm, crude...	1 25	@	—
do bleached..	1 90	@	—
Coast Whales...	37½	@	40
Polar, refined...	55	@	—
Lard.....	90	@	92½
Coal, refined Pet	37½	@	40
Cleophine.....	37½	@	40
Devoe's Bril't...	43	@	45
Long Island.....	37½	@	40
Eureka.....	37½	@	40
Downer Kerose'e	50	@	52½
Gas Light Oil....	37½	@	40

PAINTS.

Atlan. W. Lead.	11½	@	12
Whitening.....	—	@	2
Chalk.....	—	@	1
Paris White.....	2½	@	—
Ochre.....	2½	@	3
Venetian Red...	2½	@	3
Red Lead.....	10	@	11
Litharge.....	9½	@	11

RICE.

China No. 1, ₹ lb	5½	@	—
do 2, do.	5¾	@	6
Japan.....	6	@	7½
Siam Cleaned...	—	@	—
Patna.....	7	@	—
Hawaiian.....	8	@	8½
Jarolins.....	11	@	—

SALT.

Cal. Bay, per ton.	5 00	@	15—
Carmen Island..	14 00	@	30—
Liverpool fine...	25 00	@	—
do coarse	9 00	@	20—

SOAP.

Castile ₹ lb....	11	@	12½
Local brands....	8	@	9

SPICES.

Allspice, per lb..	15½	@	16
Cloves.....	35	@	37½
Cassia.....	30	@	—
Nutmegs.....	1 15	@	—
Whole Pepper...	—	@	27½
Ground Allspice	25	@	—
do Cassia..	35	@	—
do Cloves..	30	@	—
do Mustard	25	@	27½
do Ginger..	25	@	30
do Pepper..	27½	@	30
do Mace....	25	@	40

SUGAR, ETC.

Cal. Cube per lb..	11	@	—
Circle A crushed	11	@	—
Dry granulated	11	@	—
Extra.....	10¾	@	—
Golden C.....	9½	@	—
Hawaiian.....	20	@	22½
Cal. Syrup in bls.	32½	@	—
do in ½ bls.	35	@	—
do in kegs..	40	@	—

TEA.

Oolong, Canton, lb	19	@	25
do Amoy....	28	@	50
do Formosa..	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	80
do Moyune..	60	@	1 00
Gunpo'der, Cant.	30	@	42½
do Pingsuey	50	@	90
do Moyune.	65	@	1 25
Y'ng Hy., Canton	28	@	40
do Pingsuey	40	@	70
do Moyune..	65	@	85
Japan, ½ chests, bulk.....	30	@	75
Japan, lacquered bxs, ½s and 5 lbs	45	@	67
Japan do, ¼ lb bxs	45	@	90
do pl'n bx, ½ lb	35	@	65
do ¼ & 1 lb paper	30	@	55

TOBACCO—Jobbing.

Bright Navys....	50	@	—
Dark do	47	@	—
Dwarf Twist....	57	@	—
12 inch do	57	@	—
Light Pressed...	65	@	75
Hard do	60	@	70
Conn. Wrap'r...	40	@	50
Penn. Wrapper..	35	@	45
Ohio do	30	@	40
Virgi'a Smok'g..	80	@	95
Fine cut ohe'g, kr..	8 50	@	9 25
Fine cut chewing, buc'ts, ₹ lb..	75	@	90
Banner fine cut..	9 25	@	—
Eureka Cala....	8 50	@	—

TURPENTINE.

Eastern.....	70	@	—

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B. Roberts, 315 California Street, San Francisco, is general agent for this Coast. Send to him for circulars and information of this reliable, first-class company.

WE WILL CHANGE THE ADDRESS FREE for any snbscribe who notifies us in writing of his present address, with the OLD P. C. address to enable us to find his name among thousands of others.

San Francisco Metal Market.

WEDNESDAY, Aug. 6, 1873.

IRON.— Scotch Pig Iron, ₹ ton	$52 50	@	— —
White Pig, ₹ ton	52 50	@	— —
Refined Bar, bad assortment, ₹ lb	— —	@	— 06
Refined Bar, good assortment, ₹ lb	— —	@	— 06½
Boiler, No. 1	— 05½	@	— 06
Plate, No. 9 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	8 00	@	8 50
Nail Rod	11	@	—
Norway Iron	9½		
Rolled Iron	6½		
Other Irons for Blacksmiths, Miners, etc.	6½	@	9½
COPPER.— Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O. Niel's Pat	— 53	@	— —
Sheathing, ₹ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25		
Composition Bolts	— 25	@	— —
TIN PLATES.— Plates, Charcoal, IX ₹ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₹ lb	— 40	@	42½
STEEL.—English Cast, ₹ lb	— 20	@	— 25
Drill	20	@	— —
Flat Bar	22	@	— —
Plough Points	16	@	— 17
ZINC	9¼	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5½	@	— 9

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

Prices of both French and American stocks remain about the same, with a trifling increase in the demand, and we look for a better trade during the coming month.

City Tanned Leather, ₹ lb			26@28
Santa Cruz Leather, ₹ lb			28@29
Country Leather, ₹ lb			25@28
Stockton Leather, ₹ lb			26@28
Jodot, 8 Kil., per doz	$50	00@	54 00
Jodot, 11 to 15 Kil., per doz	66	00@	68 00
Jodot, second choice, 11 to 15 Kil. ₹ doz	55	00@	70 00
Cornellian, 12 to 18 Ko	57	00@	67 00
Cornellian Females, 12 to 13	60	00@	64 00
Cornellian Females, 14 to 16 Kil	66	00@	72 00
Beaumerille, 15 Kil	60	00@	— —
Simon, 18 Kil., ₹ doz	60	00@	62 00
Simon, 20 Kil. ₹ doz	65	00@	67 00
Simon, 24 Kil. ₹ doz	72	00@	74 00
Robert Calf, 7 and 9 Kil	35	00@	40 00
French Kips, ₹ lb	1	00@	1 30
California Kip, ₹ doz	50	00 to	60 00
French Sheep, all colors, ₹ doz	8	00@	15 00
Eastern Calf for Backs, ₹ lb	1	00@	1 25
Sheep Roans for Topping, all colors, ₹ doz	9	00@	13 00
Sheep Roans for Linings, ₹ doz	5	50@	10 50
California Russett Sheep Linings	1	75@	4 50
Best Jodot Calf Boot Legs, ₹ pair	5	00@	5 25
Good French Calf Boot Legs, ₹ pair	4	00@	4 75
French Calf Boot Legs, ₹ pair	4	00@	— —
Harness Leather, ₹ lb		30@	37½
Fair Bridle Leather, ₹ doz	48	00@	72 00
Skirting Leather, ₹ lb		34@	37½
Welt Leather, ₹ doz	30	00@	50 00
Bnff Leather, ₹ foot		20@	22
Wax Side Leather, ₹ foot		17@	19
Eastern Wax Leather		26	

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Angels Quartz Mining Company---Principal

pal place of business, 408 California street, San Francisco. Location of works: Angels Mining District, Calaveras County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 35), levied March 4th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

T D Mathewson	3	300	$450 00
T D Mathewson	4	314	471 00
T D Mathewson	5	500	750 00
T D Mathewson	17	25	39 00
T D Mathewson (not issued)		325 5-7	488 57
J H Fish (not issued)		342 5-7	674 29
J H Fish, Trustee	20	50	75 00
J H Fish, Trustee	21	50	75 00
J H Fish, Trustee	22	50	75 00
J H Fish, Trustee	23	50	75 00
R M Anthony	9	1000	1500 00
R M Anthony	18	100	150 00
R M Anthony (not issued)		45 5-7	68 57
R M Anthony	19	50	90 00
E H Sawyer	11	800	1200 00
E H Sawyer (not issued)		228 4-7	342 85
Geo. Osgood	12	400	600 00
Geo. Osgood (not issued)		114 2-7	171 43

And in accordance with law and an order made by the Board of Directors, on the 4th day of March, 1873, so many shares of each parcel of auch stock as may be necessary, will be sold at public anction, at the office of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on Monday, April 21st, 1873, at 2 o'clock P. M., of such day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. GEORGE CONGDON, Secretary.

Office, Room No. 1, 408 California Street, San Francisco, California (up stairs). a5-3t

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed for thirty days, at the same hour and place.

ap19 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, June 18, 1873, at the same hour and place.

m17 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, July 16, 1873, at the same hour and place.

jl4 GEORGE CONGDON, Secretary.

POSTPONEMENT.—Angels Quartz Mining Company. The above sale is hereby postponed until Wednesday, August 13, 1873, at the same hour and place.

jy19 GEORGE CONGDON, Secretary.

Notice---the Annual Meeting of the

Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held at the office of the company, 507 Montgomery street, San Francisco, on Satnrday, the 9th day of August, 1873, at 1 o'clock, P. M.

jy25td T. E. JEWELL, Secretary.

Stanislaus Water Company of California—

Principal place of bnsiness, 525 Kearny street, San Francisco. Location of works, near La Grange, Stanislaus County.

Notice is hereby given, that at a meeting of the Board of Directors held on the 2d day of July, 1873, an assessment (No. 2.) of two cents per share was levied npon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, 525 Kearny st. Any stock upon which this assessment shall remain unpaid on the 10th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 26th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. CLINTON O. TRIPP, Secretary.

Office, No. 525 Kearny street, Rooms 1 and 2, San Francisco, Cal. jy 5

Alpine Gold Mill and Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Tuckerville Mining District, Amador County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 21st day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 25th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. jy26

Beckwith Mining Company---Location of

works, Ely Mining District, Lincoln county, State of Nevada. Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 7th day of July, 1873, an assessment of fifteen (15) cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on Monday, the 11th day of August, 1873, will be deemed delinqnent and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 2d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors WM. H. WATSON, Secretary.

Office, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, California. jy8-td

Bunker Hill Quartz Mining Company—Lo-

cation of works: Amador, Amador County, California. Principal place of business, San Francisco, Cal.

NOTICE.—There are delinqnent upon the following described stock on account of assessment, (No. 10) levied June 6th, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Wales L Palmer	113	20	$200 00
Wales L Palmer	120	20	200 00
Wales L Palmer	121	20	200 00
Wales L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmer	125	20	200 00

And in accordance with law and an order of the Board of Directors, made June 6th, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the company, No. 19 First Street, San Francisco, Cal., on Monday, July 28th, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office—No. 19 First St., San Francisco, Cal. jy19

POSTPONEMENT.—The above sale is postponed until Monday, August 11th, 1873, at the same hour and place. By order of the Board of Directors, made July 22, 1873. WALES L. PALMER, Secretary.

Baltic Consolidated Gold and Silver Min-

ing Company.

A meeting of the stockholders of the above named Company will be held at the office, 507 Montgomery street, on the 16th day of August, 1873, at 1 o'clock P. M., for the election of Trustees, and for such business as may come before the meeting.

au5-2w ROBT. H. GODWIN, Secretary.

Notice—The Annual Meeting of the

Stockholders of the Cerbat Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held on Monday the eleventh day of August, 1873, at the office of the company, 507 Montgomery street, San Francisco, California, at 1 o'clock, P. M.

jy26td T. E. JEWELL, Secretary.

The California Beet Sugar Co.—Location

of principal place of business, San Francisco, California. Location of Works: Alvarado, Alameda County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 26th day of May, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Name.	No. Certificate.	No. Shares.	Amount.
W. T. Garratt	2	125	$1250
W. T. Garrett	40	63	630
Ephraim Dyer	5	53	630
Ephraim Dyer	39	62	520
H. G. Rollins	9	63	630
H. G. Rolline	35	25	250
H. G. Rolline	36	12	120
Wm. B. Carr	23	250	2500
Wm. B. Carr	62	38	380
E. H. Dyer	27	5	50
E. H. Dyer	71	245	2450
Austin D. Moore	60	50	500
T. G. Phelps	58	53	530

And in accordance with law and an order of the Board of Directors made on the 26th day of May, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction at the office of the company, No. 314 California street, San Francisco, California, on Tuesday the 22d day of July, 1873, at 12 o'clock noon of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS FRANCONI, Secretary.

Office, No. 314 California street, San Francisco, Cal.

POSTPONEMENT.—The above sale is postponed until Tuesday, the 12th day of August, 1873. By order of the Board of Trustees.

jy26 LOUIS FRANCONI, Secretary.

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 9th day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at No. 402 Montgomery Street, room 23. Any stock upon which this assessment shall remain unpaid on the 16th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday the 8th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francisco. jy 12

Confidence Mining Company---Location of

principal place of business, San Francisco, Cal. Location of works, Tuolumne county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fourth day of August, 1873, an assessment (No. 1) of one dollar and seventy-five cents ($1.75) per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the fourth day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors. H. HAMPTON, Secretary.

Office, 217 Sansome street, San Francisco, Cal. au5

Cincinnati Gold and Silver Mining Com-

pany. Principal place of business, San Francisco, California. Location of works, Kelsey Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 7th day of July, 1873, an assessment of five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the company, No. 331 Kearny street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, and advertised for sale at public anction, and unless payment is made before, will be sold on Monday, the first day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office Room 14, No. 331 Kearny street, San Francisco, Cal. jy23

Day Spring Gold Mining Company—Lo-

cation of works, Kelsey Quartz Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees, held on the fourth day of August, A. D. 1873, an assessment of five cents per share was levied upon the assessable stock of said company, payable immediately in U. S. gold coin, to the Secretary, at the office of the company, No. 302 Sansome street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the tenth day of September, A. D. 1873, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the first day of October, to pay delinquent assessment, together with costs of advertising and expenses of sale.

C. F. BROWN, Secretary.

Office—302 Sansome street, San Francisco, Cal. au8

Excelsior Silver Mining Company—Prin-

cipal place of business, San Francisco, California. Location of works, Yellow Pine District, Nye County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 18th day of July, 1873, an assessment of Forty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 640 Washington street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.

Office, 640 Washington street, San Francisco, California.

Globe Mining Company. — Location of

Works: Gold Hill Mining District, Storey Co., Nevada.

NOTICE.—There is delinquent upon the following described Stock, on account of Assessment (No. 3) levied on the 2d day of July, 1873, the several amounts set opposite the names of the respective Shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cope, Geo W, Trustee	381	50	$ 37 50
Cope, Geo W, Trustee	527	20	15 00
Charles, H A, Trustee	591	25	18 75
Cantin & Everett, Trustees	443	20	15 00
Cahill, E & Co., Trustees	942	5	3 75
Cook, J E, Trustee	1,104	50	37 50
Cahill & Fox, Trustees	168	20	15 00
Cahill & Fox, Trustees	169	10	7 50
Cahill & Fox, Trustees	250	10	7 50
Cahill & Fox, Trustees	254	10	7 50
Cahill & Fox, Trustees	256	10	7 50
Cahill & Fox, Trustees	258	5	3 75
Cahill & Fox, Trustees	404	25	18 75
Cahill & Fox, Trustees	411	10	7 50
Cahill & Fox, Trustees	421	10	7 50
Cahill & Fox, Trustees	452	10	7 50
Cahill & Fox, Trustees	457	10	7 50
Cahill & Fox, Trustees	459	10	7 50
Cahill & Fox, Trustees	460	10	7 50
Cahill & Fox, Trustees	463	5	3 75
Cahill & Fox, Trustees	464	5	3 75
Cahill & Fox, Trustees	465	5	3 75
Cahill & Fox, Trustees	580	20	15 00
Cahill & Fox, Trustees	626	10	7 50
Cahill & Fox, Trustees	653	10	7 50
Cahill & Fox, Trustees	671	5	3 75
Cahill & Fox, Trustees	672	5	3 75
Cahill & Fox, Trustees	673	5	3 75
Cahill & Fox, Trustees	674	5	3 75
Cahill & Fox, Trustees	675	5	3 75
Cahill & Fox, Trustees	581	30	22 50
Cahill & Fox, Trustees	705	5	3 75
Cahill & Fox, Trustees	714	50	37 50
Cahill & Fox, Trustees	716	20	15 00
Cahill & Fox, Trustees	785	25	18 75
Cahill & Fox, Trustees	735	10	7 50
Duncan, W L, Trustee	702	10	7 50
Duncan, W L, Trustee	974	40	30 00
Drexler, L P & Co, Trustees	730	50	37 50
Drexler, L P & Co, Trustees	731	50	37 50
Drexler, L P & Co, Trustees	732	40	30 00
Drexler, L P & Co, Trustees	1,118	50	37 50
Drexler, L P & Co, Trustees	1,119	50	37 50
Duncan, J M, Trustee	705	10	7 50
Fenn, T W, Trustee	409	10	7 50
Franks, Fred, Trustee	1,051	30	22 50
Franks, Fred, Trustee	1,052	50	37 50
Golly, Leon, Trustee	106	25	18 75
Golly, Leon, Trustee	138	30	22 50
Golly, Leon, Trustee	193	20	15 00
Golly, Leon, Trustee	194	20	15 00
Golly, Leon, Trustee	535	10	7 50
Golly, Leon, Trustee	575	10	7 50
Golly, Leon, Trustee	577	20	15 00
Golly, Leon, Trustee	579	10	7 50
Golly, Leon, Trustee	599	10	7 50
Golly, Leon, Trustee	600	10	7 50
Golly, Leon, Trustee	502	5	3 75
Golly, Leon, Trustee	699	10	7 50
Golly, Leon, Trustee	701	5	3 75
Golly, Leon, Trustee	747	25	18 75
Golly, Leon, Trustee	761	30	22 50
Gordon, C P, Trustee	495	25	18 75
Gordon, C P, Trustee	518	25	18 75
Gollin, W W, Trustee	497	25	18 75
Glover & Stark, Trustees	1,097	50	37 50
Glover & Stark, Trustees	1,098	40	30 00
Herr, J J, Trustee	379	25	18 75
Herr, J J, Trustee	1,064	50	37 50
Higgins & Greene, Trus.	489	5	3 75
Hunt, G H, Trustee	556	50	37 50
Hunt, G H, Trustee	1,056	100	75 00
Hunt, G H, Trustee	1,057	100	75 00
Hunt, G H, Trustee	1,068	100	75 00
Hunt, G H, Trustee	1,070	50	37 50
Hunt, G H, Trustee	1,071	50	37 50
Hunt, G H, Trustee	1,072	50	37 50
Hawkins, J J, Trustee	1,063	50	37 50
Kent, R F, Trustee	163	10	7 50
King, J L, Trustee	1,088	50	37 50
Lazure, L T, Trustee	553	100	75 00
Lazure, L T, Trustee	1,073	50	37 00
Lazure, L T, Trustee	1,074	50	37 50
Lazure, L T, Trustee	1,075	50	37 50
Lazure, L T, Trustee	1,076	50	37 50
Lazure, L T, Trustee	1,077	50	37 50
Lazure, L T, Trustee	1,078	50	37 50
Lazure, L T, Trustee	1,079	50	37 50
Lazure, L T, Trustee	1,080	50	37 50
Lazure, L T, Trustee	1,082	50	37 50
Lazure, L T, Trustee	1,083	50	37 50
Lazure, L T, Trustee	1,084	50	37 50
Lazure, L T, Trustee	1,085	50	37 50
Lazure, L T, Trustee	1,092	50	37 50
Lazure, L T, Trustee	1,093	50	37 50
Lazure, L T, Trustee	1,094	50	37 50
Lissak, L S Trustee	1,057	50	37 50
Marina, E J deSta, Trustee	139	100	75 00
Marina, E J deSta, Trustee	219	50	37 50
Marina, E J deSte, Trustee	223	100	75 00

Names.	No. Certificate.	No. Shares.	Amount.
Marina, E J deSta, Trustee	384	50	37 50
Marina, E J deSta, Trustee	440	50	37 50
Marina, E J deSta, Trustee	682	50	37 50
Marina, E J deSta, Trustee	777	100	75 00
Martin, Camilo, Trustee	781	10	7 50
Martin, Camilo, Trustee	782	10	7 50
Martin, Camilo, Trustee	707	25	18 75
Martin & Lane, Trustees	136	50	37 50
Mitchell, J S, Trustee	166	50	37 50
Mansfield, M, Trustee	536	50	37 50
Masten, E B, Trustee	959	20	15 00
Noble, H H, Trustee	750	10	7 50
Noble, H H, Trustee	849	100	75 00
Noble, H H, Trustee	862	25	18 75
Noble, H H, Trustee	863	5	3 75
Norwood, W W, Trustee	438	10	7 50
Norwood, W W, Trustee	856	20	15 00
Rose, L S, Trustee	1,103	50	37 50
Richardson, E A, Trustee	11	100	75 00
Richardson, E A, Trustee	16	100	75 00
Richardson, E A, Trustee	17	100	75 00
Richardson, E A, Trustee	53	100	75 00
Richardson, E A, Trustee	159	50	37 50
Richardson, E A, Trustee	160	50	37 50
Richardson, E A, Trustee	202	100	75 00
Richardson, E A, Trustee	242	50	37 50
Richardson, E A, Trustee	299	40	30 00
Richardson, E A, Trustee	308	10	7 50
Richardson, E A, Trustee	309	150	112 50
Richardson, E A, Trustee	329	50	37 50
Richardson, E A, Trustee	345	50	37 50
Richardson, E A, Trustee	362	65	48 75
Richardson, E A, Trustee	364	50	37 50
Richardson, E A, Trustee	480	50	37 50
Richardson, E A, Trustee	501	50	37 50
Richardson, E A, Trustee	560	50	37 50
Richardson, E A, Trustee	598	5	3 75
Richardson, E A, Trustee	576	10	7 50
Richardson, E A, Trustee	678	20	15 00
Richardson, E A, Trustee	694	100	75 00
Richardson, E A, Trustee	839	50	37 50
Richardson, E A, Trustee	847	25	18 75
Richardson, E A, Trustee	848	25	18 75
Richardson, E A, Tsustee	852	50	37 50
Richardson, E A, Trustee	860	25	18 75
Richardson, E A, Trustee	964	50	37 50
Richardson, E A, Trustee	969	25	18 75
Richardson, E A, Trustee	970	25	18 75
Richardson, E A, Trustee	972	200	150 00
Richardson, E A, Trustee	1045	30	22 50
Richardson, E A, Trustee	1090	75	56 25
Sleeper, George, Trustee	949	50	37 50
Sleeper, George, Trustee	950	50	37 50
Sleeper, George, Trustee	1,056	50	37 50
Sherwood, B F & Co, Trus	847	20	15 00
Sherwood, B F & Co, Trus	390	10	7 50
Schmiedell, Henry, Trus	300	10	7 50
Schmiedell, Henry, Trus	642	75	56 26
Stark, John, Trustee	784	20	15 00
Smiley, G W, Trustee	330	30	22 50
Smith, E L, Trustee	332	100	75 00
Tibbey, E S, Trustee	177	50	37 50
Turnbull, Walter & Co, Trustees	1,055	50	37 50
Townsend, M D, Trustee	801	50	37 50
Uhler, J Clem, Trustee	205	40	30 00
Uhler, J Clem, Trustee	493	10	7 50
Uhler, J Clem, Trustee	794	50	37 50
Uhler, J Clem, Trustee	795	30	22 50
Uhler, J Clem, Trustee	799	20	15 00
Uhler, J Clem, Trustee	819	50	37 50
Uhler, J Clem, Trustee	824	50	37 50
Uhler, J Clem, Trustee	827	50	37 50
Uhler, S Clem, Trustee	841	20	15 00
Uhler, J Clem, Trustee	864	100	75 00
Uhler, J Clem, Trustee	865	100	75 00
Uhler, J Clem, Trustee	866	100	75 00
Uhler, J Clem, Trustee	870	100	75 00
Uhler, J Clem, Trustee	871	100	75 00
Uhler, J Clem, Trustee	875	50	37 50
Uhler, J Clem, Trustee	879	50	37 50
Uhler, J Clem, Trustee	880	50	37 50
Uhler, J Clem, Trustee	883	50	37 50
Uhler, J Clem, Trustee	885	50	37 50
Uhler, J Clem, Trustee	886	50	37 50
Uhler, J Clem, Trustee	887	50	37 50
Uhler, J Clem, Trustee	890	50	37 50
Uhler, J Clem, Trustee	891	50	37 50
Uhler, J Clem, Trustee	893	50	37 50
Uhler, J Clem, Trustee	894	50	37 50
Uhler, J Clem, Trustee	895	50	37 50
Uhler, J Clem, Trustee	896	50	37 50
Uhler, J Clem, Trustee	897	50	37 50
Uhler, J Clem, Trustee	899	50	37 50
Uhler, J Clem, Trustee	904	25	18 75
Uhler, J Clem, Trustee	911	25	18 75
Uhler, J Clem, Trustee	912	25	18 75
Uhler, J Clem, Trustee	913	25	18 75
Uhler, J Clem, Trustee	914	25	18 75
Uhler, J Clem, Trustee	915	25	18 75
Uhler, J Clem, Trustee	916	10	7 50
Uhler, J Clem, Trustee	923	10	7 50
Uhler, J Clem, Trustee	925	10	7 50
Uhler, J Clem, Trustee	928	10	7 50
Uhler, J Clem, Trustee	933	5	3 75
Uhler, J Clem, Trustee	939	5	3 75
Uhler, J Clem, Trustee	955	100	75 00
Uhler, J Clem, Trustee	956	10	7 50
Uhler, J Clem, Trustee	961	5	3 75
Uhler, J Clem, Trustee	978	200	150 00
Uhler, J Clem, Trustee	981	200	150 00
Uhler, J Clem, Trustee	982	200	150 00
Uhler, J Clem, Trustee	984	200	150 00
Uhler, J Clem, Trustee	985	200	150 00
Uhler, J Clem, Trustee	991	100	75 00
Uhler, J Clem, Trustee	992	100	75 00
Uhler, J Clem, Trustee	994	100	75 00
Uhler, J Clem, Trustee	996	100	75 00
Uhler, J Clem, Trustee	1,000	100	75 00
Uhler, J Clem, Trustee	1,006	100	37 50
Uhler, J Clem, Trustee	1,015	100	37 50
Uhler, J Clem, Trustee	1,016	100	37 50
Uhler, J Clem, Trustee	1,017	50	37 50
Uhler, J Clem, Trustee	1,020	50	37 50
Uhler, J Clem, Trustee	1,024	20	15 00
Uhler, J Clem, Trustee	1,025	100	75 00
Uhler, J Clem, Trustee	1,027	100	75 00
Uhler, J Clem, Trustee	1,029	100	75 00
Uhler, J Clem, Trustee	1,031	100	75 00
Uhler, J Clem, Trustee	1,032	100	75 00
Uhler, J Clem, Trustee	1,034	100	75 00
Uhler, J Clem, Trustee	1,035	50	37 50
Uhler, J Clem, Trustee	1,037	50	37 50
Uhler, J Clem, Trustee	1039	50	37 50
Uhler, J Clem, Trustee	1040	50	37 50
Uhler, J Clem, Trustee	1041	50	37 50
Uhler, J Clem, Trustee	1051	50	37 50
Vinzent, Charles, Trustee	1086	50	37 50
Wade, A P, Trustee	63	50	37 50
Woods & Freeborn	151	50	37 50
Woods & Freeborn	155	5	3 75
Woods & Freeborn	199	50	37 50
Woods & Freeborn	282	10	7 50
Woode & Freeborn	283	10	7 50
Woods & Freeborn	339	15	11 25
Woods & Freeborn	385	5	3 75
Woods & Freeborn	659	5	3 75
Webster & Soule, Trustees	957	15	11 25
White, U H, Trustee	473	10	7 50
White, U H, Trustee	479	10	7 50

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of each stock as may be necessary will be sold at public auction, at the office of the Company, No. 25 Hayward's Building, No. 419 California street, San Francisco, Cal., on Monday, the 25th day of August, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

JOSEPH MAGUIRE, Secretary.

Office, Room 25, Hayward's Building, No 419 California street, San Francisco, Cal. au7

Greenhorn Gold Mining Company.—Location

of principal place of business, San Francisco, California. Location of works, Grass Valley Mining District, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of July, 1873, an assesment of one dollar and fifty cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, No 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 10th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco California. jy12-td

Heckerdorn Gold and Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Blue Mountain District, Calaveras County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 9th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Louis Reiff	174	400	$100 00
Frank Lyon	156	40	10 00
Isidore Lyon	168	20	5 00
Berson	161	100	25 00
Monin	157	100	25 00
A Mayer	161	00	25 00
Hauson	110	60	15 00
Savyeyur	93, 107, 156, 840		210 00
Louis Ny	157	400	100 00
Louis Ny	158	400	100 00
Louis Ny	201	800	200 00
Louis Ny	207	400	100 00
Louis Ny	208	200	50 00
Louis Ny	209	100	26 00
Saiu Sot	169	20	5 00
Sain Sot	04	20	5 00
Saln Sot	05	20	5 00
Saln Sot	96	20	5 00
Saln Sot	97	20	5 00
Caterine Ny	136	100	25 00
E Gauthier	189	200	50 00
E Gauthier	190	200	50 00
E Gauthier	193	200	55 00

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Secretary, No. 734 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment therson, together with costs of advertising and expenses of sale.

LOUIS TERME, Secrstary.

Office, 734 Montgomery street, San Francisco California, jy12

POSTPONEMENT.—At a meeting of the Board of Directors, held this day, the above sale was postponed to the 28th day of August, 1873, at the same place and hour. LOUIS TERME, Secretary.

San Francisco, July 24, 1873. jy26

Hardy Coal Mining Company—Location of

principal place of business, San Francisco, California

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
D M Weston	36	887½	$1,775 00
D M Weston	53	147	294 00
I Bartlett	25	12½	25 00
I Bartlett	32 (old)	66	1,650 00
Bartlett Willcox	33 (old)	50	1,250 00
R B Bartlett	17 (old)	10	250 00
R B Bartlett	46	25	50 00
R B Bartlett	47	25	50 00
R B Bartlett	48	25	50 00
R B Bartlett	49	25	50 00
R B Bartlett	50	22	44 00
Edward McLean	1	36	72 00
Edward McLean	2	52	104 00
Edward McLean	6	41	82 00
Edward McLean	16	100	200 00
Edward McLean	22	50	100 00
Edward McLean	23	50	100 00
Edward McLean	24	150	300 00
Edward McLean	33	2	4 00
Edward McLean	35	4	8 00
Edward McLean	37	46	92 00
Jacob Hardy	10	100	200 00
Jacob Hardy	38	15	30 00
Jacob Hardy	40	2	4 00
Jacob Hardy	51	2	4 00
Jacob Hardy	25 (old)	1	25 00
Jacob Hardy	39 (old)	1	25 00
M H Eastman	28	45	90 00
M H Eastman	29	55	110 00
M H Eastman	30	50	100 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the Company's office, Room 5, No. 338 Montgemery street, San Francisco, California, on the 30th day of August, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JACOB HARDY, Secretary pro tem.

Office, Room 5, No. 338 Montgomery street, San Francisco, California. jy28

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L L Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D. 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

Lady Franklin Gold and Silver Mining Co.

Principal place of business, City and County of San Francisco, State of California. Location of works, Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of July, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office—507 Montgomery street, San Francisco, California. jy19

Manhattan Marble Company of California.

Location of principal place of business, San Francisco.

Notice.—There are delinquent on the following described stock, on account of assessment levied on the 23d day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C Blach	75	25	$25 00
C Blach	76	25	25 00
C Blach	77	25	25 00
C Blach	78	25	25 00
C Blach	79	19	19 00
Irad Cochran	125	119	119 00
Theron R Hopkins	not issued.	119	119 00
P F Mobrhardt	not issued.	119	119 00
Nion R Tucker	87	30	30 00
E Tripp, Trustee	42	119	119 00
George Tait	134	50	50 00
George Tait	135	50	50 00
George Tait	136	19	19 00
H P Wakelee	not issued.	119	119 00

And in accordance with law and an order of the Board of Directors, made on the 23d day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of company, on the 11th day of August, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office.—319 Pine street, San Francisco, California.

Orient Silver Mining Company—Location

of principal place of business, San Francisco, California.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 14th day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Atkins, Robt C	34	50	$5 00
Apel, John	17	50	5 00
Apel, John	32	50	5 00
Apel, John	34	50	5 00
Apel, John	261	50	5 00
Blake, Geo M	75	50	5 00
Brackett, J G, Trustee	281	25	2 50
Chase, A K, Trustee	57	100	10 00
Chase, A K, Trustee	108	10	1 00
Carrick, G W	14	100	10 00
Coburn, S A	270	50	5 00
Clapp, G W, Trustee	60	100	10 00
Clapp, G W, Trustee	52	100	10 00
Clapp, G W, Trustee	53	100	10 00
Clapp, R S	172	200	20 00
Clapp, R S	178	200	20 00
Clapp, R S	179	200	20 00
Clapp, R S	180	200	20 00
Clapp, R S	181	200	20 00
Clapp, R S	182	200	20 00
Clapp, R S	183	200	20 00
Clapp, R S	184	200	20 00
Clapp, R S	185	200	20 00
Clapp, R S	186	200	20 00
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Clapp, R S	223	100	10 00
Clapp, R S	224	100	10 00
Clapp, R S	248	50	5 00
Clapp, R S	249	50	5 00
Clapp, R S	250	50	5 00
Clapp, R S	251	50	5 00
Clapp, R S	252	50	5 00
Clapp, R S	253	50	5 00
Clapp, R S	254	50	5 00
Clapp, R S	255	50	5 00
Elwell, Frauk	33	33	3 30
Elias, Hugh	22	200	20 00
Fletcher, A T	116	50	5 00
Finley, R	127	34	3 40
Fish, Chas H, Trustee	118	100	10 00
Fish, Chas H, Trustee	119	100	10 00
Fish, Chas H, Trustee	120	100	10 00
Fish, Chas H, Trustee	123	100	10 00
Fish, Chas H, Trustee	125	100	10 00
Fich, Chas H, Trustee	126	100	10 00
Glazier & Seligsberg, Trustee	150	50	5 00
Glazier & Seligsberg, Trustee	151	50	5 00
Harding, John	86	100	10 00
Hyneman, Saml	168	10	1 00
Hyneman, Saml	169	20	2 00
Hyneman, Saml	170	20	2 00
Hyneman, Saml	173	100	10 00
Hyneman, Saml	175	100	10 00
Jenkins, L O	30	40	4 00
Jackson, A, Trustee	147	50	5 00
Knight, W H	131	50	5 00
Kent, R F, Trustee	155	50	5 00
Klumpke, J G, Trustee	282	100	10 00
Lyle, J B	35	100	10 00
McFadden, E, Trustee	145	100	10 00
Peck, O M	15	200	20 00
Pritchard, Jas A, Trustee	99	200	20 00
Pocock, W R T, Trustee	142	50	5 00
Patridge, H C, Trustee	268	50	5 00
Palmer, S R, Trustee	283	100	10 00
Palmer, S R, Trustee	284	100	10 00
Palmer, S R, Trustee	285	100	10 00
Raymond, S A	260	100	10 00
Raymond, Henry, Trustee	65	100	10 00
Raymond, Henry, Trustee	67	100	10 00
Raymond, S A, Trustee	162	50	5 00
Richardson, E A, Trustee	88	200	20 00
Richardson, E A, Trustee	89	250	25 00
Richardson, E A, Trustee	90	50	5 00
Richardson, E A, Trustee	158	50	5 00
Rosenblatt, S, Trustee	289	50	5 00
Stoddard, W J	38	15	1 50
Snowball, R Y, Trustee	144	50	5 00
Sleeper, Geo, Trustee	157	40	4 00
Stephens, Chas, Trustee	270	100	10 00
Stephens, Chas, Trustee	277	100	10 00
Tibbey, E S, Trustee	272	25	2 50
Tibbey, E S, Trustee	273	25	2 50
Upton, M	257	50	5 00
Warshauer, A	113	25	2 50
Waldron, H S, Trustee	3	100	10 00
Waldron, H S, Trustee	49	100	10 00
Waldron, H S, Trustee	101	100	10 00
Waldron, H S, Trustee	103	100	10 00
Waldron, H S, Trustee	166	25	2 50
Waldron, H S, Trustee	278	50	5 00
Waldron, H S, Trustee	279	50	5 00
Washburn, O A	115	100	10 00
Walter, Max, Trustee	155	25	2 50

And in accordance with law, and an order of the Board of Directors, made on the fourteenth (14th) day of June, 1873, so many shares of each parcel of each stock as may be necessary, will be sold at public auction at the office of the Company, No. 26 Hayward's, Building, No. 419 California street, San Francisco, California, on Monday, the eleventh day of August, 1873, at the hour of one o'clock P. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

JOSEPH MAGUIRE, Secretary.

Office—Room 26, Hayward's Building, No. 419 California street, San Francisco, California. jy23

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 6th day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&s

POSTPONEMENT.—The day for deeming Stock delinquent on the above Assessment is hereby postponed until Thursday, the twenty-first day of August, and the day of sale of delinquant Stock until Friday, September 5th, 1873. By order of the Board of Trustees.

au9 CHAS. S. HEALY, Sec'y.

Placer Gold Mining and Canal Company.

Location of principal place of business, San Francisco, California. Location of work, Placer County, State of California.

Notice is hereby given, that at a meeting of the Directors of said company, held on the eighth (8th) day of July, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 411 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Monday, the eleventh (11th) day of August, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Saturday, the thirtieth (30th) day of August, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

GEO. W. R. KING, Secretary.

Office—411 California street, San Francisco, California. jy12

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said company, held on the 4th day of August, 1873, an assessment (No. 6) of fifteen (15) cents per share was levied upon the capital stock of the company, payable immediately in United States gold and silver coin, to the Secretary of said company, at his office, 113 Leidesdorff street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of September, 1873, shall be delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office—113 Leidesdorff street, San Francisco, Cal. au3

Spring Mountain Tunnel Company—Location

of works, Ely Mining District, Lincoln County, California. Principal place of business, San Francisco, California.

Notice.—There are delinquent upon the following described stocks, on account of assessment levied on the 20th day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J M Buffington, Trustee	249	50	$10 00
J M Buffington, Trustee	253	50	10 00
J M Buffington, Trustee	385	1388	257 60
J M Buffington, Jr, Trustee	161	25	5 00
B Dougherty	341	50	10 00
F M Freund, Trnstes	185	25	5 00
F M Freund, Trustee	217	50	10 00
W I Joffards	96	20	4 00
T C Lewis	98	16	3 20
C W Lemler	102	8	1 60
H Loewenberg	75	80	16 00
J H Martin, Trustee	233	130	26 00
M S Martin, Trustee	189	38	7 50
M S Martin, Trustee	207	15	3 00
Geo Phillips, Trustee	201	300	60 00
Geo Phillips, Trustee	202	100	20 00
Geo Phillips, Trustee	204	50	10 00
Geo Phillips, Trustee	204	50	10 00
Geo Phillips, Trustee	257	50	10 00
J T Pomeroy, Trustee	286	100	20 00
J T Pomeroy, Trustee	287	50	10 00
J B Starkweather	335	50	10 00
M Tubbs, Trustee	209	100	20 00
M Tubbs, Trustee	211	500	100 00
J Olem Uhler, Trustee	303	100	20 00
J Clem Uhler, Trustee	305	100	20 00
H Wilder, Trustee	95	80	16 00

And in accordance with law, and an order of the Board of Directors, made on the 20th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, 37 New Merchants' Exchange, California street, San Francisco, California, on Monday, the 18th day of August, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, California. au2-3t

Rising Star Mining Company.—Location of

principal place of business, San Francisco, California. Location of works, Nevada County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 11th day of July, 1873, an assessment (No. 5) of six cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, room 37 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of August, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 30th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco, Cal. jy12-td

Umpire Tunnel and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., or to W. A. Beal, President. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary.

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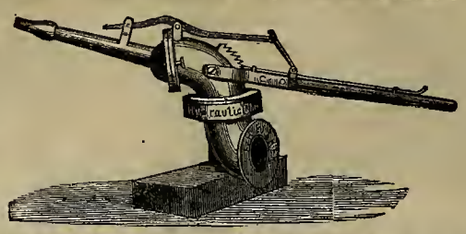

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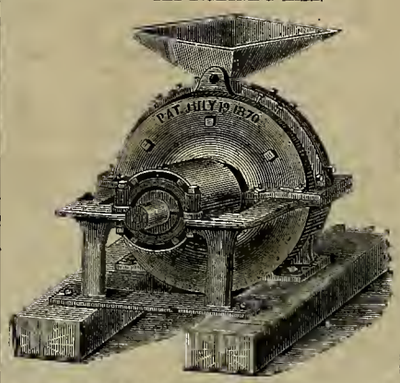

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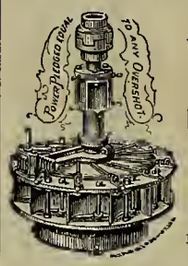

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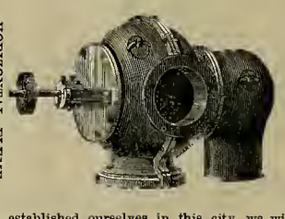

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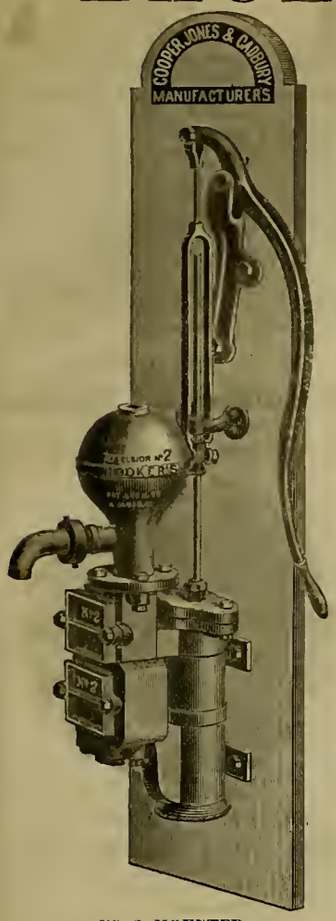

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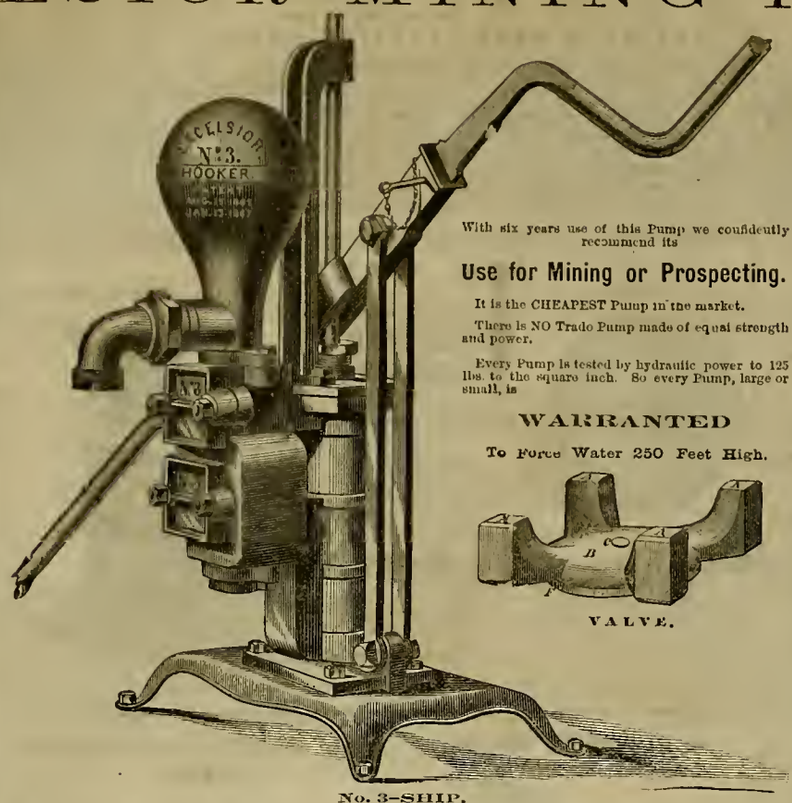

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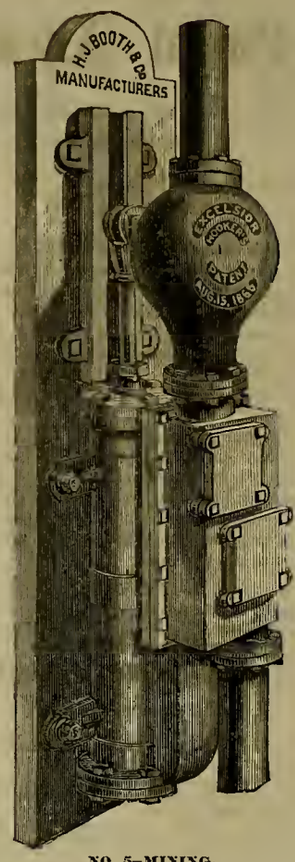

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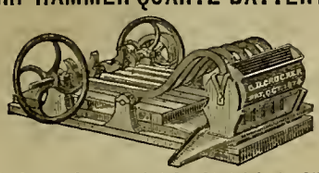

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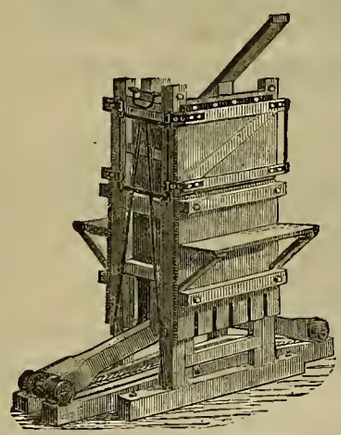

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We have added to this Press this season an improvement (patented) which does the stamping, dispensing with men to tread down the hay in the Press, facilitating the operation, and saving much hard work. The additional cost being but $25, paying for itself in labor saved in a week.

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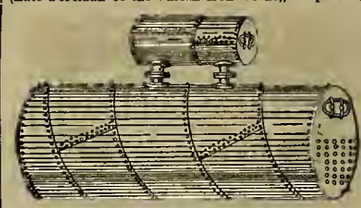

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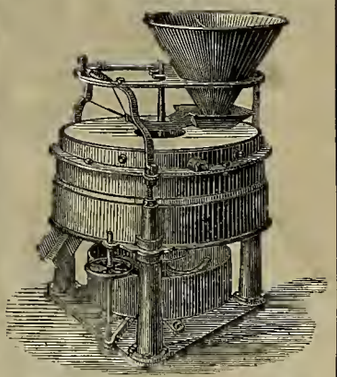

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

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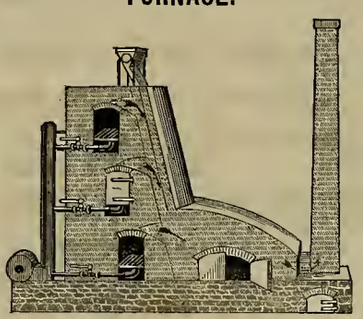

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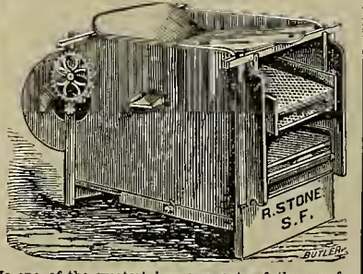

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Patent Endless Wire Ropeway.

Covered by Numerous U. S. Patents.

IMPORTANT TO

Mining Companies, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found **more economical, advantageoue and reliable** than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 23, 1872.

T. M. MARTIN, ESQ.—SIR: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Soperintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, AUGUST 16, 1873.

VOLUME XXVII. Number 7.

The Situation and Altitude of Mount Whitney.

At the last meeting of the California Academy of Sciences, Mr. W. A. Goodyear, of the State Geological Survey of California, read a paper to prove that the Mount Whitney described by Clarence King in his "Mountaineering in the Sierra Nevadas" was not the peak discovered by Prof. W. H. Brewer and party in 1864, and then originally named by them Mount Whitney. Mr. Goodyear and Mr. M. W. Belshaw of Cerro Gordo, last month rode their mules to the highest crest south-west of Lone Pine, which for over three years now has been known as Mt. Whitney, and which was ascended and measured by Mr. King in the Summer of 1871. There is no doubt of its identity with the one Mr. King measured, as the half-dollar Mr. King left on the summit in 1871 has been found.

The peak referred to is by no means the highest among the grand cluster of peaks which form this culminating portion of the Sierra Nevadas; nor is it the real Mt. Whitney. Mr. Goodyear produces a good deal of evidence to prove his ground. He says it can be seen by the eye alone that a peak which bears N.67° W. distant between five and six miles from the observer, is considerably higher; other methods were also adopted for measurement. When Mr. King ascended the mountain in 1864, the highest point he reached was 14,740 feet above the sea level, and at the point where his observation was taken, he was, as near as he was able to estimate, between 300 and 400 feet lower than the culminating point of the mountain, which, must, therefore, somewhat exceed 15,000 feet in hight. Mr. Goodyear says:

Now, although I do not recollect the exact figures which Mr. King's observations in 1871 gave for the hight of the peak which he then measured as Mount Whitney, and to whose summit Mr. Belshaw and I rode the other day in the saddle, I do recollect, with certainty, the fact that these figures were a little less than the altitude of the point which he actually reached in 1864, when he was still, according to his own estimate, "between 300 and 400 feet lower than the culminating point of Mount Whitney."

Here, then, there was a discrepancy of at least 300 or 400 feet, and probably somewhat more, between Mr. King's barometric results in 1864, and his results in 1871. A discrepancy hitherto utterly unaccounted for, and, if the two peaks were identical, unaccountable, except by supposing the existence of errors of a magnitude, which is to say the least, extremely improbable, in the whole method of computing high altitudes from barometric observations. This strange discrepancy vanishes at once when the fact is recognized that in 1864, Mr. King was attempting a different, and a higher peak than the one which he climbed in 1871.

The Geological Survey Report (Geology, Vol. 1, pp. 390 and 391), for which Mr. King's notes furnished the material, affords additional proof that the peak, which for three or four years has borne that name, is not the one originally named Mt. Whitney.

"Mount Whitney is a ridge having somewhat the outline of a helmet, the perpendicular face being turned toward the east. There is snow on its summit, which indicates that there must be a flat surface there. The mountain is the culminating point of an immense pile of granite, which is cut almost to the centre by numerous, steep and almost vertical cañons, ending in high-walled amphitheatres. Southward of the main peak, there is a range of sharp needles, four of which are over 14,000 feet high. The general aspect of the group is much like that of Mount Tyndall. This mountain has been approached on all sides except from the east, and found to be utterly inaccessible. Mr. King thinks it possible, however, that some route may yet be found by which the summit can be reached."

Mr. Goodyear says this description corresponds in every respect, so far as Mr. Belshaw and he could see and judge, with the grand peak to the northwest of them—the original Mt. Whitney; and it does *not* correspond at all with the one they were on, and which, by mistake, has borne the name so long.

From these facts it is certain that the peak which for over three years has borne the name of Whitney, has done so only by mistake, and that a new name must be found for it; while the name of Whitney must now go back to the peak to which it was originally given in 1864, and which is, in reality, the highest and grandest of this culminating cluster of the Sierra Nevada.

Furthermore, it appears that Mount Whitney not only retains its claim to being the highest point of land in the United States of America, but that its claim to over 15,000 feet of absolute altitude above the sea is still indisputable; while, up to the present time, it also retains the prestige of the fact that, in all probability, no human foot has ever trodden its summit.

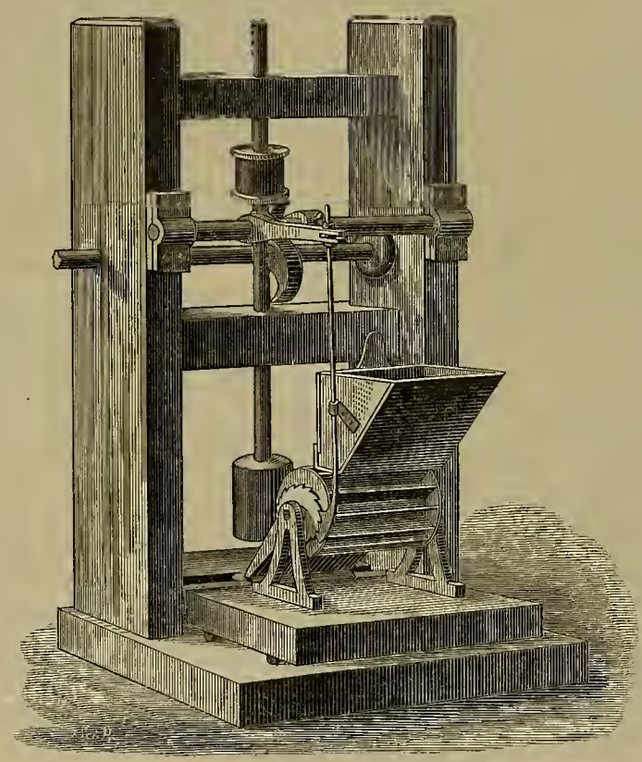
If Mr. King's descriptions, in 1864, of the appearance and surroundings of this mountain on the north and northwest can be relied upon, it is safe to say that no man will ever ride a horse or mule to the summit of *that* peak, unless it be by a costly as well as a dangerous trail. Whether the peak is utterly inaccessible or not is still a question. Mr. Goodyear thinks that it can be climbed; but it will certainly involve a great deal of hard and, very possibly, some dangerous work for anybody who shall attempt to reach its gigantic crest.

The Pioche *Record* has been informed that 145 men have been put at work on the Raymond & Ely mine, which, with 25 more men on the Silver Peak, will put in circulation about $20,000 per month. Business is said to be recovering in Pioche.

The mines on Wagner Creek, Oregon, are being extensively developed and an eight-stamp mill is now being put up, to be run by water power.

A New Ore-Feeder for Quartz Mills.

Our illustration shows a new form of automatic ore-feeder patented through the Scientific Press Patent Agency by James D. Cusenbary and James A. Mars, both of this city. The improvements in the invention consist first, in mounting a feed cylinder on a movable frame or truck, so that it can readily be shifted from place to place, when it is desired to repair the mill; and lastly of an improved arrangement for operating the pawl rod by the drop of the stamp without the use of springs. The figure shown gives a general view of the device in position for working. The feeding-cylinder is mounted on foundation timbers. These timbers are mounted on rollers, so that the cylinder and frame can be moved about as desired. The cylinder shown is made of cast metal and has its outer surfaces formed into chambers or depressions, which are separated from each other by longitudinal partitions. The cylinder and its carriage, when in working position, are placed below the hopper, so that the ore from the hopper will fall into the chambers, and as the cylinder revolves, be carried around until it falls, by its own weight from the chambers upon an inclined apron which directs it below the stamp.



CUSENBARY & MARS' AUTOMATIC ORE FEEDER.

This feeding cylinder being made of cast metal, will not wear out like the endless belts used on some of thie class of machines, and as it turns upon journals like any common roller or cylinder, it cannot become clogged, as the endless belt is apt to do, especially when the ore is wet. To one end of the cylinder is secured a ratchet wheel as shown, and this ratchet wheel is operated by a pawl bar to revolve the cylinder. In order to operate the pawl bar from the tappet, a horizontal shaft is mounted on the upright frame timbers, so that the shaft will pass across directly in front of the tappet transversely to the movement of the stamps stem.

A fixed arm extends backward from the shaft so that its extremity will terminate below the tappet, in a position to receive a blow from it when the stamp falls. Another fixed arm extends forward from this shaft directly over the ratchet wheel, which it operates by a pawl bar, as shown in the cut. It is evident, therefore, that at each drop of the stamp the tappet will strike the arm behind and carry it downward, thus giving the shaft a rocking motion, the weight of the forward arm and the pawl serving to rotate the shaft in the opposite direction, thus feeding the ore in the batteries automatically when it is needed. When there is a sufficient quantity of the ore beneath the stamp the drop will not be sufficient to operate the cylinder; but when the quantity of ore under the stamp is reduced, the drop is naturally greater and consequently the tappet strikes the arm as before described and operates the cylinder.

Utah Mining Items.—Judge Emerson has dissolved McKean's injunction against the Grizzly Mining Company. This injunction allowed that company to extract ore, but forbade its being sold. The Lavinia Company claimed the mine and procured the injunction. The Grizzly is said to be worth a quarter of a million dollars.

Important coal discoveries are reported in Iron County, Utah.

Business men in Salt Lake are very much exercised over the advanced freight tariff on the Pacific Railroads.

It is stated that accurate calculations develop the fact that base bullion from Utah mines cannot be profitably shipped under the new railroad tariff, and that unless a modification of rates can be secured with regard to this particular class of freight, the effect will be to cripple, if not ruin, this branch of mining industry. An effort will be made to secure the assent of the companies to a modification of freight rates.

The extraordinary dull times in Utah are exciting the general discussion of the press. Mine owners find an explanation of this in the infamous swindles perpetrated in Cincinnati, New Orleans, and elsewhere East, and also in Europe, with bogus mines and mines almost valueless. Late accounts from the principal mining districts, however, are more than usually encouraging.

The salt mines discovered in Teche county Louisiana, during the late civil war are now being worked, while the surface is covered with sugar cane. The bed, estimated to contain ninety million tons of pure solid rock salt, located on an island of 300,000 acres, rising 195 feet above a salt marsh. Access is obtained to this Island by a steamboat line running between Brashear city and New Iberia. The soil is composed of sand, loam, gravel and clay, and the surface is partially covered with magnolia, live oak, cypress, maple, locust, gum, walnut and fruit bearing trees. The vegetation resembles that of a rich prairie, and the scenery is varied and beautiful. Access to the interior of the salt mines is obtained by an elevator, running up and down a forty foot shaft, cut through the solid material. The width of the vein is 120 feet, and the visitor is surrounded on all sides by rock salt, as dry as powder. The absence of moisture is one of the most striking peculiarities, and the iron and steel implements used are quite bright. Two large chambers have been cut out of the vein.

The Carson river is so low that none of the mills but those supplied with steam, in addition to their water power, are able to run to full capacity. Several are only working half their stamps.

The monthly production of bullion of the Richmond company's property at Eureka is said to be nearly $100,000 per month.

CORRESPONDENCE.

Notes of Travel in White Pine County, Nevada.

[By our Traveling Correspondent]

Cherry Creek District.

Tbis district was discovered in September, 1872, by Messrs. Carpenter, Corning, Safford, Neil and Hunter. It is located on the west side of Steptoe Valley, in the Egan range, and about 90 milee south of Wells' Station, on the Central Pacific Railroad, aud 750 miles from your city. The fare from San Francisco to this point is about $60; time, 3½ days. The olevation of Steptoe Valley, through which passes the 117th meridian, is about 6,000 feet, and that of

The Mining Belt

Is from 7,500 to 8,400 feet above the sea level. The general course of the mineral, or ore belt, is from north to south, but, as I will describe further on, one or two of the ledges of this range run northeast and southwest, and dip from north to northwest, at angles varying from 45 to 70 degrees. The ledge matter is continuous, but the ore body occurs in chimneye. Commencing on the east side of the Egan range (that portion known as Cherry Creek District), the formation is as follows: First, a belt of granite, varying from 150 to 200 feet in width; next, abslt of qnartzite, about one-quarter of a mile wide; next, a belt of slate, 300 feet wide, and some of it fine enough for roofing purposes; then another belt of quartzite, about one-quarter of a mile wide; then a belt of limeetone, about one-half of a mile in width; next, a shale formation, 300 fcet thick, which forms the upper or hanging wall of the Tea-cup ore belt; from this the limestone extends for many miles to the westward, occasionally broken by mineral-bearing quartz.

Cherry Creek

Ie located at the mouth of the cañon, through which flowe Cherry Creek, and within from two to six milee of the mines. Mr. D. R. Collins is the Mining Recorder of this district, and is a resident here. The town contains about 80 or 100 inhabitants, and the district about 150. The indefatigable Molinelli is here with his Pioneer hotel. His fame as a caterer is well known throughout Nevada. Thé first building in this place was completed ou the 15th of last May. There is one general store, one variety store, two blacksmiths, one restaurant, two livery stables, and some half-dozen ealoons. Beginning at the south end of the district, the mines are as follows: The

Pine Nut Mine,

Located on the northeast side of the Egan range, about four and a half miles west of the town of Cherry Creek, near the summit of the range and just below and west of the limestone belt. This mine is owned by Messrs. P. and M. Logan, and D. B. and L. D. Pierce. The location runs northeast and southwest, and dips to the northwest. It is 1,500 feet in length and 600 in width, with several acres of croppiuge. The development thus far consists in an open cut run in about fifteeu feet on the ledge, revealing some very fine ore, containing Stetefeldite, chloride of silver and a trace of copper. Thirty assays of this rock gave from $158 to $5,500 per ton, and it is claimed that the ore now on their dumps will run over $1,000. They have about two and a half tons of thie character, and about ten, taken from the croppings, that will pay $500 per ton. Next adjoining on the northeast is the

Keystone Mine,

A emall location, 400 feet in length, belonging to Messrs. Huntcr, Safford & Co., six equal partnere. But little work has yet been done on this mine, but sufficient to class it among the most promising of the district. Passiug on still to the northeast, we come to the

Midas Tunnel Co.

This Company owns 1,200 feet of the main lode, running through the mountain. There are three partners, Messrs. John Coughlin, W. H. Duren and E. F. Hanley. Mr. Cougblin is Superiutendent. These gentlemen are developing their mine by a tunnel run in on the ledge for a distance of 75 feet, at which point they have struck very good milliug ore—gray carbonate and black metal. The country rock here is limestone, the ledge pitching to the northwest. Soveral feet of ledge are visible, but the exact width is not known. They have about ten tons on their dumps that will average $63 per ton. Are workiug two men.

The Step-toe Mine,

Owned by Pierce & Logan, coutains 800 feet of location. The character of the ore is the same as in tbe abovo mentioned mines. But little development has been made on this claim. Next adjoiuing and last on this lime belt is the

Mountain View,

An original location of 750 feet, owned by Hunter & Co. An opeu cut has boen run some 60 or 70 feet, from which some very rich rock has been extracted—assaying up in the thousands. The general character of this mine is much the same as in the others, from the Pine Nut mine. About twenty-five tons of first-class ore are to be seen on this Company's dumps. At or near this point is another ledge, lying to the eastward and running at an acute angle from the last mentioned, having a nearly north and eouth courso, and known as the

Lower Belt.

This ore body has a limestone foot-wall and slate hanging wall, the ledge dipping to the west at an angle of about 40°. Commencing at the south end of this belt, the locations are as followe: First is the

Golconda Mine,

A claim of 1,500 feet on the length of the lode, and owned by Safford & Co., six eqnal partners. Though the croppiugs are very rich, but little development has been made. Next on the north is the

Empire Mine,

Owned by the same parties. The location is 1,500 feet. A shaft has been suuk 10 feet on the ore body, the croppings of which are about twenty feet wide, showing mineral in the entire width, contaiuing chloride of silver, Stetefeldite and copper stains, prospecting quite richly in silver. Next on the north is the

Shonte Mine,

A small location consisting of 250 feet in length developed by a small cut, revealiug some fine ore, and owned by Hugh Gilligan. Next adjoining the Shonte on the north is the

Delta Mine,

In this location there are 1,500 feet; it is owned by Messrs. Collins & Franks. Near the center of this location the ledge leavee a north and south course, and from this point to the north east, with a hanging wall of limestone, and a foot wall of qnartzite, a shaft 10 feet deep has been sunk upon this location, showing ledge matter some 15 feet wide, with some ore of a little different character from the above mentioned, carrying some lead. Next adjoining on the northeast is the

Geneva Mine,

Containing 1,500 feet, iu the location. Hunter, Safford & Co. own this claim. The croppings here are visible the entire length of the location with a width of from 15 to 20 feet, and in places standing 40 feet high. Tbe hanging wall is limestone; the foot wall, quartz. It has not been developed at any point over ten fect, but by the time the company have mined and milled all the croppings, some of them will be old men. The character of the rock is somewhat different from that of any other mine in this district, from the fact that it carries a cousiderable amount of free gold, and some silvsr. Assays from the Geneva run from $60 to $1,500 per ton. Thousands of tons are iu sight and are apparently easy of extraction.

Still to the north is the Little Giant, a location but slightly developed, though the croppings are very promising. Beyond it is the

Exchequer Mine.

This mine is at present bonded to A. H. Hagadorn, of Nevada City, and some San Francisco capitalists, for the sum of $40,000. It is the property of Messrs, Moore, Edgar, Parker and Hyde, and has a length of 1,500 feet. A shaft has been snnk 18 feet, and a small open cut rnn upon it. An ore body 20 feet thick is shown that assaye from $40 to $5,000 per ton. They have 15 tons of ore ou their dumps that, it is estimated, will mill over $300 per ton. Three tons of fine ore have been sent to San Francisco for assay.

Victoria Mine.

This is an original location of 1,500 feet in extent, on the same belt as the Geneva but dietant about two miles further north. It is situated five miles north of Cherry Creek, and at au elevation above Steptoe valley of 800 feet, or about 7000 feet above tide water. This mine is owned by tbree eqnal partners, consisting of Messrs. J. S. Low, Wm. Connelly aud Thomae Phillipe. This mine differs a little from any other on the same belt above mentioned, as both hanging and foot wall are porphyry; it dips, however, in the same direction, and at the same angle. The development consists of two shafts sunk, one 49, and the other 20 feet deep; and a tunnel run in aloug the hanging wall of the ledge a distance of 96 feet.

The ledge matter in this mine runs from 30 to 60 feet wide, and shows some ore throughout. From assays made on ore taken both from the shafts and tunuel, it ranged from $240 to $2,500 per ton. It will rank favorably, to say the least, with the most prominent mines of this district. I think its proprietors have a fortune it, if they will take it out. At this writing they have about 40 tons on the dumps, that will run several hnndred dollars to the ton. About 3,000 feet furtber north and npon the same belt, after passiug the Connelly and Badger mines, is the

Red Rover,

owned by Wm. Connelly. It also has 1,500 feet of location. Little development has been made upon this mine, but the few feet tbat have been sunk upon the ledge show a fine body of ore. Iu character it is similar to that of the Victoria, there are about four tons of very fiuo ore on tho dump of this mine, assays from which show it to coutaiu about $15 in gold and $247 in silver per ton. L. P. Mc.

[Concluded in our next.]

Vienna Exposition.

The 4th of July wae celebrated in Vienna by a great many Amricane. There was a dinner at five o'clock, to which the foreign Exposition commisoionere and some others were invited. Drinking, eating and speeches constituted the principal part of the celebration, as nsual.

The *Neue Freie Presse* had a leading article with reference to the 4th of July. It is one of the largest and most influential Vienna papers; it saye: "Three generations passed away since the bold movement, by which England was deprived of the largest part of her American colonies for ever, and by which their loyal people became aliens and most dangerous rivals. Since then the star-spangled banner has waved before the sons of the great republic in many a battle, in many a bold hazard, competed at sea honorably with the Britieh, was carried victorious into Mexico, and came out pure and unstained from the greatest and bloodiest civil war ever known to modern history. And if the Americans with their young history cannot contend with old nations and statee in the glory of war, they stand equal in arts of peace; their industry progresses rapidly and steadily; their enterprises are bold, overcoming all difficulties and impediments. It is worth while to remember the festival of the Uuited States, for this tall and stout Benjamin of the international family has already given many a useful lesson to his mother Europe, for which we may feel thankful."

The article is too long, to be translated in full. It points further back to the time of our civil war, and the ridiculous prophecies of certain official quarters after the fall of Sumter, to the prevailing idea in Europe that, to be a statesman one must be, if not of noble descent, at least cognizant of all bureaucratic secrets and ways, but that the Americans demonstrated the contrary, that politicans are born, (not as cavaliers though,) and that it is not necessary to get old in office before one aquires the skill of defendiug the intereets of his country. "How pitifully," says the article, "has English diplomacy been outwitted and fooled during the Alabama negotiations, especially by the Washington treaty. This combat at the green-table proved clearly that to be an able statesman, it is not sufficient to possess a noble name and an office-rontine."

Although the month of June was not much better in regard to weather than the unfortunate cold and wet May, the prospect of the World's Exposition improved above expectation.

The Average Attendance

Of May, ae I wrote you, was 10,200 persons per day, if I am not mistaken. The average of June shows 40,537 visitors per day, notwithstanding all the lies about cholera and other contagious diseases, fabricated by enemies to thate nterprise. The account of June shows that 25-ccnt tickets (of 14 days) yielded 252,002 guldens, while the 50-cent tickets for 16 days realized only 179,150 guldens. The present arrangement allows one to visit the exposition five days of the week for 25 cents, and two days for 50 cente. Ten tickets can be bought for $2.

Ascending the Rotunda costs 20 cents, and it is really worth while to enjoy the splendid panorama from above. It is very intcresting also to see the monstrous strnctnre of the dome while walking over it on safe galleries and stairs. There are several telescopes for public use, on the outside gallery. On a clear day one can see the beautiful surroundiugs of the old friendly imperial city, which has been so much embellished during the last ten years, that it looks like an old object in a new dress. Descending from the first gallery, inside, throngh the pillar, it is somewhat dark, but I used the Mexican invention of keeping one eye shnt while ontside and opened the reserve on reaching the small stairs.

On the 29th of June, Vienna oxperienced

A Severe Storm.

The rain came down as if a dam had suddenly been broken open somewhere in tho dark clouds. The lightniug etruck, split aud broke down a tree close to the American restaurant, injuring nothing but the roof. In some of tho covered yards of the palace a few glasses were broken in, but not much damage was done; the whole bnilding stood well, especially the machinery hall. The great balloon Captif, which was fastened by 14 anchors, ready for use, was torn away and escaped npwards taking a northeasterly course, but after some hours descended again near Altenburg in Huugary and was cut there iuto several pieces by some brutes. This balloon was made nnder the direction of M. Yon, of Paris, on Giffard's system; was 25 metres (81 feet) in diameter and contained over 400,000 cubic feet of gas. By means of a wire ropo the Captif was prepared to make several trips about 1640 feet high and be brought back again. There was room in it for 12 persons, and each had to pay $5 for a single ascent.

According to the reports from all parts of Europe, active preparations are made by

Professors and Teachers to Visit the Exposition

During August and Septembor. The principal aim of this visit is, as a mattor of course, the study of the school and educational departments on exhibition. It is to be hoped that American teachere and professore will also take part in this very important study. If one considers the means of education of the preeent time, the perfect models and figures, prepared parts of the human body, and thousands of other ingenious arrangemente, by which the theoretical teaching ie made intelligible and impresssive to the young mind, there is no wonder if one feels a desire to be born over, just only to make nse of those blesings, which we needed fifty years ago. And these vehicles are not limited certain classes, but extend through the whole educational system, the most, however, in the technical schools.

The Austrian Rural School-House

Was opened only a few days since. Entering the lower department, in the first room or autochamber, besides different pictures of natural history, there are several little boxes about ten inches square and four deep, filled with different sorts of soil, light, dark, sandy, etc.; in each of these earths is a thermometer fixed so that the quicksilver dips a little into the ground, to demonstrate that different sorts of soil are differently warmed at the same temperature. In a frame is a number of twigs put together so as to show the different ways of grafting, etc. The next room presents variouo means of elementary education, commencing with a, b, c tables; then there are a number of emall collections very properly arranged—not a single specimen more than necessary to answer a question connected therewith, for instance: how the cotton is spun; how beet-sugar is made; how glass plates are made; how iron is extracted and transformed, and so forth. Seeing the stuff in different phases, from the raw material to tbe finished article, it impresses such a vivid idea on the young scholar that he is not likely to forget the procedure. This method deserves imitation. There are collections of minerals of most frequent occurrence: beetles and butterflies, flowers and plants on tables, weights and measures, from the smallest to the largest in size. There are a few anatomical preparations showing the construction of the human body, and so forth. Up stairs are desks for forty-four scholars—two double desks together, so that four scholars sit in a row. The other outfit as nsual—blackboard, maps and so on.

The Swedish School House

Is a little smaller than the American. In 1871 there were in Sweden 4,204,177 inhabitants, with 3,685 school-houses, 3,833 low schoole, (Kleinechulen) and 10 high schools. Among the schools which are found in cities and well populated villages, are also 1,145 schools for less populated districts, where two or three parishes unite for one school. The attendance is obligatory, and the direction and manage-ment of all schools is in the hands of the priests. The school room at the Vienna exposition contains 40 desks, each for one pupil, arranged one behind the other. The desk is of plain wood; the plate movable or eliding, and covers in this way inkstand and pens. Lifting half of the plates, you find a shelf for books, etc., a very necessary arrangement; but nothing of the kind in the American schoolhouse, which, compared with the California school-houses, is not the best representation. The seats of the Swedish desk are lese comfortable than the American. The walls are covered with maps, the most representing Norway and Sweden, with tables of botany, natural history, anatomy, etc. There is a pile of pictures of natural history, the plates 10 inches by 12, each showing one animal. Other pictures of the same size, illustrate events of biblical history. On the teacher's desk stands an unglazed earthen pitcher, so that it is kept constantly wet by the penetrating water, which keeps the inside cool by evaporation like the Mexican oyos. This pitcher was pointed out to me by the gentleman in charge of the school-room. He called my attention also to two blackboards, on the upper part of which are 8 maps, four on each, on rollers, so that each can be drawn out and rolled back, like those in the hall of the mercantile library of San Francisco. There was a reckoning apparatus with sliding balls on the wires, as introduced in all schools, but there was an improvement on it, by which children of dull nature are more easily induced to comprehend addition and substraction, so says the teacher. There are for this purpose eight upright wires, the lower ends fixed to the frame, the upper free, so that the balls may be taken off. The first wire has one, the next two, and the last eight balls, and the use is as follows: I let the boy count the balle, eay on the last wire. "How many are there?" "Eight." I lot him take off a few. "How many have you in you in your hand now?" "Three." "How many wore on the wire before yon took three?" "Eight." "Count how many are left after you took three away?" "Five." A very good thing is the air purifier, a small tin box about 9 inches long, 6 inches high and 2 inches wide. The cover has 20 tin plates, 2 inches wide and 6 long, soldered to the cover inside and divided on the length of 9 inches. The box contains coal tar. At night the box is closed; in the morning the cover is drawn up and the 20 tin plates come in sight tarred. The evaporating tar, it is said, destroys unhealthy gases. The above size is large enough for a school-room of ordinary size. A geographical blackboard, about 5 feet by 3, represents Sweden and Norway, showing boundaries of districte, rivers, towns, etc., but there are only holes in place of towns, without names. By the blackboard, outside of the map, are wooden pins with the names of towns, rivers, boundaries, etc., and the scholar has to place each pin in its proper

place. This method seems to be very practical. Collections of minerals, plants, flowers, seeds, maps and many other things, render this school very interesting.

The Portugese School

Is quite in the same neighborhood of the American. The arrangement does not differ much from ths others. The first room is a girls' school. Nice handiwork of all kiuds is exhibited here and proves that the Portugese ladies have just as much skill and taste as those of other civilized countries. The other room is for a boys' class. The desks are similar to the Swedish, but one for two boys, as in the Austriau school. There are very neat handwritings in Portugese, French and English, from scholars whose names and photographic portraits are attached to the respective writing. It was a good idea to exhibit photographic views of the interior of different schoolrooms, boarding, sleeping and studying rooms of scholars.

The Austriaa Exposilion of Means of Educalion

Occupies a large area of nearly 12,900 square feet. It is a collective exposition and for this reason very difficult, or rather impossible, to arrange the objects of the same class all together as they should he, for the convenient study of the visitors; but nevertheless there is as much symmetry in the arrangement as possibly could be, and it is easy to gain a good review of the whole. The space ie divided iuto three parts marked by large hanging signs indicating primary, middle and high schools. There are large tables in the middle of the space, covered with excellently executed objects of physical science. Very instructive are the collections of different industrial branches, representing the different phasee of certain raw materials, with respective tools, instruments and machines, of course, on a small scale, means for arithmetical instruction, physical instruments for primary and middle schools, various models, collections of seeds, fruit, minerals, animals of the whole animal kingdom, splendidly preserved and preparod organs of the human body, relievo maps of volcanos, etc. It ie impossible to go into a detailed description. It would require a book for this purpose alone, as is the case with the North German exhibition of means of education.

The Austrian school statistics for 1871 show 14,769 primary schools, with 25,259 teachers and 1,820,710 scholars of both sexes.

The Kimball Buggy,

Manufactured by your enterprising Kimball Carriage Manufacturing Company, of San Francisco, appears after all in the Exposition. It was the only one in the American Department. It is admired very much, but many go off shaking their heads, as if they would say they wouldn't trust themselves in such an appareutly frail affair. It is rather light for the people in this country, but the durability and strength have been well tested in California as well as the Eastern States.

The balloon Captif traveled back again to Paris to he repaired iu Yon's atelier. It will require 25,000 francs and six weeks time to repair it.

A correspondent of *Engineering* says that everyhody must admit that in this line England has accomplished the most; that no other nation can compare in the least its machinee with the English. It is known, he thinks, that prominent English firms did their utmost to introduce their

Agricullural Machiaes

On the continent and that they acquired such practical experience with reference to the wants of the different countries that it is an easy matter for them to stand competition. But the joke comes with the conclusion that it seems to him as if the Continental machine factories by their meager and imperfect participation in the Exposition did not wish to compete with England, or what may he probably more correct, they feel too incompetent as yet to do so. This correspondent has seen the spendid steam plows in the English Agricultural Hall and they are found nowhere else, but if he says that the Continental representation, in agricultural and other machinee, was very slight and imperfect, it is questionable whether he visited the Eastern Agricultural Hall, and one might suppose also that when he passed the Machiuery Hall, through the Austrian, German, Swias and Belgiau departments, crowded with locomotives, railroad cars, webbing, embroidering, sewing and all kiuds of working machiues, he probably thought he was in England, and when he entered the English Department he thought he waa in Germany. Of the American competition on the Europeau continent he takes no notice. An article iu the Auestellungs Zeitung of the *Neue Frei Presse*, about

Sewing Machines,

Says: "Tho great euperiority which the inhahitants of the New World have acquired in all practical fields above the Europeans, appears nowhere more impoeing and striking than in the field of machinery. And indeed the performances of the United States in this line are astonishing. Whatever labor the restless, active, human mind could deviee to dispense with, or at least to limit the tiresome handwork to the emallest possible degree, is surprisingly accomplished by the American machines. The same skill ie evident in the most powerful and complicated machines as in the smallest eewing machine. The United States atands, in fact, on the highst point of indnstrial progress." G. K.

July 11, 1873.

MECHANICAL PROGRESS.

Surface-Hardening of Steel—Curious if True.

The following paragraph is at present going the rounds of the scieutific and mechanical papers. We clip it from *Van Nostrand's Engineering Magazine*, but have grave doubts as to the accuracy of many of the statements:

"The action of rubbing surfaces moving at a high velocity is proposed to be applied to the surface hardening of steel, by Mr. G. Armes, Rochester.

"This invention has been patented, and consiste in hardening the surface of steel without hardening the body thereof, by subjecting the surface of the steel to be so hardened, while in motion, to the action of a surface in contact moving at a high velocity.

"If, for example, it be desired to harden the surface of a cylinder made of steel, the cylinder is mounted in a lathe turning at the slow motion usually given for turniug such a body in the nsual engine lathe. To this is applied an emery-wheel rotating at a velocity of ahout eighteen hnndred revolutions per minnte. The periphery of the emery-whcel is kept in contact with the surface of the cylinder, which, in addition to its slow rotary motion, has a traversing motion of a little less than an inch to each revolution. At the end of this operation the entire surface of the cylinder will he hardened to a depth of about 1-32 ineh, and so hard that it will resist the action of the best tools made of cast-steel and hardened in the usual way.

"Better results, it is stated, can be obtained when the emery-wheel can he run at a higher velocity than that above given; and cast-iron wheels with smooth faces, or hard substances, may ho employed in lieu of emery-wheels.

"For hardening flat surfaces, the piece of steel should be mounted in a carriage so that it can be moved forward, in order to present in succeesiou every part of the surface to contact with the periphery of the wheel; or the same resnlt can he produced by mounting the wheel in a carriage having the required traversing motions. Or if the surface to be hardened be of greater width than the face of the wheel, the block steel may he mounted ou a carriage having one motion, and the wheel also mounted in a carriage having a motion at right angles to the motion of the block-carriago.

"If the surface to be hardened be of any form than a cylinder or flat surface, the form of the periphery of the wheel or the motione to be given, other than the rotary hardening motion, mnst be such as to present in succession every part of the surface to the action of the wheel.

"The process can obviously be applied to the hardening of the surface of any article made wholly or in part of steel, unless the surface be so irregular that the required motion for contact and action cannot be attained or effected."

The Augsberg Web Press.

We glean from *Engineering* the following interesting facts concerniug the Augsberg priuting press, a modification of the Walter press, now on exhibition at Vienna: Thie machine is intended to deliver up to a speed of 12,000 sheets printed on both sides per hour. Its action is very eimple. The roll of web paper is placed at the end of the machine as in the Walter press, but the paper ie here taken from the underside of the roller instead of the top. The paper first passes through damping rollers, which can be arranged to give it any reqnired degree of wetness; and then it makee its way—through rollers which are adjustable to regulate its tension—to the first type cylinder. The paper is printed from stereotypee cast in semicircular moulds so as to fit round the type cylinders. This method is adopted in all web printing machinee, and by nsing it the fonte of type may last twenty years inetead of two, while the printing is quite as clear and good as if it were done from the type direct. From the first pair of cylinders the paper is carried npward over the upper impression cylinder, and in passing between the latter and the upper type cylinder, it is printed on the eecond side. As the four cylinders are all exactly of the same diameter, and are placed close together, the printing ou the second side must coincide exactly in its position ou the sheet of paper with that on the first. The printing operation being now completed, the paper paeses to the cutting cylinders. These are at the same level as the npper type and impression cylinders, and are necessarily of the aame diameter, that diameter being snch that their circumference is exactly equal to the length of the sheet which is to form one copy of the newspaper. On one of the rollers is an ingeniously arranged cutter, and on the other, at a corresponding poiut, a kind of groove or seat for the projecting knife. The apparatus for distrihuting tho ink is very complete. There are many interesting details about the machine, but they are unfortunately of a natnre which cannot well be made intelligible without the aid of drawinge. The differencea in constrnction, between this, the ordinary Walter, the Victory, the Marinoni and our Hoe Cylinder, are of arrangement of parts rather than of principlo.

The Walter Press (of which tho Augsbnrg is a type) derives its name from the proprietor of of the London *Times*, to whose enterprise it was owing that the costly experiments were made, which resnlted in the production of the first successful web press. We helieve the credit of its actual invention is, however, due to Mr. Macdonald and Mr. Calverley, the manager and engineer respectively of the *Times* printing office. During the years 1863—'66 tho first machine was slowly elaborated, its construction being kept secret. For a year and a-half more it took part in the printing of the *Times*, bnt still in secret. In 1869 the results were deemed so satisfactory that the machine was put on the market, and with great success, as very many of the large European journals are now printed by it.

A New Motor.—Louis Charles Errani and Richard Auders, of Liége, Belgium, have patented in this country a new motor, operating as follows: Oil is sprayed into the cylinder behiud the piston, and, being mixed with air, is ignited at the proper point hy au electric device; the consequent expansion drives the piston forward, the momeutum of the fly wheel returning it to its first position. An ejector supplies the oil from the tank to the sprayer, the ejector heing connected to a piston blower driven by a crank attached to the main shaft. The general principle is the same as tho gas engine.

SCIENTIFIC PROGRESS.

Death by Lightning.

Rev. H. C. Hovey communicates the following to the *American Journal of Science* for August:

A thunder-storm passed over Kansas City, Mo., on the afternoon of Sunday, June 15th, 1873, the resnlts of which, so far as a single stroke of lightning is concerned, the writer has taken pains to verify by personal examination and the testimony of eye-witnesses.

When tho storm arose, a number of persons were walking on the broad platform of the amphitheater, in the fair-grounds adjacent to the city. The promenaders, either iu iguorance, or negligeuce, of the laws governing the paseage of electrical currents, sought refuge from the rain nnderneath the leafy branches of some oak trees which shade the locality. Under the tallest of these oaks, fifteen feet from the point where its trunk passes through the platform, and within three or four feet from the overhanging boughs, stood Miss Nora Ritenour and a young gentlemau who had accompauied her to the grounds. An electrical discharge sought them out, on its way from the clonds to the earth. She was killed, and he was crippled; while the shock was felt for a hundred yards from the fatal point of impact, jarring buildings, and benumbing and prostrating humau heings, so as to prevent spectators for a few moments from coming to the aid of the chief sufferers. When they did so, they found to their horror, that the body of the young lady was actually undergoing combustion, making it necessary to extinguish the flames by pailefnl of water. On inspecting the remains it wae found that the first point of contact was the chin, where a red mark was left as if hy a violent hlow. The rest of the head showed uo exterual injury except that the hair was burnt to a crisp. From the chin the electrical fluid sought the body, breaking the neck, and burning the hreast and abdomen through and through. Its exit was by tho right foot, leaving only a well marked groove along the limb; but tearing the shoe into shreds. Death must have been instantaneoue, and was probably void of seusihle pain, if oue might judge from the placid features, and the natural and agreable expression of the eyes.

It seems as if the stroke mnst first have traversed the adjacent oak, but the most careful examination discovered no disturbance of its branches, or injury done to its sturdy trunk. On leaving the body of Miss Ritenour, the entire discharge passed through tho plank on which she stood, piercing it like a musket ball, the upper side of the perforation being smoothly depressed, while underneath it was jagged and enlarged. From the plank the bolt leaped two feet to a beam, along which its path was divided; being marked by a fissure leadiug in opposite directione to the two posts hy which the beam was supported. These posts were of white pine, thoronghly seasoned, and about one foot in diameter. One was merely split from top to bottom, while the other waa tterly apliutered. To this latter piece of timher, boards had been nailed; and to each nailed head, in passiug, the electrical fluid paid most discriminating attention, splitting the boards ae if with the edge of an axe. The ground at the foot of these posts was not visibly disturbed. No traces of fire were to he seen ou the dry, inflammable pine wood, although the living object, on which this memorable thuuder-bolt concentrated its fury, was so fearfully burned.

Am. Association for the Advanoement of Science.—The 22d meeting of thia Aesociation will be held at Portland, Maine, and will commence on Wednesday the 20th of October. Prof. Lovering of Cambridge is President for the year.

Platinum is being used quite extensively in various alloys to prevent oxidation. A very small percentage of this metal, it is said, protects Germau silver, aluminum bronze, etc., completely.

Celestial Origin of Positive Electricity.

M. Becquerel has recently preseuted a memoir to the Academy of Sciences of Parie upon the celestial origin of atmospherie electricity, or rather of the positive electricity distributed in enormous quantities in the planetary spaces. This he finds in the hydrogen electrized positively which escapes continually from the snn. According to modern observations the solar spots are in reality cavities, by which the hydregen and the various substances composing the solar atmosphere, escape from the photosphere, this hydrogen being the resnlt of a decomposition, bringing with it positive electricity, which ie distribnted in the planetary spaces, diminishing in intensity more and more toward the earth, in consequence of the poor conducting power of the more and more dense strata of the air, and of the superficial crust of the earth, this latter being negative only because it is less positive than the air.

For this electricity to be propagated in any medium, some substance is necessary as a vehicle; and it is established, iu fact, that the luminous properties of electricity belong in a great degree, if not entirely, to the ponderable matter across which the electric discharges are transmitted. The auroras resnlt from the discbargee of this electricity, thus explaining, according to M. Becquerel, the rnstling or crackling sound heard by the inhabitants of the polar regione. This occurrence, although apparently well attested, hae heen denied by eome; but the experience of M. Rollier, the intrepid aeronaut who was carried in his halloon last December from Paris to Norway, and landed on a snow-covered mountain 10,000 feet high, confirms thie view. Thie gentlemen remarks, in his report of the voyage, that while passing through a thin fog he perceived the brilliant rays of an aurora tinging every thing with its strange light. Very eoon a curious and incomprehensiblo roaring was heard; bnt this, after a time, ceased entirely, with the development of a decided odor of sulphnr, which was almost suffocating.—*Harper's Magazine.*

Moral Tendency of Arts and Scienoe.—The exclusive claim of metaphysics to the moral gnidance of modern society continues to be asserted with all the more tenacity, as its claim to intellectual guidance is relinquished to physical science, based upon observation and experiment, as the only reliable means of the progress of civilization, which is but another term for the progress of the physical sciences, and their corresponding arts.

The trinmph of physics over metaphysics is complete in the domain of the inorganic sciencee over which metaphysice has surrendered all supremacy, and abandoned the contest, in order to concentrate its forces in defenee of the organic sciences, including man and eociety. But man and society are gradnally deserting the ranks of metaphysics, and rallying aronnd the standard of physics in regard to the organic sciences, morals included. They prefer physical to metaphysical light, hydrogen gas to metaphysical gas, revolt from all authority but the demonstrations of reason, deduced from an induction of facts, established by observation and experiment.

In the science of astronomy, for instance, they find a scientific unity, compared with which the metaphyeical unity is that of Bahel. The confidence and faith of mankind in the prediction of astrouomers, in regard to an eclipse, is a case in point, showing the euperior infinence of physics over metaphysice, upon the intellectual convictious of modern society. Upon this single point the world is catholic, and nniversal, and uniform, and harmonions in ite faith. Cau metaphysics exert any such influence? Here ws see the omnipotent power of demonstration, based upon obeervation and experience, illustrated to the satisfaction of all alike. So in morals. The discovery of a scientific principle, and its application to a new art, exerts a more powerful moral influence than any metaphyeical dogma unverified and unverifiable by observation.—*Am. Artisan.*

Whittbread's Sewage Process. — Purely mechauical means haviug failed to satisfy the conditione in treating sewage, chemical agents have been tried with more or less success. It being manifestly impracticable to handle the aewage in ita crude form, what is desired is to obtain a valuable, compact manure on the one hand, and to purify the resnlting effluent, or remainder. Mr. Whittbread uses a solution of phosphate of lime in a water solution of superphosphate of lime. A small qnautity of lime is added in order to precipitate a dicalcic phosphate, which is stated to afford a chemical fact hitherto nuknown, the combination of such salt with the organic nitrogen in solution in the sewage. The patentee claims that the procesa recovers nearly donble the weight of the chemicals employed, and in a still more valuable form. It is also said that the materiale nsed can be cheaply prodnced.

Professor Silliman has examined the findings of one of the expeditions to Arizona, last year, in search of precious stones. He prononnces the "rnbiea" garnets of very fine color and good size. The "emeralds" are chryeolite, too faint in color to be nsed as gems. The "diamouds" are quartz, some opaline, others hyaline, and all smoothly polished.

Weekly Variations in Stocks.

[Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Aug. 13, 1873.

NAME OF COMPANY.	IN MINE.	FEET IN MINE.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co							
Alpha Consolidated	300	6000	24	20	4		
Alta	3600						
American Flat		30000	80½	1			1
Arizona & Utah	1900	18000	1⅞	1			⅛
Bacon Mill & Mining Co.	65	24000	3	2½		½	
Baltimore Consolidated		54000	8½	7⅞			⅛
Belcher	1040	104000	73½	63		2¼	
Beat & Belcher	223	22200	4½	3½			1
Bowers	20	5000					
Bnckeye		16000	50c	50c			
Bullion	2500	25000					
Caledonia Silver M. Co	9000	20000	18	13½		1	
Central	150	10800					
Central No. Two	100	20000	5	5		1	
Chollar-Potoei	2800	28900	38½	35½		1½	
Confidence Silver M. Co	130	24920	5	5⅞		¾	
Cons. Gold Hill Quartz	34½	20000	1	1			⅛
Consolidated Virginia	1160	23600	95	85	6		¾
Cook & Geyer	1600	24000					
Crown Point G. & S. M. Co	600	100000	86	78			
Daney	2000	24000	1⅞	1			⅛
Dardanelles	1200	24000					
Eclipse	70	25000	5	4⅜			
Empire Mill & M. Co	75	50000	3¾	3½			¼
Exchequer	400	8000					
Flowery	3000	12000					
Franklin		20000	1	1			
Globe	1200	48000	12½	9½		2¼	
Gould & Curry S. M. Co	400	16000	26	22½			2½
Hale & Norcross	184	100000	4¼	4			¼
Imperial							
Indus	2000	30000					
Ineurance			37½c	30c			⅛
Jacob Little	2000	30000	1⅞	87½c			⅛
Julis Gold and S. M. Co	3000	21000	6	5			⅛
Justice	95	30000	7¾	6½		½	
Kentnck	1200	24000	2⅜	2			½
Kniokerhocker							
Lady Bryan							
McMeans	3600	36000					
Mint Gold & S. M. Co	1600	50000	50c	50c			⅛
Nevada	3000	40000					
New York Conecidated	3600	36000	75c	50c			¾
Occidental	800	10000					
Ophir Silver Mining Co	1400	16800	22½	18½		2½	
Overman Silver M. Co	1200	12800	25	18			2½
Phil. Sheridan	1200	24000					
Pictou	2000	30000	55c	50c			5c
Rock Island		24000	62½c	62½c			
Savage	800	16000	41	35			3½
Segregated Belcher	160	6400	33½	30			5
Segregated Caledonia		10000					
Senstor Silver M. Co		2000	1	1			
Sierra Nevada		20000	8½	8			½
Silver Hill		54000	14½	12½			1½
South Overman		24000	30c	30c			
Succor Mill and M. Co	1600	22800	1⅜	1⅛			⅛
Sutro		24000					
Trench	20	50 0	4	3¾			
Tyler	2200	33000	50c	40c			⅛
Union Consolidated	803	20000	50c	40c			
Utah		30000					
Woodville G. & S. M. Co	1400	28000	1½	75c		½	
Yellow Jacket	1200	24000	58½	40		6½	
NEVADA.							
Adams Hill		50000					
Alps Silver Mining Co	800	30000	1⅞	1		⅛	
Amador Tunnel & M. Co			1⅞	1¾			1⅛
American Flag M. & M	300	30000	6	5⅝			⅛
Arkansas							
Belmont		30000	2⅛	1¾			⅛
Bowery		30000	60c	50c			40c
Chapman Mill & M. Co		30000	10c	10c			
Charter Oak S. M. Co	1000	30000					
Chief of the Hill		30000	1½	1½			½
Chief East Extension		36000	30c	25c			5c
Columbue M. & M. Co	10000	50000					
Condor		25000	30c	25c			10c
El Dorado South			3¾	3½			¼
Eureka Conecidated		50000	13⅝	12½			⅛
Excelsior		12000					
Harper Silver Mining Co		30000					
Hermes	1000	30000	5¼	1¾			1
Home Ticket		30000					
Huhn & Hunt S. M. Co	3600	30000	1⅞	1⅝			
Ingomsr Silver M. Co	1000	40000	70c	37½c			17½c
Ivanhoe		30000					
Jaokson		50000	20c	12½c			
Juniata Consolidated	5000	50000					
K. K. Consolidated			4	4			
Kentucky Gold & S. Co	1000	30000	2⅛	2¼			⅛
Kinston	1000	30000					
Lehigh	1000	30000					
Lillian Hall	1000	15000					
Louise	2400	30000					
McMahon	1000	30000					
Marion		30000					
Meadow Valley	24023	60000	22½	20		2½	
Mooking-Bird	1200	30000					
Monitor Belmont							
Murphy	2000	60000					
Newark Silver M. Co	800	32000	4⅝	3⅝			1
Pacific Tunnel & M. Co							
Page & Panaca S. M. Co	2400	40000	1	75c			⅛
Peavine	2000	30000	25c	25c			
Phœnix		50000	30c	25c			5c
Pioche Silver Mining Co	1000	20000	7¾	7¼		¼	
Pioche West Extension		35000	1	1			⅛
Pioche-Phœnix		40000	2¾	1¾			⅛
Portland							
Raymond & Ely	5000	30000	73½	69½		1½	
Silver Peak		30000	1⅞	1⅝			⅛
SilverWest Consolidated							
Standard Mill and M. Co							
Star Consolidated	18000	24000					
Starlight	6900	25000					
Sterling		30000					
Spring Mount		35000					
Spring Mountain Tunnel		20000					
Ward Beecher							
Washington and Creole	200	30000	2½	1⅞		½	
Yellowstone							
CALIFORNIA.							
Alpine	1200	12000					
Bellevue	8000	20000					
Calaveras Gold M. Co	3200	20000					
Cederberg Gold M. Co		24000	4	4			
Consolidated Amador							
Cottonwood Creek		20000					
Dunderberg M. & M. Co							
El Dorado Ind. Quartz M							
Eureka Gold Mining Co	1680	20000	19	18			1
Gillis		24000					
Independent Gold M. Co	1800	25000	2	1½			
Keystone Quartz		10000					
Mt. Jefferson	1500	25000					
Oakville Quartz M Co							
Rye Patch			9	6½		1½	
St. Lawrence M. & M. Co							
St. Patrick	1800	20000					
Teoumeeh	3000	30000					
Ynle Gravel	400	10000					
IDAHO.							
Empire		25000	25c	10c			¼
Golden Chariot	750	10000	27½	20½			½
Ida Ellmore	1300	10000	10	4		4½	
Mahogany G. & S. M. Co	720	10000	11½	8¾		2¾	
Minnesota Gold & Silver	1020	20000	21½	19			1½
Red Jacket			3	2¼			½
Sonth Chariot	650	20000	3	2½			
War Eagle	1000	10000					
WHITE PINE.							
General Lee	1000	20000					
Mammoth Silver M. Co	1800	36000	15c	10c			
Noonday	1000	20000	10c	10c			
Orig. Hidden Treasure	800	21333	4¾	4¾			¼
Silver Wave							
Ward Beecher		24000					
UTAH.							
Deseret Consolidated	2400	30000					
Wellington		50000					
OREGON.							
Virtue	2300	20000					

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholdes' Directory—Compiled Daily for the Mining Preee.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Deling'nt.	Sale.	Secretary.	Place of Business.
American Flat M. Co.	Washoe		50	July 22	Aug 26	Sept 16	G. W. R. King,	411 California st
Buckeye G. & S. M. Co.	Washoe.	8	1 00	July 14	Aug 19	Sept 8	J. Maguire,	419 California st
Confidence M. Co.	Cal.	1	1 75	Aug 4	Sept 4	Sept 22	H. Hampton,	217 Sansom st
Cons. Gold Hill Quartz M. Co.	Nev.	1	75	Aug 4	Sept 3	Sept 29	R. Wegener,	414 California st
Chartier Oak S. M. Co.	Ely District.		25	July 16	Aug 25	Sept 15	G. W. R. King,	411 California st
Caledonia S. M. Co	Nevada.	5	2 00	July 11	Aug 21	Sept 11	R. Wegener,	414 California st
Eqnitable M. Co.	Utah	3	10	Aug 8	Sept 12	Sept 29	C. S. Hesly,	Merchants' Ex
El Dor-do South Cons. M. Co.	Nev.	1	1 00	Aug. 6	Sept. 12	Oct. 2	Wm. Willis.	419 California st
El Dorado Quartz M. Co.	Cal.		10	July 3	Aug 11	Aug 29	G. W. R. King,	411 California st
"420" M. Co.	Nevada.	8	12½	July 25	Aug 28	Sept 16	H. O. Howard.	523 Monig-mery st
Globe M. Co.	Nevada.	3	25	July 2	Aug. 4	Aug. 25	Joseph Magnire.	419 California st
Hale & Norcross S. M. Co.	Washoe.		5 00	July 1	Aug 2	Aug 22	J. F. Lightner,	438 California st
Ida Ellmore M. C.	Idaho.	10	1 50	July 25	Aug. 29.	Sept. 20	Wm. Willis.	419 California st.
Justice M. Co.	Nevada.	6	1 00	June 24	July 29	Aug 18	R. Wegener,	414 California st
Jackson M. Co.	Nevada.		10	June 25	July 29	Aug 18	H. C. Kithle,	419 California st
Julia G. & S. M. Co.	Washoe	15	75	Aug 5	Sept 8	Sept 27	A. Noel,	419 California st
Kentucky G. & S. M. Co.	Ely Dist.	6	1 50	June 2	Aug 5	Aug 26	J. P. Cavallier.	509 Montgomeryst
Knickerbocker M Co.	Am. Elst.	6	1 00	July 24	Aug. 26.	Sept. 15	Henry Boyle.	Stevenson'e Bld'g
Lady Franklin G. & S. M. Co	Cal.		50	July 1	Aug 1	Sept 15	J. S. Luby,	507 Montgomery st
Lady Eaton M. Co.	Utah	4	10	Aug 8	Sept 12	Sept 29	C. S. Healy.	Merchants' Ex
Mammoth S. M. Co.	White Pine.		10	July 2o	Sept. 1	Sept. 22	J. L. King.	411 California st
McMahon S. M. Co.	Nevada.	4	25	June 19	July 25	Aug. 19	Geo. R. Spinney.	320 California st
New York Cons. M. Co.	Nevada	5	25	Aug 1	Sept 6	Sept 25	H. C. Kithle,	419 California st
O. H. Treasure M. Co.	White Pine.		1 00	July 31	Sept 6	Sept 30	D. A. Jennings,	401 California st
Ophir M. Co.	Washoe.	26	5 00	June 24	July 29	Aug 18	J. Marks,	Merchant's Ex
Page & Panaca S. M. Co.	Ely District	4	50	Aug 12	Sept 16	Oct 6	L. Kaplan,	Merchants' Ex
Rose Creek M. Co.	Nev.	1	10	Aug. 5	Sept. 9	Sept. 30	S. Phillips,	408 California st
Savage M. Co.	Washoe.		5 00	July 24	Aug. 27	Sept. 15	E. B. Holmes.	Cr. Cal.& Sansome st
South Chariot M. Co.	Idaho.		50	July 28	Sept 8	Sept 29	J. L. King.	411 California st
Succor M. & M. Co.	Washoe	6	75	July 31	Aug 30	Sept 22	W. H. Watson,	302 Montg'y. st
St. Lawrence M. Co.	Cal.	2	1 00	July 25	Aug. 28.	Sept. 16	R. B. Noyes.	411½ California st
Senator S. M. Co.	American Flat.	8	50	June 24	July 29	Aug 18	Henry Boyle,	Stevenson's Bld'g
Spring Mountain Tunnel Co.	Nev.	6	20	June 20	July 29	Aug 18	J. M. Buffington,	37 N. M. Exchange
Star Con. M. Co.	Nevada.	3	10	June 19	July 24	Aug. 18	Geo. R. Spinney.	320 California st
Tecumseh G. S. & C. M. Co.	Cal		25	Aug 1	Sept 5	Sept 30	J. F. Hermann,	418 Kearny st
Tyler M. Co.	Washoe.	2	25	July 25	Aug 28	Sept 13	A. K. Durbrow,	Merchants' Ex
Yellow Jacket M. Co.	Washoe.	16	5 00	July 10	Aug 15	Sept 5	G. W. Hopkins,	Gold Hill
Woodville G. & S. M. Co.	Washoe.	2	75	July 16	Aug 19	Sept 6	A Noel,	419 California st

Other Companies (not on the Lists of the Boards.)

Anbnrn G. M. Co.	Placer Co., Cal.	5	1 00	Aug 9	Sept 15	Oct 6	R. Wedgener,	414 California st
Alpine G. M. & M. Co.	Cal.		50	July 21	Aug 25	Sept 17	J. F. Lightner,	438 California st
Buena Vista Vineonltural Society.	Cal		5 00	Aug 5	Sept 8	Oct 1	N. Selinger,	409 Battery st
Beckwith M. Co.	Ely District.		15	July 7	Aug 11	Sept 2	W. H. Watson,	302 Montgomery st
Brown's Valley Cons. M. Co.		1	50	June 27	Aug 2	Aug 25	R. B. Noyes.	411½ California st
Cederberg First Sch. Ext. M. Co.	Cal.	4	5	July 31	Aug 30	Sept 19	J. N. Webster,	506 Montg'y st
Carson Cone. M. Co.	Nevada	1	10	July 28	Aug 30	Sept 22	A. D. Carpenter,	605 Clay st
Caroline M. Co.	Ely District.	1	20	June 20	Aug 8	Sept 4	C. E. Elliot,	419 California st
Clear Lake Water Co.	S. F.		3 40	July 30	Sept 4	Sept 22	S. J. C. Swezey,	3 & 5 Front st
Cherokee Flat Blue Gravel Co.	Cal.	30	5	July 23	Aug. 26.	Sept. 15	H. Pichoir.	603 Washington st
Cincinnati Co.	Cal		5	July 17	Aug 18	Sept 1	Wm. Small,	313 Kearny st
Commercial Coal M. Co.	Cal.		50	July 9	Aug. 16	Sept. 3	S. B. Hanson.	402 Montg'y st
Day Spring G. M. Co.	Cal		5	Aug. 4	Sept. 10	Oct. 1	C. F. Brown.	302 Sansome st
Excelsior S. M. Co.	Nevada		45	July 18	Aug 18	Sept 20	W. A. Kollmyer,	640 Washington st
Empire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakins,	230 Kearny st
East Idaho M. Co.	Cal.	1	5	June 18	July 28	Aug 16	F. B. Leyster,	Grass Valley
Emerald Hill M. Co.	Utah.		25	June 24	Aug 1	Aug 26	F. Madge,	Merchants' Ex
Golden Eagle M. Co.	Cal.	1	10	July 15	Aug 18	Sept 8	R. Stevenson,	305 Montgomery st
Greenhorn G. M. Co.	Cal.		1 50	July 11	Aug 18	Sept 10	Joel F. Lightner,	438 California st
Granite Mountain M. Co.	Cal.		10	July 24	Aug 27	Sept 10	W. G. Holmes,	Cor. Wash. & Battery
Grace M. Co.	Schell Creek.	1	10	June 20	July 26	Aug 20	W. H. Knight,	313 Monts st
Hermiguera Mining Co.	Lower Cal.	7	3 00	May 6	July 2	Aug. 18	J. H. Applegate.	729 Montgomery st
Homeguera M. Co.	Lower Cal.	7	3 00	July 29	Sept 5	Oct 27	J. H. Applegate,	729 Montg'y. st
Kincaid Flat M. Co.			4 00	Aug 6	Sept 6	Sept 29	R. H. Cornell,	217 Sansome st
La Paz M. Co.	Ely District.		50	June 16	July 21	Sept 1	W. W. Hopkins.	411½ California st
Lady Emma M. Co.	Cal.	3	30	June 25	July 26	Aug 18	A. D Carpeuter,	605 Clay st
Lucky G. M. Co.	Cal.	1	10	Aug. 6	Sept. 6	Sept. 29	R. B. Noyes	411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 13	G. R. Spinney.	320 California st
North Star G. M. Co.	Cal		4 00	Aug 13	Sept 17	Oct 8	D. A. Jennings,	401 California st
National M. Co.	Nevada		50	July 31	Sept 5	Sept 29	B. B Minor,	411½ California st
Placer G. M. & Canal Co.	Cal.		10	July 8	Aug 11	Aug 30	Geo. W. R. King,	411 California st
Phenix Tunnel & M. Co.	Utah.		10	July 2	Aug. 21	Sept 5	C. S. Healy.	Merchants' Ex
Pacific Coast Wrecking Co.	S. F.		5 00	Aug 5	Sept 12	Oct 6	G. S. Pratt,	204 Montg'y. st
Plymouth Rock M. Co.	Utah,	1	5	June 21	July 18	Aug 18	Jas. Mason,	422 California st.
Rising Star M. Co.	Cal.	5	6	July 11	Aug 13	Aug 30	J. M. Buffington,	37 Merchants' Ex
Sandy-son G. M. Co.	Cal.	6	15	Aug. 4	Sept. 1	Sept. 17	Wm. Stuart.	113 Leidesdorff st
Seattle Coal & Trans'n. Co.	Oregon		2 04	Aug 4	Sept 5	Sept 25	H. L. Hutchinson,	537 Market st
San Jose M. Co.	Nev.	3	5 00	July 24	Aug. 25	Sept. 25	A. Carrigen.	107 Front st
Stanislaus Water Co.	Cal.	2	2	July 2	Aug. 10	Aug. 26	C. C. Tripp.	228 Kearny st
Summit M. Co.	Cal.	4	25	July 21	Aug 26	Sept 15	Geo. Davidson,	734 Montgomery st
South Emma M. Co.	Utah.	1	25	June 11	July 21	Aug 15	Henry Boyle,	Stevenson's Bldg.
Stickle Quartz M. Co.	Cal.		50	June 11	July 17	Aug. 30	E. Wheaton,	401 Montgomery st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 31	L. Franconi,	314 California st
The City Gardens,	S. F.		66⅔	June 27	Aug 7	Aug 25	G. S. Ladd.	522 California st
Umpire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakin,	230 Kearney st
Union G. M. Co.	Cal	7	50	Aug 12	Sept 15	Oct 6	A. K. Durbrow,	Merchants' Ex
Victoria and Imperial T & M. Co.	Utah.		20	July 5	Aug 12	Aug 27	W. W. Watson,	302 Montgomery st
Washington M. Co.	Cal		2 00	Aug 11	Sept 16	Oct 10	T. B. Wingard,	318 California st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jenninge,	401 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Alta M. Co.		Wm. H. Watson.	302 Montgomery st	Annual	Aug. 21
Baltic Cons. M. Co.		Robt. H. Goodwin,	507 Montg'y. st	Annual	Aug 16
Caliconia S. M. Co.	Nevada	R. wedgner,	414 California st	Annual	Aug 20
Cerbat Cons. G. & S. M. Co.	Cal	T. E. Jewell,	507 Montgomery st	Annual	Sept 10
Chief of the Hill M. Co.	Ely District.	C. S. Neal.	419 Calif rnia st	Annual	Aug. 21
Clay Street Hill R. R. Co.	S. F.	C. P. Campbell,	Cor. Clay & Montg'y	Annual	Aug 21
Eureka M. Co.		R. B. Noycs,	411½ California st.	Annual	Aug 14
Great Blue Gravel M. Co.	Cal.	Wm. Watson.	302 Montgomery st	Annual	Aug. 21
Howard Hill G. M. Co.	Nevada	L. Kaplan,	Merchants' Ex	Annual	Aug 25
Mohawk Con. M. Co.		T. E. Jewell,	507 Montg'y. st	Annual	Sept 1
Meadow Valley M. Co.	Ely District	T. W. Colburn,	419 California st	Annual	Aug 28
Marion S. M. Co.		L. Kaplan,	Merchants' Ex	Annual	Aug 18
North Beach & Mission R. R. Co.		H. W. Hawthorne,	Cor. 4th & Louisa	Annual	Aug 25
Occidental M. Co.		C. E. Elliott.	419 California st	Annual	Aug 26
Pacific Mining Tunnel Co.		Wm. H. Knight,	331 Montg'y st	Annual	Aug 28
Pauper M. Co	Idaho	David Fay,	Merchants' Ex	Annual	Aug 14
Red Jacket M. Co.	Nevada	H. C. Boward,	352 Montg'y. st	Annual	Aug 25
South Eureka M. Co.	Nevada	Called by a Stockholder,	408 Cal. st	Special	Aug 20
Senator S. M. Co.	Washoe	Henry Boyle,	Stevenson's Bl'd'g	Annual	Aug 27
Woodville M. Co.	Washoe.	A. Noel.	419 California st	Annual	Aug 16
Ward Beecher Cons. M. Co.,	White Pine	D. A. Jennings,	401 California st	Annual	Aug 19

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quariz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	I. B. Cornwall.	Cor. Harrison& Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kithe,	419 California st.	7 00	Aug 9
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	4 00	Aug 12
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Fasset.	220 Clay St	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Aug 7
Eastmort Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	July 21
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Aug 9
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Aug 14
La Grange Ditch & Mining Co.		R. Athey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Aug 7
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Montg'ry, St.	1 00	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor,	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	5 00	Feb. 1

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r,	301 Bat. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	Pichoir,	Cor. Montg. & Wash. sts	1½ per cent.	Aug 15
German Savings & Loan Society,	S. F.	Geo. Lette,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st.	9 6 10, 8 & 4 per cent.	July 15
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Lonisa sts.	½ per cent.	April
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	316 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 percent	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

Our Weekly Stock Review.

THURSDAY EVE., Aug 14, 1873.

The Stock market for the past week has been so excessionally dull and weak that there is nothing of interest to record. The dividends paid by some of the mines has had no effect to enliven business and it remains so it has for several weeks. In this connection the *Alta* says:

"The depression in the Stock market is, no douht, to a great extent, the reaction from the great excitement of last year, and is not peculiar to this Coast since the same cause has produced similar results at the East, in England and in Western Europe. But most mercantile business and industrial employments present the same features. The market here was stocked with goods somewhat beyond the demands of a limited population for consumption, and it is quite possible that the consumption was below its normal ratio, by reason of the immense stock excitement of last year, which involved all classes at the East. Particular branches of business, Tea importing, in particular, felt the effects of over action in numerous failures, and the depression in other business is manifest in the great diminution of orders for goods on United States account. A similar lull in business affairs has been experienced in most of the European markets, and many have been puzzled to discover a cause for this epidemic depression."

The mines all look as well as ever and a good amount of coin has been distributed this month among lucky shareholders in dividend-paying mines. Belcher paid $7 per share, or $728,000; Crown Point paid $4 per share, or $400,000; Eureka (G. V.) paid $1 or $30,000; Minnesota paid $1.50 or $30,000; Golden Chariot paid $1 or $30,000. There is, however, hardly any business being done in stocks and the fluctuations are of little interest.

MINING SUMMARY.

THE following is mostly condensed from Journals published in the interior, in proximity to the mines mentioned.

California.

INYO COUNTY.

NEW DISCOVERIES.—A correspondent of the Sacramento *Union*, writing from Panamint Mountains, Inyo Co., July 22d, gives this intelligence: "The recently discovered silver mines in these mountains are beginning to attract attention. The first discoveries at locations were made here several months since by H. Jacobs, W. L. Kennedy and R. P. Stewart. The latter thus far found crop out conspicuously, are well defined and show a large fractiou of good ore. The principal vein of the belt discoved by Jacobs and Stewart is the Wonder of the World. It can be easily traced for a distance of 3,000 ft., and in some places it stauds high out of the ground, and is 30 ft. in thickness. It will average at least 6 ft. in thickness for nearly 3,000 ft., as some of the ore has assayed as high as $3,000 a ton. Indications now seem to warrant the conclusion that this will ultimately become one of the best-paying silver districts on this Coast. Among the principal pioneers and owners are R. C. Jacobs, Dr. A. K. Stearns, Robt. Stewart, D. G. Tipton, H. Gibbons, J. Dempsey, Jas. Scobie, Mr. Chunn, J. Copely and many others, whose names I cannot remember. A town site has been surveyed, a Recorder's office established, and nearly all claims recorded. The altitude of the new town is about 6,000 ft.—a little more or less. The distance from here to San Francisco is about 600 miles in a northwesterly direction."

LIDA VALLEY.—Times are very quiet in Lida Valley since Hickey & Walker's mill shut down. This result was caused, not by any failure of the mines or mill but that of the San Francisco firm, Parker, Watson & Co., who own property, including an interest in this mill, is under attachment, hence the stoppage. It is thought an early arrangement can be effected so that the mill and work will soon start up again, a consummation most ardently desired out in that region.—*Inyo Independent.*

TUOLUMNE COUNTY.

THE SHAWMUT.—The Tuolumne *Independent*, August 9: The Shawmut Quartz Mill, started up for the first time last week, but unfortunately the crank to the engine broke, which necessarily stopped operations for the time being.

THE RAWHIDE MINE.—The Rawhide Co. have completed arrangements to commence operations on the mine next week. A larger pump than formerly used has been procured, showing a determination to take the water out of the shaft at any cost.

Nevada.

ELY DISTRICT.

CHIEF OF THE HILL.—Pioche *Record*, Aug, 3: Sinking down from level of the Burke tunnel, 280 ft. Still sinking night and day, and will soon attain the depth of 300 ft., when new levels will be run. Ore in the stope shows no material change. A level from the bottom of the Wright shaft, 210 ft. deep, has been run west 100 ft., showing ore most of the way, and is still being driven ahead with two shifts. Working the same number of men as last week. About 75 tons of ore on the dump, and adding to the pile every day. Expect to have a crushing shortly.

HAVANA.—Since our last report the shaft has been steadily sunk and the pay streak has as steadily widened. It is now 6 ft. wide, and still dipping towards the hanging wall. There is no longer any doubt that a large and permanent body of ore has been struck in this mine. In quality, too, it is constantly improving, and averages very high grade.

CAROLINE.—Sinking the main shaft, which is being solidly timbered. Making about 1 ft. to the shift. The rock is soft and very favorable for working. The erection of steam-hoisting works will be commenced during the ensuing week.

CHIEF EAST EX.—Still taking out ore from the 225-ft. level—the ledge never looked better. It is fully 4 ft. wide, and the rich streak on the foot wall is a high foot in width.

PORTLAND.—Sinking the main shaft by contract. It is now upwards of 1200 ft. deep. No change worthy of ment on elsewhere.

RAYMOND & ELY.—The works are fast approaching completion, and work in the main mine will soon be resum

0 ft. and well timbered. There are now 60 tons of ood ore on the dump. The Co. will begin to mill ore ds month. The new hoisting works are now com- eted. The building is 30x50; the engine, which is about 30-horse power, is new, as is also the boiler and l the machinery. A carpenter-shop and other im- rovements are soon to be added to the main building, aking it complete in every respect; 25 men will be at to work on Monday, working day and night.

ALPS.—Working 14 men—day and night shift. Taking it 4 tons daily, and now have about 10 tons of ore on he dump. The last assays made gave from $200 to $600 p this ton. The winze on the 164-ft. level looks well. he cross-cut at the 300-ft. level gives a favorable show- g.

SPRING MOUNTAIN TUNNEL.—Have nothing of special mportance to note since last week, further than that nking still continues on No. 3 ledge, day and night, ith good prospects of soon encountering good ore.

SOUTH SIDE.—This Co. is still sinking the shaft, hich is now down 115 ft.; sinking 1 ft. a day.

ALADDIN.—Sinking in the shaft steadily. Plenty of ood ore in sight.

MAZEPPA.—Sinking the main shaft with constantly- mproving indications.

PIOCHE-PHENIX.—No particular change to note.

BOWERY.—Taking out some good ore, and sinking rap- lly on the main shaft.

BROOKLYN.—Sinking the winze from the 75-ft. level ith excellent prospects.

NEWARK.—As usual, no news from the Newark.

PEAVINE. — Sinking the new shaft. Nothing doing in s old works.

ELKO COUNTY.

ELKO CO. MINES.—Virginia *Chronicle*, Aug. 1: A dis- atch from Elko of yesterday says of the excitement ver the new discovery in the northern portion of the ounty: "The rush to the new mining district has been nprecedented since the White Pine excitement. To-day he number leaving for the new camp is greater than esterday. Every available conveyance has been brought nto use for transporting miners' tools, supplies, etc. rospectors and miners from the neighboring camps are aving for the new district in great numbers. A party who came in last night at a late hour and returned in a hort time, reports several well-defined ledges discov- red, bearing rock assaying from $400 to $16,000 per on."

REESE RIVER.

GALENA AND VICINITY.—Reese River *Reveille*, August 1. alena is looking up. There have been sales of mining roperty made here in the last month to the amount of 60,000. The principal part has been sold by McBeth nd Mellandor.

McBeth and Mellander have commenced work on two nore mines.

Every man in the place is at work, and employment or miners is bound to increase.

The mines are all looking well and within three months we will be exporting more money, in ores, from his place, than all of Humboldt county.

The New York Company have their hoisting works ompleted, and are pushing work day and night.

The White & Shiloh Consolidated have bought the attle Monntain mine of McBeth & Mellander, and are t work on both locations taking out ore. Their reduc- ion works are running regularly; they are taking out bout $35,000 per month.

The New York Company are taking steps to put up irst-class redneotion works at a cost of from $75,000 to 100,000.

The English Company's copper mine is looking finely, nd is doing well.

We shlp more ore from this place than any place on he line of the road.

We were not successful while our mines were in Hum- oldt county, bnt things have changed since we became eeldents of the energetic conuty of Lander.

WASHOE.

BELCHER.—Gold Hill *News*, August 9: The main south drift on the 1200-ft. level is still driven vigorously ahead, the face in rich ore. This drift is now in 315 ft., from the north line. The ore breasts at the sill floor on this level are gradually extending to the eastward as the work progresses, the body of ore widening going south- ward. The southeast cross-cut from the main south drift on the 1300-ft level is again being driven ahead, there being no doubt, whatever, judging from the ten- sion of the ore body eastward, where it is being breasted out, that rich vein will be ore lying next to the east wall of the ledge has not yet been reached. The winze 100 feet south of the Crown Point line, from the 1300 to the 1400-ft. levels, is down 25 ft., the whole distance in rich ore. The ore breasts throughout the entire mine have never looked more promising or yielded better than at the present time. Daily yield 450 tons. Average assay of car samples $110. The gross proceeds of the past month amounted to nearly $1,000,000, while the actual outlay outside of supplies purchased, which are equiva- lent to cash on hand, amounted to a little over $170,000. A dividend of a little over $7 per share was paid the stockholders on the 9th instant, aggregating $728,000, leaving a large surplus in the treasury to carry over to next month.

CROWN POINT.—The ore-breasts on the 1000-ft. level are looking finely, showing considerable improvement in the quality of the ore extracted. The ore-breests on the 1200-ft. level are both looking and yielding splen- didly, the ore being all of high grade. The 1300-ft. level never looked better or promised so rich a yield as at present. The north winze from the 1300-ft. level is down 27 ft., the whole distance in ore that will average over $50 per ton. The middle winze is down 17 ft., the entire distance in rich ore. The flow of water from the drill-holes in the face of the east cross-cut from the south drift on the 1400-ft. level continues without abatement. There was shipped during the past month 10,172 tons of ore, the yield of which is estimated at $527,770.

CONSOLIDATED VIRGINIA.—Sinking the shaft has been suspended for the purpose of putting in new pump tanks at the 250 and 500-ft. stations. The heavy stone foundation for the new hoisting and pumping engines is completed, the engines are in place and the other pumping and hoisting machinery fast approaching com- pletion. When it is once in running order, which it will be in a very short time, the body of water now inter- fering with the progress of the work on the 1,167-ft. level will be drained, and the Virginia Consolidated will soon take rank among our other ore-producing mines. No- thing has been done since our last report in the main drift on the 1,167-ft. level from the Gould & Curry shaft.

CALEDONIA.—A fine body of good milling ore, lying nearly against the west wall of the ledge in the north drift on the 500-ft. level, has been developed during the week. Another body of ore, some 60 ft. further to the southward, but lying nearly against the east wall of the ledge, has also been struck. These developments on lower levels of the mine are very encouraging, and augur well for its future prosperity. The winze from the 400-ft. level has made connection with the north drift of the 500-ft. level giving a splendid circulation of pure air, cooling the level and greatly facilitating the progress of the work. The Sapphire mill is kept stead- ily running on ore from the mine.

JUSTICE.—The east cross-cut from the main south drift on the 400-ft. level is still driven energetically ahead, having about 20 ft. more to run to reach the old Cedar Hill chimney, where some excellent ore develop- ments are looked for. Both the main north and south drifts at the 260-ft. level of the Waller Defeat shaft, are still driven ahead without any new developments of in- terest to report. The east cross-cut from the main north drift has developed some fine ore, which it is the inten- tion to commence extraction in a few days.

CHOLLAR-POTOSI.—Daily yield 140 tons of ore, the assay value of which is $30 per ton. The different ore breasts show a decided improvement, and are if any- thing, more promising for future yield of ore than for some time past. The cross-cuts east at the 4th station have developed nothing of value as yet. The machin- ery at the mine is in excellent working condition, and nothing seems to be wanting except the development of other new and rich bodies of ore on the lower levels.

ARIZONA AND UTAH.—Sinking the shaft is making the usual good progress, the rock in the bottom working finely. Sinking the winze in the main east drift at the first station is making good headway, the bottom still in good ore. The pump continues to work to perfec- tion, keeping the water drained from the shaft.

SIERRA NEVADA.—There is little or no change in either the yield or looks of the different ore breasts during the week. Prospecting further to the north-west con- tinues without any important developments to report. Daily yield, 60 tons of ore, keeping the mill running steadily.

SAVAGE.—Cross-cutting and prospecting on the 1,700-ft. level continues with unabated vigor, and no new ore developments to report. Sinking the incline is making excellent progress, the rock in the bottom blasting well. The connection of the main south drift on the 1,700-ft. level with the north drift from the Hale & Norcross, has given a good supply of pure air, and greatly facilitates the work in that portion of the mine.

GOULD & CURRY.—The prospects for finding a body of good milling ore in the east cross-cuts from the main south drift on the 1600-ft. level continues to increase as the work progresses. The main northeast drift on the 1500-ft. level is still driven vigorously ahead, without change of interest to chronicle. The winze from the second station is making good progress, the bottom still in ore. Daily yield 20 tons of low-grade ore from the old upper workings.

SILVER HILL.—The ore-breests of the first station are both looking and yielding finely. The main north drift at the second station is being pushed vigorously ahead to make connection with the north winze from the first level, which will thoroughly ventilate and greatly aid the prosecution of the work in that part of the mine. Daily yield 50 tons of ore, keeping the Bacon Mill steadily running, crushing ore from the mine.

UTAH.—Sinking the shaft has been suspended for a few days on account of the steady increase of water. The stone foundation for the new engine and pumping machinery is finished, the engine is in place, and the other new machinery is being pushed to completion as fast as possible, so that the delay in sinking the shaft will be of very short duration.

CROWN POINT RAVINE.—The main west drift at 250-ft. level is in 230 ft. One hundred feet from the station a south west drift has been started from the main drift, which is in 30 feet, cutting during the week, some feed- ers and stringers of fine, lively metal-bearing quartz, giving excellent indications of ore developments when the main ledge is reached, which is expected in a very short time.

MINT.—The main drift at the first station is in 150 ft., the face in quartz and porphyry, showing streaks and spots of good ore. The main southeast drift at the lower station is in 100 ft., at which point a cross-cut has been run 50 feet to the ledge, developing a hand- some chimney of fine whitish, mineral-bearing quartz, that promises a good ore development.

HALE & NORCROSS.—Daily yield 60 tons of ore, mostly from the second and tenth station levels. Prospecting the lower levels continues with unabated vigor, and no new ore developments of value to chronicle. The foundation for one pair of the boilers is being renewed and other necessary repairs made to the machinery.

KNICKERBOCKER.—The new machinery for pumping air into the mine is completed, and works splendidly. This greatly increases the facilities for driving the prospecting drifts on the 400-ft. level. The southwest cross-cut from the main west drift on the 400-ft. level is driven vigorously ahead, the face in a mixture of clay quartz and porphyry.

DANEY.—Sinking the shaft has been suspended for the present on account of the heavy increase of water, which necessitates the putting in of the pump The erection of the new pumping and hoisting machinery is making excellent progress, and everything will probably be in readiness to resume sinking the shaft by the mid- dle of next month.

BUCKEYE.—The ore breasts at both the second and third stations are looking and yielding finely, in fact the mine never showed better for profitable working than at the present. The mill is kept steadily running on ore from the mine.

NEW YORK CONSOLIDATED.—The shaft is down 300 ft., the sinking making excellent progress. The heavy flow of water struck last week is still decreasing. The pump is working splendidly and handles the supply of water with perfect ease.

OPHIR.—Sinking the shaft is making much better headway than at our last report, the rock in the bottom working much softer. No change of interest to report of the prospecting operations on the 1200 and 1300-ft. levels.

TYLER.—The new pump and other machinery is on the ground ready to place in position, and all will be ready to start up in a few days, when sinking the shaft will be resumed, and good results may be looked for.

OVERMAN.—The prospecting drifts both north and south are still driven energetically ahead, without any change of interest to report for the week. No develop- ments of value for the week in the main west drift.

AMERICAN FLAT.—The water is being steadily drained from the drift of the 450-ft. station of the Baltimore Consolidated, so that work in the face can be resumed in a very short time.

JACON LITTLE.—Prospecting the body of ore struck in the east cross-cut from the main west tunnel is still continued, proving it to be, without doubt, an exten- sive and valuable deposit.

DAYTON.—Work has been resumed on the main west drift at the first station. A drift west has just been started at the second station, 210-ft. level, for the ledge.

OCCIDENTAL.—Daily yield 36 tons of ore. The ore- breasts are looking and yielding finely. The mill is kept steadily running on ore from the mine.

FRANKLIN.—Nothing new to report, except the excel- lent progress of the main tunnel, with favorable indica- tions of soon striking the main ledge.

YELLOW JACKET.—Prospecting the 1,400 and 1,500-ft. levels is pushed vigorously ahead, with no rich ore de- velopments to report for the week.

EMPIRE.—Still driving the up-raise and cross-cuts on the 1,700-ft. level, with no change of interest to report.

IMPERIAL.—Still prospecting the lower levels without any change of interest to chronicle.

THE ALKALI COPPER MINE.—Gold Hill *News*, July 31: This mine was located about a year ago by J. D. Ludwig, Wm. Spregg and J. L. Carter, who are the sole owners and who reside at and work the mines themselves. It is situated eight miles northeast of Ines' Station, at Hot Springs, and about 35 miles from Dayton. The ore ex- tracted yields from 20 to 50 per cent. copper, and is sold by the proprietors of the mine to Birdsall & Co. at Dayton, who use it for amalgamating purposes, and averages about $30 per ton in value to the owners. Worked in this way the mine has not only paid all expenses and ordinary wages to the proprietors, but enabled them last month to declare a small dividend, with a surplus carried over sufficient to ensure another, a little larger this month, which the owners confidently expect to continue to increase as the mine is developed.

Utah.

AMERICAN FORK DISTRICT.

MINERAL FLAT, Salt Lake *Tribune*, August 6.—The Miller mine and furnaces are in full blast. From 60 to 70 men are employed in working on a large body of ore, reducing 10 to 20 tons per day. The smelter has just started; the largest part of the men in the mine are prospecting and have made some valuable discoveries under the management of the new officers. You may expect some flattering reports of the Miller mine and furnace.

THE SILVER GLANCE.—Situated south west of the Miller mine, owned by Jeaman & Haswell, shows a large body of Milling rock, with 200 tons on the dump. Mr. Has- well, Superintendent. They have resumed work.

THE LIVE YANKEE.—Lies between the Miller mine and Glance, owned by Messrs. Nuckols & Gilman. They are working sixteen men, with plenty of ore in the mine and large quantities on the dump.

Near the Yankee lode is Mr. Lloyd & Co., working a hydraulic. They have about fifty tons of fleet galena obtained from the washing away of the dirt. It is said to be worth $25 per ton.

THE BULLION LODE is situated on the divide between the Miller mine and Mineral Flat. This mine was bought last fall. From the surface down 25 ft. shows a vein of galena and carbonate ore two and a half ft. in width, as saying 100 oz. silver and 50 per cent. lead. The mineral gave out at this point. The shaft has been sunk to the depth of 130 ft., is a large vein, but no ore until the last week, when it began to put in an appear- ance again. The bullion is destined to rank among the leading mines.

THE CARIBOO MINE is situated on Mineral Flat, north- east of the Bullion, and owned by Isaac Perrie & Bartlett. The Cariboo shows a vein of galena ore two and a half ft. wide, and is bonded for $20,000.

THE FRANCIS LODE is owned by T. A. Conlee & Kings- bury, and is situated on Mineral Flat, northwest of the Miller mine. This mine was discovered and re- corded last September, and shows a true fissure vein, with crevice matter 3 to 6 ft. in width, and has opened 1,000 ft., which shows a continuous vein. Six shafts have been sunk on the vein varying in depth from 15 to 40 ft. Mineral has been seen in small quantities, which, on being tested, assayed from 250 oz. silver and 60 per cent. lead. Mr. Ander is now running a level in on the vein which is now in 70 ft., and there is every indica- tion that inside of 100 ft., a large body of ore will by struck. Such is my opinion.

THE PITTSBURG MINE is working a small force, but has a large body of ore, and as soon as arrangements are perfected for shipping ore a larger force will be employed, when 50 or 60 tons per day can be produced.

THE ALLEGHANY, TROY AND BELLE KINGSBURY LODES, which lay close to the Pittsburg mine, are being worked by A. J. Coulees. The Alleghany shows a vein of ore 1 ft. in width, with well-defined walls, sampling 60 oz. in silver and 40 per cent. lead, and have run in on this vein 70 ft., with 30 or 40 tons of ore on the dump. The Troy lode has a shaft 40 ft. deep, showing from 1 to 2½ ft. of fine galena ore, sampling 4 oz. in silver and 45 per cent. lead. The Belle Kingsbury shaft, 15 ft. in depth, with a vein of galena ore 10 to 14 in. from the surface, samples 4 oz. in silver and 40 per cent. lead. These 3 lodes can produce from 10 to 15 tons per day.

THE TERRIBLE LODE, owned by McManus & Co., is situated on this hill, and shows a well-defined vein with good walls in quartzite and a good showing of mineral.

New Incorporations.

The following companies have filed certificates of in- corporation in the County Clerk's Office, San Francisco:

WARD ELLIS S. M. CO.—Aug. 9. Location: Robinson District, White Pine Co., Nevada. Directors — G. H. Hallett, G. Davis, A. Bushmore, B. F. Ward and J. M. Buffington. Capital stock, $300,000, in shares of $10 each.

PACIFIC GATE AND DOOR HINGE CO.—Object: To man- ufactnre and renew the Morton Patent Gate and Door Hinge in the States and Territories of the United States lying west of the Rocky Mountains. Directors: R. H. Magill, J. P. Jackson, J. M. Buffington, James S. Dean and R. F. Knox. Capital stock, $100,000, in shares of $10 each.

OLYMPIA RAILWAY AND MINING CO.—Aug. 13. Ob- jects: Mining and doing a general transportation busi- ness in the States of California, Oregon and in Wash- ington Territory, and constructing, conducting and maintaining a railroad (and electro magnetic telegraph line in connection therewith) running from a point at or near Tenino to Budd's Inlet, at or near Olympia, in Washington Territory, of the estimated length of 20 miles. Trustees—George S. Dodge, Charles N. Felton, Gardner T. Lawton and John N. Goodwin, of San Fran- cisco; and Edward S. Salomon, of Washington Territory. Capital stock, $1,000,000, divided into 10,000 shares.

Meetings and Elections.

EASTPORT COOS BAY COAL M. CO, Aug. 13.—Trustees: Levi Stevens, Oliver Eldridge, I. W. Raymond, J. T. Dean, Claus Spreckles, Wm. H. Sharp and J. Lawrence Pool.

AN IMPORTANT DISCOVERY. — While in Tu- olumne county, a few days ago, we were shown specimens of ore taken from the claim of Messrs. Tullock, Knowles and others, located near the summit of the Sierras, in Tuolumne county. While we do not pretend to be an ex- pert in silver ores, we are satisfied that these gentlemen have a valuable mine, and that rich developments will soon be made in that local- ity. We learn from the Tuolumne *Independent* that rock from this claim, taken only twelve feet from the surface, assays at the rate of $208 per ton in silver. The discovery of such rich silver mines on this side of the Sierras will materially aid the development of Tuolumne county, and anything that benefits that county will also benefit San Joaquin. We hope that the favorable reports from this newly-discov- ered mining district may be confirmed, and that these enterprising prospectors may be richly remunerated for their labor. The rock now being taken from this mine is sufficiently rich to warrant the erection of a mill, and, as we are informed that the lead is extensive, there is a probability that this district may soon be one of the most important mining localities on the coast.—*Stockton Independent.*

THE NEW ELKO MINES.—J. W. Hussey and A. J. Roulstone, two mining Superintendents from the Railroad Mining District, returned from the new Cornucopia District, on the 5th, where they went for the purpose of making an investigation of the mines. They report hav- ing found things fully better than represented, and are fully satisfied from present appearances that the District will be one of the best in the State. There has been no thorough prospecting done yet, as the ledges are mostly blind. Startling developments are looked for daily, and other parties just arrived confirm the report of extensive ledges on the opposite side of the mountain, which can be distinctly traced for three-fourths of a mile. A party who has made several locations on these ledges claim there are four clearly defined, and ex- tending to the river, a distance of two miles. Specimens from the first locations continue to be brought in which surpass the first in rich- ness. The most singular feature of the dis- trict is the deceptive appearance of the rock, it having a worthless, honeycomb appearance until broken, and has been passed by untouched by hundreds of old prospectors.

Nickel Mines.

A correspondent of the New York *Times* writes as follows concerning the Gap Nickel mines. Most the nickel of the world, until within a few years, came from Germany, but the discovery of these mines has entirely driven the foreign article from our market, and considerable quantities are now exported to Europe. This deposit is the only one now be- ing worked in this country, and is believed to be the largest yet discovered in the world. The mine is in Lancaster County, Pennsylva- nia, about three miles south of the Gap Station, on the Pensylvania Railroad. It is on the high land separating Chester and Pequea Val- leys, a region rich in minerals; for besides the copper found in connection with the nickel, large deposits of iron and limestone are found a short distance south. The existence of cop- per here was known many years ago, and cop- per was taken out seventy years ago, but the mining is never prosecuted with much vigor, nor with much profit.

About the year 1856 the material mixed with the copper was discovered to be nickel, and at the depth to which the mine now reaches, it predominates. The depth of the mine is 240 feet, and its length several hundred. The ore is very hard, and the mining is carried on altogether by blasting. There are a few Cor- nish miners to take the lead, but the others are generally Americans. A Cornish pumping- engine, of seventy-five horse power, draws half a barrel of water at every stroke from the mine; another draws the ore to the surface. The ore, in appearance, is iron gray, very heavy, and in some pieces the bright copper ore is very prominent. The amount of ore taken from the mine varies from 400 to 500 tons per month. The mining and manipula- tion of this amount, of course, requires a number of workmen, and there are 175 hands employed here and at the furnaces. The ore is hauled in wagons about half a mile to the furnaces, situated on very high ground, over- looking the beautiful Pequea Valley. The situation was chosen because the wind would carry away the disagreeable smoke and gas, and also because of the stores of limestone and flint in the neighborhood.

The ore is first thrown between the jaws of a ponderous iron breaker, by which it is reduc- ed to small fragments weighing about half a pound each. Thence carts convey it to the kilns, which are construeted very much as are the old-fashioned lime-kilns, except that these have a very tall smoke-stack, to carry the smoke and gas out of the way and increase the draft. A kiln, holding eighty or ninety tons, is filled with ore and kindled with a little wood. It burns for about six weeks, its own gas sup- plying the fuel for burning out the impurities. This first step toward purification is followed by a process almost precisely similar to that to which iron ore is subjected. There are three large furnaces, and into these the ore is now put, mixed with powdered flint and limestone (the former predominating) and coke. About three draws are made in twenty-four hours, for the work does not stop night or day, two sets of hands being employed. The product of the furnaces is passed through iron rollers and crushed to powder, in order that it may be more easily transported to Camden, N. J., where the final process of separating the nickel and cop- per, and preparing each for the market is effected. No waste is allowed.

The ore dust, large quantities of which are made in drilling and blasting, is mixed with flux and clay, baked in square bricks, and re- duced in the furnaces, just as is the rest of the ore. The pure nickel commands a high price, varying, of course, according to the demand, but generally over $2 per pound, and its use is rapidly being extended. Not only does this mine supply all of the material for our nickel coins, but it is being extensively used in plat- ing iron and other metals and in various com- pounds. The whole property is owned by a Philadelphia gentleman, and he has by his energy and capital opened up a new branch of industry for the American artisan, and has taken us along another step toward supplying ourselves with the useful in the arts and manu- factures. But not upon the proprietor alone are the benefits of this enterprise falling. The whole surrounding country is benefited. The hands employed form a valuable class of citi- zens. Land in the vicinity of the mines has risen to five times its value twenty years ago.

Thus it is that Pennsylvania, through her valuable mineral deposits, is increasing her wealth by mining and manufacturing interests, even in the midst of her most valuable agri- cultural territory.

RYE PATCH.—A dispatch from Rye Patch, dated the 9th, stating that bullion valued at $3,900 had been shipped, says: The body of ore lately struck in the drain tunnel proves of more value than was at first supposed. The tunnel is now in 12 feet, in ore that mills from $80 to $90 per ton. This development having been made at the depth of 300 feet from the surface, will ultimately prove of great value to this district. The present indications of the mine are favorable, and there is no reason why the surplus earnings of this Company should not be distributed among the stockholders.

AT the last pay day on the Comstock, when nearly all the leading mining companies paid off their employees, nearly half a million dol- lars were disbursed, and yet dull times are com- plained of.

Beverage Plants.

Coffee.

In Fig 1, of our engravings, we give in miniature, the leaf and fruit stalk of the coffee trss, *coffea arabica*, a native of the extreme southwest point of Abyssinia, from which it was introduced into Arahia, which conntry for two cenfuries supplied the world with all the coffee used. Toward the end of the sseventseuth century a coffse plant was received at the botanic garden of Amsterdam. Ahout the heginning of the eighteenth century a plant was introduced into the western hemisphere, either hy the Frsnch at Martinique, or the Dutch at Surinam, which plant was the parent of all the coffes now exported from the West Indies an South America.

The coffss trse occasionly reachss a height of twenty feet, with a stem three or four inches in thickness, but in cultivation it is kept dwarf to facilitats the gathering of the herries. Ths flowers are producsd in denss clusters at the hase of the leaves; they are snowy white in color, and are succsedsd hy nnmerous red, fleshy herries, each of which contains two of ths ssads known as the coffee-berry. Ths berriss are gathered when ripe, and the soft outer pulp is rsmoved hy a machine called the pulpsr, after which they are steeped in watsr to rsmove all mucilaginous matter; they are then carefully dried, and the parchment-like covering of the seeds removed hy means of a mill, which crushes the shelle, and allows the separation of the seeds, which are then ready for market.

The roasting of the herry increases its hulk and diminishes its weight; its essential qualities are also greatly changed, the heat causing the development of the volatile oil and peculiar acid to which the aroma and flavor are due.

Medicinally coffee acts upon the hrain as a stimulant, inciting it to increased activity and producing sleeplessness; hence, it is of great value as an antidote to narcotic poisons. It is also supposed to prevent too rapid waste in the tissuee of the hody, and in that way enables it to support life upon less food. These effects are due to the volatile oil and also to the presence of a peculiar crystallizahle nitrogenous principle termed *Caffeine*. The leaves of the plant likewise contain the same principle, and the inhahitants of the island of Sumatra prefer an infusion of the leaves to that of the herries.

Tea.

The spreading, glossy, green-leaved, evergreen shruh, the *thea viridis*, furnishes material for an immense traffic throughout the world. The native country of the tea plant is uncertain Hitherto the only country in which it has heen found in a really wild state is Upper Assam; but China, where the plant has bsen cultivated for many centuries, has not yet received so thorough an exploration hy hotanical travelers as to warrant the assertion that it is not indigenous to every section of that vast country. A Japanese tradition ascribes its introduction into China to an Indian Buddhist priest who visited that country in the sixth century, which would seem to favor the snpposition of its heing of Indian origin.

Although it has heen introduced into many parts of the glohe, it has heen cultivatcd more extensively and for a longer period in China than in any other region. It is there successfully grown between the twenty-seventh and thirty-second degrees of north latitude, and in Japan as far north as the forty-second degree. It is also cultivated in the island of Bourbon, at St. Helena, and on a large scale in the island of Madeira, at an elevation of 3,000 feet ahove the level of the sea. It is successfully produced in Java, and flourishes on the Himalaya mountains. It has withstood the cool summers and winters of the climate of Britain, and endures the climate of this country as far north as the District of Columhia, where it has heen growing for the past ten years, and can be grown over a vast extent of the United States, so far as climate is concerned; and as regards soil, it is well known that it will grow anywhere and on any soil that is capahle of supporting currant or hlackberry bushes.

Strange that we should have so far signally failed in growing tea in California. As the "heathen Chinese" rank among the hest horticulturists of the world, perhaps they could teach us how to grow tea.

Cacao—Chocolate.

This important article of food is produced by *Theobroma cacao*, a plant extensively cultivated in the West Indies and tropical America, particularly in Trinidad and Grenada. It forms a small tree, seldom reaching over twenty feet in height, with large, oblong and pointed leaves, and clusters of flowers, with a rose-colored calyx and yellowish petals. The fruit varies from six to ten inches in length, and three to five inches in hreadth, and is ohlong, hlunt and marked with ten elevated ribs running lengthwise. Each fruit contains fifty to one hundred seeds, and it is from these that the cacao or chocolate is prepared. The fruit when ripening changes from a green to a deep yellow color; when ripe, it is gathered hy hand, split open, and the seeds removed. The latter are then cleaned of the pulpy matter surrounding them, and subjected to a process of fermentation, for the purpose of developing their color, and when this process is completed they are dried in the sun and packed for transportation.

The seeds are prepared for use by roasting in revolving metal cylinders, and then hruising them to loosen their skins, which are rsmoved by fanning. The cotyledons, commonly called cacao-nibs, are separated in the same manner. The cleaned seeds ars then crushed and ground hetwesn heated rollers, which softens the oily matter and reduces them to a uniform, pasty mass; this is then mixed with variahle quantities of sugar and starch, to form ths different kinds of cacao, or swestened and flavored with vanila or other substances for the formation of chocolate.

The valus of cacao as an article of food is very considerahle, from the large quantity of nutritive matter it contains. In one hundred parts of cacao there are fifty-one of fat or butter, twenty-two of starch and gum, twenty of gluten, and two of the peculiar principle *theobromine*, which contains mors nitrogen than the active principlo of sither tea or coffee. As a rsfreshing heverage, it is much inferior to either of thess well-known articles, which ars used as an infusion only; hut as cacao is taksn into the stomach as a substance, it is an important article of nutrition.

BEVERAGE PLANTS.

Mate.

Paraguay tea, or Yerha de mate, *Ilex Paraguayensis*, (Fig 4.) The leaves of thie South American tree are used in furnishing the hevsrage, yerha mate. They yield the same active bitter principle called theine, which is found in the leaf of the Chinese tea plant, and form a commercial product that occupies the same important position in the domestic economy of South America as the famed China plant does in thie country, and is consumed to the extent of several thousand tons annually. The leavee are prepared hy drying and roasting, not in the fashion of making Chinese teas, but by cutting large branches from the trees, which are placed on hurdles over wood fires, and kept there until the leaves are sufficiently roasted, when they are removed and placed on a hard floor, and the dried leaves knocked off hy beating the branches with sticks. The leaves are then gathered up, reduced to powder in wooden mills, and packed for market. This tea is often packed in sacks made of raw hides, which are sewed together in a square form. The powdered leaves are pressed into the sacks with great force, and when full they are sewed up and exposed to the sun, when the hide dries and tightens over the contents, forming a package nearly as hard and heavy as stone.

There are several grades or sorts of mate tea in the South American markets, valued according to the age of the leaf and the modes of preparation. It is prepared for use hy placing a small quantity of the powder in a cup, and pouring hoiling water over it; the decoction is quaffed or sucked through a *bombilla*, or tuhe having a hulh perforated with minute holes. It has an agrssahle, slightly aromatic odor, rather hitter to the taste, hut very refreshing and restorativs to the body after undergoing grsat fatigue. It is highly relished hy travelers, and it is almost impossihle for those who become accustomed to its uss to discontinue it. It acts in some degree as an aperient and diuretic, and, if taksn in over-dosss, it occasions diseases similar to those produced hy strong liquors.

Quicksilver in San Luis Obispo County.

Ths San Luis Obispo *Tribune*, which is giving an account of ths resources of that county, speaks of the quicksilver interests there as follows: We shall dsvots our present lahors, and work was resumed about a year ago, owing to the riss in the market price of the desired metal which had then commenced. The ore which had heen previously dug out was rsduced, and several handsoms shipments of quicksilver were made to San Francisco. Operations have been in progress ever since, hut on a smaller and mors prudsnt scale than bsfors. Under the management of Mr. W. A. Dennis, it is daily hecoming more and more manifest that this company has a good mine. They have lately struck a good mass of ore, and havs an increased force of miners at work.

The Libsrtad Mine,

Occupies ths same ground formsrly held hy the Sierra and San Pedro companies. It has now heeu at work for about a year, and has in that timc expended over $15,000. It is incorporated. Ou the San Psdro drift a fine body of ors has heen struck, and aftsr running along ths vein for forty feet, the ore now sxtends to ths full width of the drift. A shaft has also heen sunk in the tunnel, and the ore shows better as greater dspth is reached, but work has heen temporarily snspended in this direction on account of ths ahundancs of water. Ths San Francisco shaft, from which ovsr one hundred tons of ors have been extracted, is also idle for the same reason. This compauy is well satisfied with its prospects, and will probahly rssume operations in the fall.

The Rinconada Mines,

Situatsd on ths road to the San José Valley, are under trade with a San Francisco Compauy, and it is expected, should the same be effeeted, that work will be resumed on a grand scale. We have visited these minee, and think that they offer the very best prospects in quicksilver to be found in the county.

In the neighborhood of Camhria a great revival in the search for quicksilver hae been experienced during the past year. Of these,

Ths Keystone

Has heen recently sold for $30,000, cash down, to a rich English Company. They work from twelve to fifteen men continually, and have several hundred tons of rich ore now on the dnmp. They are pushing the work ahead in shaft and tunnel, and are well pleased with thoir purchase. The

Pine Mountain

Compauy has a tunnel run into a ledge over twelve feet wide, with ore of a fine grade. Thie mine is well situated, with plenty of wood and water handy.

The Gibson and Phillips

Mine has a seven foot ledge of very good mineral, a shaft sunk upon it about 35 foet in depth, and a good prospect. It has plenty of wood and water. The

Quien Sabe

Has employed several hands during the past month, and has a well defined ledge, as good as any in the county in point of quality. A large quantity of pay ore could he easily taken from this mine, at moderate expense—and the same may be said of the two last mentioned. If a furnace were in operation at some point convenient to these minee, a large quantity of quicksilver could he immediately shipped. The great necessity, as in most mining enterprises, is a sufficient capital. The ore is not lacking.

There are other quicksilver mines in the county, but we have noticed the principal ones. We have not pereonally visited any except those situated at the Rinconada.

We learn from San Francisco, under date of July 14th, that various capitalists are about to explore these mines with a view to purchaee. The yield of the metal is decreasing throughout the State, its value at a high rate, and the general attention of mining speculators is attracted in this direction.

New South American Mine.—To lighten the gloomy picture of the political situation, we are able to announce that a discovery has been made of rich gold ore at a place called Famatina, in Rioja. The newe has been received cautiously and without enthusiasm; but there is no doubt that a conditional sale of two leagues of land, wherein the discovered gold mines, has been made of $100,000,000 currency (£800,000), and the stamp on the contract has cost $150,000 currency (£1,200) the most costly stamp ever used in this or perhaps any other country. The mine will be difficult to work, heing in a snow-clad region in one of the spurs of the Andes; but the discoverer calculate that the produce of the mine will he 30,000 pate—$30,000 per day.—*Buenos Ayres Times.*

The Pioche *Record* says: The fast freight line between thie place and Palisade consists of forty-two teame drawn by 336 horses, and deliver here about 572,000 pounds of freight per month. Enough freight is now engaged to keep the line running all its teams for six months to come. Besidee this, there is a fast and slow freight line from Toano. An enormous quantity of snpplies is also obtained directly from Salt Lake. Yet, times are dull in Pioche—so they say.

The southeast portion of New Mexico is suffering hadly for want of rain, hnt not so much as the section about Santa Fé. There will he a few grapes, but no other fruit. The lose of the fruit crop falls heavily on many persons who depended on it for their income.

Useful Information.

Production of the Sexes at Will.

Many curious investigations, says a recent medical work, have been instigated in regard to this point in the world of natnre. It is a matter of familiar knowledge that the male and female characteristics of the higher species of the animal creation are not produced in the same individual, as they are in the great majority of the higher species of plants. The organs from which the two are evolved, are, however, so nearly related to each other, in intimate nature, that the one may he readily mistaken for the other, in the earliest period of their formation. Physiologists now incline to the opinion, that the fertilizing vesicle is merely a germ vesicle, in a somewhat more exalted state of development: Mr. Knight has shown that plants, like the oak, that bear the male and female flowers on separate individuals, may he made to produce either at will, by regulating the supply of light and heat, according to the end in view. If the heat be excessive as compared with the light, male flowers only appear; bnt if the light be in excess, female flowers are produced. He also found that whenever the eggs of birds are not allowed to he fertilized until immediately before they are laid, and therefore their own intrinsic development has been carried to the highest possible pitch, before renewed vivification of the germ vesicle is effected, as many as six out of every seven of the birds subsequently proved to be males. " "

Quetelet believes that the relative ages of the male and female parent influence the sex of the offspring produced, to a very considerable extent. In support of his theory, M. Hofacker has showu that when the father is considerably younger than the mother, the proportion of female to male children is generally as ten to nine; but that when, on the contrary, the father is nine years older than the mother, the proportion of male offspring to female is as five to four, and when eighteen years older, as two to one. In a general way, more males of the human species are born into the world than females. If all Europe be included in the estimate, the proportion of male to female births is about 106 to 100. Possibly this preponderance on the side of males may be due to the fact that in civilized communities men, from confidential and other motives, mostly marry women younger than themselves. But there are other reasons why this preponderance exists. Three male children are born dead to every two female.

Ancient Grecian Gardens.—Greece proper, in default of space and kindly soil, confined its gardening to squares, quincunxes, and alleys of elms and plains and figs, a very subordinate feature to their hobby of architectnre and statuary. It was in the Greek Archipelago, to judge from the description of Longus and Achilles Tatius, that the undulations of a volcanic soil, and sea-views enhancing the charms of verdure, flower and foliage, inspired a larger idea of gardening. The landscape consideration; vistas of sheep-dotted plains and sail-clad ocean were eagerly contrived; fruit and forest trees, evergreens, vines, ivy, were combined in the foreground with parterres of wild and cultivated flowers. Architecture did not usurp undue space, and the hardier kinds were planted out with a rare skill for so early a date. In the famous gardens at Antioch, Greek taste blended itself with Oriental parterres of flowers hung on wild crags, myrtles and various shrubs surmounting rocks and grottoes, and clothing the sides of torrents and cascades, bespoke some corresponding mastermind, an adept at molding savage nature with the touch of civilization. Quite opposite in character must have been the hanging gardens of Babylon, in which art and expenditure triumphed over flatness of situation, and elaborate terraces commanded fresh air, fine prospects and perhaps a security more prized than the groves and fountains that crowned them. The gardens of Egypt on the Nile bank, had much more of the architectural character than those of Antioch, but not too much to accord well with the bieratic atmosphere around. Square and formal in flower-beds, water-beds, alleys, and everything, they were relieved here and there by kiosks and pavilions.—*From a new French Volume.*

Why a Lamp Wick Does Not Burn.—If we take a piece of lamp-wicking and place it in the flame of a lamp, it is immediately consumed; bnt the same kind of wicking placed in a lamp and lighted at the top, lasts the whole evening, and, if the lamp is supplied with alcohol, the wick is not even charred. The cause of this was a perfect mystery until a hundred years ago, Dr. Black, of Glasgow, discovered the principle of latent heat. As the oil or the alcohol comes near the flame, it is evaporated, and by this change in its form, a large quantity of heat is destroyed, or rather is latent, so that it does not manifest itself in any way. It requires a great quantity of heat to change a liquid into vapor, so that evaporation always cools surrounding objects. The wick is cooled by the evaporation of the oil or alcohol below the temperature at which it will combine with oxygen—in other words, below the tempeature at which it will burn. Dr. Black's discovery suggested to Watt his great improvement in the steam engine—condensing the steam in a separate vessel from the cylinder. Watt attended Dr. Black's lectures.

The Correct Velocity of Circular Saws.—When circular saws are driven by a waterwheel or steam-engine affording a large surplus of power, the higher the velocity of the saw, the greatsr will bs the capacity for performing any sort of work. On the contrsry, when the power is limited and it is desirable to drive the saw at the most effective velocity consistent with the limited power, experience proves that there is a certain velocity of the teeth, midway between a low and a high velocity, which will render the saw most effective. For example:—A circular saw may he geared to revolve at a velocity so high, that all the available power of the engine will be required to keep it in motion without doing any sawing at all. On the contrary, the journal may be made to revolve so slowly, that the saw would not cut at all satisfactorily. When the propelling power is limited, the aim should he to give the saw the most effective velocity which can be secured only hy several well conducted experiments.

We have in mind a builder who attempted to drive a circular saw about one foot in diameter, for slitting boards and plank, with a one-horse railway power. The saw had been employed in a mill for cutting lath; and was geared to run with a high velocity. When driven by the one horse power, the journal revolved over three thonsand times per minute. With a heavy horse on the railroad power, he could not saw even half-inch boards so fast as he could with a hand saw. But, by redneing the velocity of the saw journal to ahout fourteen hundred revolutions per miuute, and keying a fly-wheel weighing about ninety pounds to the saw journal, he could run the saw through inch boards ahout as fast as he could handle the lumber. For the sake of trying the experiment, he put a 22 inch saw in the place of the 12-inch, and he could not slit lumher as fast as one could with a hand-saw.—*Cabinet Maker.*

Air and Ocean.—"The air is made up of a mixture of two gases, oxygen and nitrogen, and it always contains considerable watery vapor and carbonic acid. In bis new work on chemistry, Prof. Youmans states that if all air were redneed to its average density at the earth's surface, it would extend about five miles high, and that if the above constituents were arranged in layers one over the other, we should have first at the bottom, a bed of water, all over the earth'e surface five inchss deep; next a layer of carbonic acid 13 feet deep; next above, a layer of oxygen gas abont one mile deep; and above this a layer of nitrogen about 4 miles deep. This will help the memory. Sea water coutains about 4 ounces of salt in every gallon. Estimating the ocean to average two miles in depth, the salt, if separated in a solid bed, would line the bottom of the entire ocean to a depth of 140 feet."

Something New on the Carpet.—Another of those fnteresting letters from Vienna in the *Advertiser* shows that the French, in showing their educational apparatus, have adopted transparent glass models of school-houses, showiug the object represented at a glance, just as it is in fact, instead of our equally transparent system of carpeting a model school- house, and giving the incorrect impression that there is such a thing known here as a carpeted grammar school. Why not build the model of miniature silver bricks from Nevada? We must impress these ignorant Europeans with the wealth of America, whether in mineral resonrces or resources of fancy. If we are not rich, we are nothing. Carpets on school-houses by all means; and next—draperies and upholstered lounges.—*Boston Transcript.*

The paunch of an ox or cow is never empty even if the animal has been long without feed. There is always a large mass that remains there, and if it does not fill the whole space, the balance will be filled with gas and vapor which will escape when the rumen is punctured. Mr. Colin has found 150 pounds of food in the stomach of a hull that had not taken food for twenty-four hours, and over 200 pounds in that of a cow examined under the same conditions. Of course this mass does not represent the same quantity of dry food, because when taken into the mouth and stomach it absorbs three or four times its own weight of water.

Chinese Mechanism.—The Chinese are adepts in the art of manufacturing the sheet lead with which they pack teas. It is not rolled as our sheet lead is, but, when melted, is poured upon a marble slab, and another slab is used to press it to a uniform thickness. To such perfection have the Celestials brought the art of soldering that they cannot be excelled. No other workmen can solder with such nicety and so perfectly.

Muslin that will not Inflame.—Dissolve a small piece of alum in the water in which muslins are rinsed. When dry, if a light be put to them, they will smoulder away slowly, but will not break out into a blaze. And this, so far from being serious to muslin, improves its appearance greatly.

In Varnishing the Second Time, if a coat of varnish be not rubbed down level, and freed from all grit and scratches, it may not he expected of the next coat that it will be perfect.

Good Health.

Painless Death.

Chief-Justice Chase, says the *Boston Traveler*, was as fortunate in death as he had been in early life. The immediate cause of his death was rupture of the cerebral artery, whence followed a rush of blood to the brain; and as the rupture took place when he was asleep, he never knew pain, passing calmly away.

Mere dying, it is probable, never is painful, but the circumstances that attend death sometimes are very painful; yet men suffer as much in sickness, from which they eventually recover as they do in those that terminate fatally. A strictly natural death would make no more impression on a man than was made on him by his birth. Nature is not such a blunderer as to make the inevitable a source of pain that can do no good. What is disagreeable in dying is the result of violations of nature's laws.

To die is simply to sleep, death being the rounding of life, as Shakespeare says. To the properly constituted mind, death is no more horrible than is sleep; but then the properly constituted mind has not yet been found. Even those who die calmly or gladly, do so because they have found life a Gordian knot, which can be cut only by the dart of Death, and not because they have philosophically convinced themselves that it is a matter of no moment. Be a man the most confirmed of unbelivers, he must have some doubt—and where there is doubt, be it ever so small, there must be fear. So that when one departs in his sleep he avoids the last perplexity, that which waits on the death-bed of the Christian as well as on the death-bed of the philosopher—which was felt by Adam, and which will be felt by the last of Adam's descendants.

Prolonging Life. — An eminent French chemist, M. Rohing, in a memoir recently presented to the French Academy, announces his belief that the period of human existence may be greatly prolonged, and enters into an argument to show that his belief is based upon sound reasoning. His argument is, that the mineral matter which constitutes an ingredient in most of our food, after the combustion, is in our system to incrust and stiffen the different parts of the body, tends to render imperfect many of the vital processes. He compares human beings to furnaces which are always kindled, and says:—

"Life exists only in combustion, but the combustion which occurs in our bodies, like that which takes place in our chimneys, leave a detritus which is fatal to life. To remove this, he would administer lactic acid with ordinary food. This acid is known to possess the power of removing and destroying the incrustations which form on the arteries, cartilages and valves of the heart. As buttermilk abounds in this acid, and is moreover, an agreeable kind of food, its habitual use, it is urged, will free the system from these causes, which inevitably cause death between the seventy-fifth and the hundredth year."

Hints about Diet.—Most chronic diseases, and many acute ones, are produced at the table. As a rule, no fluid of any kind should be taken at the table, especially if the stomach is weak. The stomach should never be overloaded; not more than two or three articles should be taken at one meal; no stimulants used before eating. Tobacco arrests digestion. Milk is the best diet for infants and children. Tomatoes, with cream and sugar, are healtby and nutritious. Bread and butter is the staff of life and easily digested. Too much salt irritates the stomach. Colds are frequently produced hy drinking hot tea and exposure afterward. Late suppers induce heart disease. Pastry and cake constipate the bowels. Boiled potatoes are not so healthy as baked ones. Fruits are to be eaten at breakfast and dinner. The stomach requires much rest to be healthy. Purgative medicines weaken the bowels. Cheerful conversation promotes digestion, and anger prevents it.

Typhoid Fever.—This infectious disease when once established in a family generally takes nearly all the members, hence many believe it to be contagious. It is not contagious, however, but like cholera, and other kindred diseases, is infectious. The swsepings from an old sewer, leakage from privy vaults, water from wood-lined springs, stench arising from decaying vegetation are all favorable conditions to the acquiring and spread of this disease. An instance is on record where a whole neighborhood passed through a siege of this disease, engendered by using milk from cows that habitually drank from water standing over decaying timber.

The best preventive is to keep the premises clean. Drink pure water, and when unpleasant smells arise, trace them out, remove the cause and apply disinfectants.

The person should be washed thoroughly at least once a week.—*Ex.*

How to Swallow a Pill.—The *Chicago Medical Times* is responsible for the following: "Put the pill under the tongue and behind the teeth, and let the patient immediately take a large swallow of water, and he will neither feel the pill nor taste it. In fact, he cannot tell where it has gone, and I have seen them look about the floor to see if they had not dropped it."

Domestic Economy.

Braised Turkey.

An old English proverb says:

"A turkey roast, is a turkey lost,
A turkey boiled, is a turkey spoiled:
But for a turkey braised, the Lord be praised."

A braised turkey is a thing which once tasted is never forgotten.

"You may break, you may ruin the dish, if you will
But the taste of braised turkey will hang round it still."

Although English literature may be more *larded* with praise of this delicious (but we would here remark not very healthful) dish, yet it is said the French cooks are more skillful in its preparation. Their *modus operandi* is as follows:—Lard a deep pan with pork and calve's foot from which the bone has been removed; season with salt, red and black pepper, thyme, a few whole cloves, one large onion, and a few carrots cut in quarters, lengthwise. On the top of these ingredients lay your turkey, a young one, (and a small one is best,) which has been dressed, stuffed with force-meat made of cream, bread crumbs, rice, and chopped oysters. The wings and legs should be well tied—secured so that the fowl may present a dignified appearance at table. Over all, pour a glass of white wine, a glass of water, one of soup stock, and a wine glass of braady; cover all closely with a piece of buttered paper, or a cover of pastry, and shut the lid of the stew-pan, closely, so there may be no evaporation. Let it bake slowly for three or four hours.

A large turkey would require longer time and more "dip" or gravy. To lard a dish with pork is to cut the pork in long narrow strips and lay them in the bottom. Some cooks lard poultry by drawing a strip of pork through the middle. That the French mode is not for temperance people, is plain. But the brandy and wine could be omitted and broth from oysters, cooked celery, or simply water, be wholly substituted. Red pepper alone is better than black alone, but the best result is obtained by using both. The turkey can be made more compact by breaking the breast bone and putting a weight on it, to press it down. To facilitate its cooking, it might be cut straight through, and the stuffing kept in place by pasting a sheet of buttered paper, or of pastry, neatly over.

Housekeeping Hints.

To make extra nice dish cloth, knit one of candle wicking on coarse woolen needles; one ball is sufficient for a large one.

To wash Oilcloth, use a sponge and warm water. The sponge is much better than a cloth, as it leaves no lint. It is also very nice for cleaning wood-work.

A teaspoonful of saltpeter added to a large pot full of glue will effectually prevent its smelling bad; besides, it causes it to dry faster and harder than it would without it.

To Give a Gloss to Leather.—Apply the white of eggs, beaten up with an equal quantity of cold water, a little sugar candy being added. It is perfectly transparent, dries in a few minutes, and is not rendered sticky by a hot hand, nor affected by weather.

An experienced housekeeper says the best thing for cleaning tinware is common soda. She gives the following directions; —"Dampen a cloth and dip in soda and rub the ware briskly, after which wipe dry. Any blackened ware can be made to look as well as new."

Lemon Cream.—Squeeze a large lemon and grate the peel, add two teacups and a half of water, and heat it over the fire. While it is heating, rub two tablespoonfuls of corn-starch smooth, and beat the yolks of three eggs. Stir the lemon-water slowly into the corn-starch, add the egg, and set it on the fire to thicken gradually, like boiled custard, sweetening to taste. After it is done, beat the whites of the eggs stiff and stir them in; then pour into small tumblers or lemonade glasses, and set them in the ice-box to get very cold.

To Boil Green-Corn.—Trim off all the husks, and put the ears into boiling water with a tablespoonful of salt to a dozen ears. If the fire is brisk, tender corn will be done in fifteen minutes, otherwise in half an hour. Lay a napkin on a large dish, and, after draining off the water from the corn, lay it on, turning the corners of the napkin over it to keep it warm. Some housekeepers prefer to steam the ears of corn, to wrap them in a linen towel while boiling.

MINING AND SCIENTIFIC PRESS.

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San Francisco:

Saturday Morning, Aug. 16, 1873.

Legal Tender Rates.—S. F., Thurs., Aug. 14.—buying 86¾; selling 87¼.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Matters in snd Around Utah; Cusenbsry & Mars' Automatic Ore Feeder; The Situstion snd Altitude of Mount Whitney, 97. Beversge Plants, 102. Crown Point Mine; Pscific Cordage Works, 104. The Sevsge Mine; An Improved Clothes Line Beel, 105.

ILLUSTRATIONS.—Cusenhary & Mars' Automstic Ore Feeder, 97. Bsversge Plsnts, 102. Au Improved Clothes Line, 105.

CORRESPONDENCE.—Notes of Travel in White Pine County, Nevsds; Vienns Exposition, 98.

MECHANICAL PROGRESS.—Surfsce-Hardening of Steel—Curious if True; The Augsherg Web Press; A New Motor, 99.

SCIENTIFIC PROGRESS.—Death hy Lightning; American Associstion for the Advsncement of Science; Plstinnm; Celestisl Origin of Positive Electricity; Moral Tendency of Arts snd Science; Whitthresd's Sswage Process, 99.

MINING SUMMARY from various counties in Californis, Nevsds and Utsh, 101.

MINING STOCK MARKET.—Table of Daily Sales snd Prices snd Comparstive Prices for the Week; Notices of Assessments; Meetings snd Dividends; Review of Stock Market for the Week, 100.

USEFUL INFORMATION.—Production of the Sexes st Will; Ancient Grecian Gardens; Why s Lamp Wick does not Burn; The Correct Velocity of Circulsr Sswe; Air snd Ocesn; Something New on the Csrpet; Chinese Mechanism; Muslin thst will not Inflame, 103.

GOOD HEALTH.—Painless Death; Prolonging Life; Hints sbout Diet; Typhoid Fever; How to Swallow s Pill, 103.

DOMESTIC ECONOMY.—Brsised Turkey; Housekeeping Hints; Lemon Cream; To Boil Green-Corn, 103.

MISCELLANEOUS.—Quicksilver in San Luis Ohispo County; New South Americsn Mine, 102. Pstents snd Inventions, 105. Hard Times; The Precious Metals—Our Future Snpply; Silver; Monthly Vslues of Our Shipments; Receipts of Bullion; Colorado Mines, 106.

COLONEL B. A. M. FROISETH of Salt Lake City, an occasional correspondent of the MINING AND SCIENTIFIC PRESS and well known in connection with the mining interests of Utah, is in this city on a visit. Colonel Froiseth is publisher of an excellent map of Utah and the mining districts, to which we have before referred in our colnmns. He ia at preeent writing a aeriea of letters on Utah mining matters for the London *Mining Journal*.

OVERMAN VS. DARDANELLES.—A dispatch from Virginia dated Aug. 13th aays: The case of the Overman Silver Mining Company, which has heen on trial in the District Court for the past three days, went to the jury this evening. After being out ahout ten minutes, the jnry returned a verdict in favor of the Overman Company.

QUICKSILVER.—Mr. J. B. Taylor of Gold River, Placer county, writes ns that he has about 30 tanks of quicksilver which he does not wish to use, and would like to dispose of. Cannot some of our snhscribers who are in want of the article make him a hid.

RICH deposits of cinnahar are eaid to have been found in the northern part of Mohave county, Arizona. We wish the prospectors would find more of this class of mineral, ae cheap qnicksilver is badly wanted.

THE YELLOW JACKET quicksilver mine, Napa county, hae turned out its firet flask of quicksailver, hut will shortly make regular shipmenta. A rotary drum fnrnace is at work on this mine.

SLUICE mines in San Gabriel Cañon, at the head of Jenkina Ditch, are aaid to he making $5 per day to the hand on dirt from the hed of the river.

A NEPOSIT of coal ie aaid to have heen found in Pica District, 70 milee from Hollister.

VANCOUVER is excited over the quartz mines near there.

The Crown Point Mine.

The Crown Point mine may be considered the representative mine, in point of hullion prodnction, of the Pacific Coast The amount of bullion turned out of late hae been something to astonish the world. Dnring the last fiscal year there were 136,893 tons of ore worked, yielding $6,441,974, making an average total yield of $47.05 per ton the year through. The cost of working thie ore averaged $11.74 per ton. The cost of mining it, including cost of running drifte, repairing shaft, etc., was $8.63 per ton. During the year they paid out for lahor on the mine alone $771,317. The next heaviest item wae for lnmber—$175,522; wood cost $66,858; foundry work, $17,652, and candles, oils, hardware, iron, steel, rope, etc., cost $147,294. These expenses were on the mine alone. They paid out ior crushing 121,828 tons of ore $1,463,824. They paid as expenses on the Rhode Island mill $144,389. Of this the item of water alone was $8,400; that of quicksilver, hardware, etc., $38,232; for wood, $43,744; and for labor, $35,537. The assaying department cost 26,561, itself a good revenne for an ordinary mine. The snm of $2,180,000 was dishursed as dividends.

The ore statement is an interesting one, and is ae follows, omitting the odd pounds on a ton:

MILL.	TONS.	AVERAGE.	TOTAL.
Rhode Island	16,064	$45.20	$581,092.13
Petalums	11,067	62.23	578,685.31
Mexican	31,923	46.64	1,453,889.15
Brunswick	35,447	45.97	1,629,726.66
Morgan's	13,790	47.61	556 689.04
Pioneer	10,153	47.74	484,746.42
Atlas Mill	5,494	55.12	303,375.94
Sapphire	6,874	45.89	315,949.15
French	1,004	35.92	36,087.02
Spring Valley	2,665	31.94	79,635.93
Gold Hill Qusrtz	856	53.76	46,022.46
Woodwarth	1,279	72.83	91,192,66
Douglss	1,371	68.40	80,083.03
	$136,893	47.05	$6,441,974.89

From May 1st, 1870 to May 1st, 1873, the mine has tnrned out 238,548 tons of ore yielding $10,417,729. During the fiscal year 1871, there were 21,087 tous worked, averaging $22.38 per ton or $482,121. Dnring the fiscal year 1872 there were 80,567 tons worked, averaging $43.48 or $3,503,633. During the last fiscal year the increase hae been enormous, as the above figures show. During 1872 two assessments were levied aggregating $78,000. The mine expeuses in deteil, leaving out mine improvement for the three years were ee follows:

	1871.	1872.	1873.	TOTAL.
LABOR	$155,560.00	$362,739.99	$771,317.26	$1,289,617.24
LUMBER	28,974.21	72,793.39	175,522.07	277,289.67
WOOD	35,281.11	50,252.85	65,358.37	152,402.29
SUPPLIES, CASTINGS, ETC.	35,286.30	90,873.82	170,928.96	297,089.08
				$2,016,398.28

In addition to this, mine improvementa for the three years aggregated the sum of $81,911.36, of which the sum of $65,380,58 was paid out in 1872, and only $250 in 1871.

The expense on the Rhode Island mill, helonging to the company, was as follows for three years:

	1871.	1872.	1873.	Total.
Lsbor	$8,183.00	$30,907.83	$35,637.25	$74,628.13
Wood	6,933.12	29,778.25	43,744.85	79,456.22
Quicksilver, Castings, etc.	17,136.04	48,644.76	65,107.22	130,888.01
				$284,972.36

The improvements on thia mill for the three years aggregated $17,872. They also paid for crushing at outside mills $2,462,283 as follows: In 1871, outside mills crushed 18,903 tons at a cost of $191,149.93. In 1872 they cruahed 67,-222 tons at a cost of $807,309.14. In 1873, they crushed 121,828 tons at a cost of $1,463,-824.00. In 1872, the sum of $1,260,000 was paid in dividends, and in 1873, the sum of $2,180,000, making $3,440,000 dnring the three fiscal years. The hullion statement for the three years, according to assay certificates, was aa follows:

Valns in gold	$4,581,284 01
Value in silver	5,780,899 59
Assay grains	54,744 57
Reclsmation, etc	1,671 53
	$10,418,599 80

Probably uo other silver mine in the world has ever turned out snch a vast quantity of ore in the short period of three yeara as the Crown Point haa done. The policy of working the mine in such a mauner is, however, seriously questioned hy many. The fact that snch immense sums are paid ont for milling the ore at outside mills is oue serionely to he considered.

All these mills make a good profit of couree, whereas if the company's mill alone was kept at work, while the hullion prodnction would be very materially reduced, the proportionate profit would he more, and the permanence of the mine, with the likelihood of its lasting on a paying basis for many years, would he estahlished. However, in mining operationa people want to make as much money as possible in the ehortest possible time. Another aolntion of thia lies in the fact that most probably the Crown Point managers are largely interested in the "outaide" mills, and make more money out of the profit of crushing the ore, than out of the mine. If a system of giving the ore to be cruehed to the lowest responsible hidder were inangurated, it migbt help the evil and also to eome extent do away with the importance of election of Trustees, and consequent etock manipulation. If the Trustees felt that there was a law to make them send the ore to the mill giving the lowest hid, perhaps they wonldn't be eo anxions to be trustees.

The liabilities are snmmed up in the expressive, and, in thie connection, unusual word—*none*.

The assets of the company as stated by the Secretary's report before quoted are as follows:

Cash on hand, May 1, 1873	$1,373,891.41
Rhode Island Mill	80,000.00
Mine Improvements, Buildings, etc	100,000.00
Resl Estate	16,000.00
Stock on Hand st Mine	58,287.49
" " Mill	9,596.26
Ore on Hand at Mill	22,468.73
	$2,294,243.89

The Superintendent in speaking of the famous Crown Point ore body or *bonanza*, says it may be briefly described as an immenee wedge-shaped body of ore, with its upper edge nppermost, having a strike or course of N. W. and S. E. and penetrating the earth with an easterly dip of about 36 degreee. This body on the 1,300-ft level ie 360 feet in width, and has an averege breadth of 90 feet, and is by far the richeet level ever opened on the Comstock ledge; the ore on this level averages $75 per ton. The 1,300-ft level has already yielded almost $4,000,000 and will probably yield $10,000,000 more, 75 per cent of of wbich will be clear profit. The body hae steadily increased in length, width and richness from the 900-foot level, where the upper edge wae found, down to the 1300-foot level. From this body they have taken out and crushed from May 1st, 1870, to May 1et 1873, 217,431 tons which have given an average yield of $45. 73 aggregating $9,944,733. Since December 1870, when the ore body was first discovered, and the Crown Point was only a prospecting mine, the shaft has been enlarged by sinking another compartment 1100 feet deep, and douhle cages have increased the working capacity. Three new 80 horse-power engines have been put on the hoisting works. During the fiscal year, 275 feet of raises were made; 1289 feet of winzes suuk; 1330 feet of cross-cuts run; 3826 feet of drifts run, and 800 feet of drifts were retimbered. In 1872 lumber and timber was used amounting to 2,920,00 feet. During the laet fiecal year, there were used 4,760,000 feet, being an increase of $1,840,000 feet for the year.

The history of this mine for the paet three yeare has made it one of the moet notable in the annals of mining. Before that time, or in 1870, the mine was yielding nothing and there was no ore in sight of sufficiently high grade to pay for working, nor was there any iudication of the coming ore body. Of course, if the mine had been abandoned at that time we might never have known of the immense ore body afterwards found. The succees of the Crown Point mine is an incentive to all the otbers on the Comstock, to resnme operations even in the face of discouraging results. The immeneity of the expenses and profits of thie mine for the year will strike any one even at a glance, and it may well be called the representative mine of the Pacific Coast.

The Pacific Cordage Works.

A call lately made at the office of this enterprieing company, No. 116 Front street, furnished na with some intereating facts connected with the great and growing indnstry it so ahle represents. There are two cordage making establishments having their officea and depots in thie city: The San Francisco Cordage Co., and the Pacific Cordage Works. Both of these companiea have a large and constantly increasing bueiuess, and are closely indentified with the manufactnring interesta of the State. We are glad to eee that their products are so extensively patronized here.

The factory of the Pacific Co., is located in Alameda, at the head of San Leandro hay. From it are turned out, annually, no less than three million pounds of cordage, of all descriptiona and sizes, varying from the smallest line which is included under the technical term "cordage" to monster 13 inch cables. Ninety men, women and children are employed in the different departments into which the work of rope making ia subdivided, the latter being occupied in tending ginning and spinning machines.

Among the orders now being filled ia one for aonnding lines for the *Tuscarora*, to he used in making surveya for the Pacific oceanic telegraph cable. Some of these lines are ten miles long in the aingle piece.

The company is endeavoring to encourage the raising of American hemp in California. They could manufacture 400 tona of the raw material per year, at once, were it at hand. To stimnlate our farmera to grow hemp, the company offers to distribute hemp eeed, which they are importing, freely to all who may apply, and promise an advance on ruling Kentucky pricea, Hemp is indigenons here and ia found growing wild in many parta of the State. At present the greater part of our hemp product is obtained from Kentucky and Missouri. The yield of these two Statea have largely decreased of late yeare, falling off ahont one-half during the years 1860-70, on acconnt of the introduction of jute. Hemp culture requires a rich, kindly eoil, free from weede, and capable of enduring extremes of wet and also dry seasone to find which, the subsoil must be examined as well as the surface. Alluvial bottom lands are preferable. If the ground he rich, does not hold water standing on the surface after heavy rains, and in drought does not bake and crack, but has moiet earth within a few inches of the surface, it poseesses the auhsoil for hemp raising. We hope that our farmere will avail themeelves of this offer. A large field for production is opened np in thie direction.

The Lake Superior Tin Swindle.

They have had a big "tin ewindle" in Michigan, which like our "Arizona Diamond Fraud" is one of the wonders of the times. An examining party landed at Otter Head, when there was coneiderable snow on the ground, stayed there a few houre and brought away some rock, which enbsequent analyeis proved to be tin. It was said at the time that Dr. Torrey, of the U. S. Assay Office, tested the ore and reported as follows:

The ore is a true tin stone or cassiterite mixed with quartz; eome of it ie maesive, bnt a coneiderable portion of the specimen examined is in the form of small, tranelucent quadrangnlar prisme, some of which are perfeetly terminated. The average of the samples yielded 33.3 per cent. of metallic tin. It would be easy to concentrate the pulverized mineral to a considerable higher percentage of metal.

Dr. Jennings also tested it, pronounced it tin, and on reporting hie analysis said:

The ores examined are free from any injurioue minerals, and eepecially wolframite, which is often associated with tin ores, and whenever present always depreciates the value of the mining property and product. The epecific gravity of wolframite so closely approximatee the oxide of tin that eny amount of mechanical washing cannot eeparate the two satiefactorily. The result of my investigations has convinced me that the metal prodnced from theee oree cannot be excelled as regards its purity, nor in the cost of working.

Both the above items were printed at the time of the discovery (?). It soon turned out that the ground was salted. It seems that dnring the Winter after the discovery, when navigation wae stopped, one of the purchasere went to England and eold the entire stock for $1,000,-000, conditionally, and on the openiug of navigation this same man and one other went to more thoroughly examine the property; on digging they found the rock soft; on getting down a little it was still in a liquid state. On exploring a little they found four barrels of eilicate of eoda, a box containing clay, and other material. The original vein matrix had been worked out with a pick for some depth, and then filled with artificial rock containing dressed tin of a high percentage. The Marquette *Journal* thinks the explanation by Mr. Harria does not eeem to be all that ia required under the circumstances. Whether the use of the protoxide of sodium, in conjnnction with other materiale, will form a base which will carry prepared tin and at the eame time conform to the nature of rock and matrix for mineral of auy description, ie a qneetion which many will seriously donht. Besides, Capt. Harris informa the *Journal* that the composition contaiuing the tin was poured upon the ledge in such manner as to cause it to run down and fill the fiasures which seamed the faces, and, becoming hardened, gave the ledge the appearance of being an outcrop of tin ore. Here is another point which is open to criticism, as regards the correctness of Capt. Harris' theory. If he is correct, some very bright chemista were engaged in the awindle, and the work wae done some time ago—done probably ahout the time of the opening of Silver Islet.

In whatever manner the fraud was perpetrated, it was done well enough to deceive the people for whom it was intended. The Mr. Harrie referred to ia said to be an old time miner, and it is considered strange, to eay the the least, that he could be ao eaaily fooled. Among the dupea, are a number of practical minere and chemiata, who, aa well aa all the iuvestors, have lost what they put into it. The fact of Harris having made an examination in two hours, of property for which $200,000 was to he paid, reminda us of the equally hasty examination of the Arizona "diamond fielda" by Mr Janin. Mr. Harris is now heing hauled over the coale hy the Lake Superior papers in a manuer far from agreeahle to him.

Reports of tin discoveriea are to he received with a greater atare of doubt than like allegationa in relatiou to other metals. There have been eo many falae reports and hogus discoveries, that people helieve very little in them unless well verified. Every miner who finda a mineral with which he ie not familiar, thinks he haa atruck tin, manganese, or aome not very common metal. We have had a great number of tin discoveriee in this and neighboring States and Territories, not one of which haa ever made any stir in the world as yet. The only tin discoveries of late in the world that have any prominence are thoee in Queensland.

THE San Felipe Company at Cerro Gordo are said to have laid attachment on the property of the Union Mining Company, which will probahly cause a temporary snspension of work.

The Savage Mine.

The annual report of the Savage Mine for the fiscal year ending July 11th has just been published and its showing is not an encouraging one to stockholders. The explorations this year have failed to discover the ore body, those early development was so confidently anticipated at the time of the last annual report. This mine, however, is in good condition and possesses every necessary facility for continuing explorations to a much greater depth than that now reached.

The Superintendent's report sets forth that during the past twelve months the mine yielded 33,414 tons of ore, of which 25,669 tons came from the new mine and 7,714 from the old one. All this ore, together with 295 tons which remained on hand July 1st, 1872, was reduced at custom mills. The proceeds failed to meet the cost of production and reduction, and the result of the year's operations shows a material loss to the company. Work has been kept on in the hope of reaching in one or all of the levels, ore of a higher grade, which would pay to work. We might add also, with the same prospects of sending ore to mills belonging to managers, that they might make a profit even if the stockholders paid for the crushing with assessments. The mine has been entirely unproductive during May and June. Since the last annual report, the main shaft has been sunk, at an incline of 38 degrees, 326 feet below the twelfth station, a sufficient depth to allow the opening of two new stations at intervals of 100 feet. The last station is 1,700 feet vertically below the surface.

From the 13th station a drift was run southeasterly to the south line, connecting with the Hale & Norcross mine. In the cross-cuts made while hunting for the vein, some bunches and seams of ore were found, which for a time gave hopes of favorable results, but as yet no ore body has been found; but the work of prospecting on the 13th level is still going on. On the 14th station a connection has been made, giving a good circulation of air. Below the 10th station, the mine has been opened in that portion only, which lies on the south side of the main shaft. On the north, between the shaft and the Gould & Curry mine, the ground from the 10th station to the 13th is still unprospected. From the 13th station a drift has been run northwesterly 572 feet, to the north line, and connection has recently been made there with the Gould & Curry mine; which connection is valuable for purposes of ventilation, and as an outlet in case of fire or other accident. Progress in the lower levels has been retarded for some months for want of air and by the heat which prevailed. The air forced down the shaft had to be distributed to so many points that it was not enough to enable the men to do efficient work. The connections spoken of, however, remedy this defect. All work on the old mine has been discontinued. The old shaft remains intact, but is kept open as a ventilating shaft. The new shaft and shaft incline are in good order. There are six strong hoilers, with engines, machinery, and gear for hoisting, pumping, etc., all in good working order.

The Secretary's report is an extensive document, giving all the items in detail for each month of the fiscal year. The receipts and disbursements are summed up as follows:

Receipts.

Proceeds of Bullion	$452,074
Assessments, 6, 7, 8, and 9	646,000
Virginia & Truckee R. R.	10,884
Miscellaneous	502
	$1,103,460,25

Disbursements.

Balance overdrawn	$183,708 53
Labor	308,783 50
Fuel	66,687 31
Lumber and Timber	55,635 12
Reduction of Ore at Custom Mills	408,663 75
Material	45,040 22
Water	9,600 00
Assay Office	7,258 23
Taxes	7,443 46
Freight	1,243 07
Surveying in mine	900 00
Exchange on drafts	2,658 84
Discount on bullion to Bank of Cal.	5,651 73
Interest on borrowed money, overdrafts	20,169 05
Horse keeping	1,547 00
Stationery	1,115 71
Legal Expenses	4,503 00
Office rent, etc.	2,818 98
Incidental	6,973 10
Savage Mill (Insurance, watchman, etc)	1,506 00
Real Estate	450 00
Cash on hand	10,703 59
	$1,103,460 25

During the last year the mine has produced 33,414 tons of ore, producing with what was on hand at the previous report the sum of $447,951,88. It cost to produce this ore, $487,104.55. The cost of reduction of 33,695 tons was $404,349.48, an aggregate of cost of reduction and production of $891,454.03—total loss, $441,728.73. The ore yielded as follows:

Average yield of ore	$13 29
Cost of Production	14 58
Cost of Reduction	12 00
Average lose per ton	13 29

This shows that it cost more to *produce* the ore than it yielded, leaving aside the expenses of reduction. The average assay value of the ore reduced, per wagon sample per ton, was $21.86, on the average yield of this ore reduced in bullion, including all reclamations—per cent. of assay value was 60.8.

The operations of the mine for the year compare as follows with the previous years:

Year ending June 30th.	Tons Ore Reduced.	Yield Per Ton.	Cost Per Ton.	Profit Per Ton
1867	69,376	$41	$21 95	$19 99
1868	84,626	46	20 95	19 89
1869	55,479	34	21 12	13 75
1870	13,272	20	36 88	00 00
1671	38,147	21	21 01	00 42
1872	48,392	18	21 95	00 00
1873	33,695	13	26 58	00 00

The ore was all third-class, and the production has steadily decreased since the beginning of the year, as the following shows: Yield in July, 5,128 tons; August, 5,200; September, 5,231; October, 3,917; November, 3,912; December, 4,103; January, 2,781; February, 1,723; March, 1,087; April, 327; during the last two months of the fiscal year no ore was produced.

We condense the following tabular statement of the results of reduction of ore in connection with the assay value of the ore as determined by samples taken from the wagons for the fiscal year:

Months.	Ore Reduced.	Total Assay Value of Ore.	Bullion Produced	Assay Value Per Ton.	Bullion Produced Per Ton.	Assay Value.	Yield Per Cent.
July	5,184	$103,166.31	$64,465.80	$19.89	$12.43	62.5	
Aug.	4,854	97,115.09	79,823.15	20.00	12.32	61.6	
Sept.	5,461	125,051.77	75,049.97	22.90	13.74	60.	
Oct	3,499	97,276.87	58,841.65	24.94	15.09	60.5	
Nov.	3,791	80,854.21	49,779.75	21.35	13.14	61.5	
Dec.	3,901	84,227.40	50 217.84	21 21	12.86	60.4	
Jan.	3,091	73,401.21	44,536.47	23.74	14.75	50.	
Feb.	1,477	33,736.56	17,925.41	22.83	12.13	54.1	
Mar.	1,258	25,861.62	16,110.99	20.55	12.80	62.3	
April.	722	16,944.20	13,169.56	21.93	17.05	77.7	
May	....	.....	345.19	....	....	....	
June	....	.....	.....	....	....	....	
Total	33,695	$736,745.34	$449,771.78				
Averages				$21.86	$313.35	61.	

This last table is an interesting one, showing as it does, in a comprehensive manner, the difference between assay value and real value. The other figures given are most of them very unsatisfactory to stockholders, and the mine ran behind this whole year, and the assessments collected amounted to $640,000, while the bullion yield was $452,074. The Savage mine was incorporated in January, 1862, with a capital of $80,000, which has increased to $3,200,000, in 16,000 shares of $200 each. There are 800 feet of ground in this mine. The first ore was extracted in April, 1863.

From that time until July 10, 1866, the quantity of ore taken from the mine was 111,836 tons, yielding $4,904,562. In the following year, 69,389 tons of ore were raised, yielding $2,900,639. The production of ore in 1867-68 was 87,342 tons, yielding $3,431,486; in 1868-69, 70,970 tons, yielding $1,949,925; in 1869-70, 14,051 tons, yielding $283,923; in 1870-71, 39,715 tons, yielding $827,230; in 1871-72, 47,505 tons, yielding $905,868; in 1872-73, 33,414 tons, yielding $449,725. Thus from April, 1863, to July 1, 1873, the quantity of ore raised was 474,672 tons, yielding $15,653,358. The total receipts for this above period were more than is shown by this aggregate, since there has been some income in each year from other sources. There have been nine assessments levied on stockholders since the opening of the mine, making a grand total of $1,216,000.

There have been fifty-two dividends paid, amounting to $4,548,000. The amount thus disbursed in 1866-7 was $1,120,000; in 1867-8, $1,560,000; and 1868-9, $968,000. The last dividend was paid in June, 1869, while the total amount is $4,548,000. To sum up, we find that the mine has produced 475,000 tons, yielding nearly $16,000,000; another, $1,216,000, has been collected by assessments, and $4,548,000 has been returned as profits to stockholders.

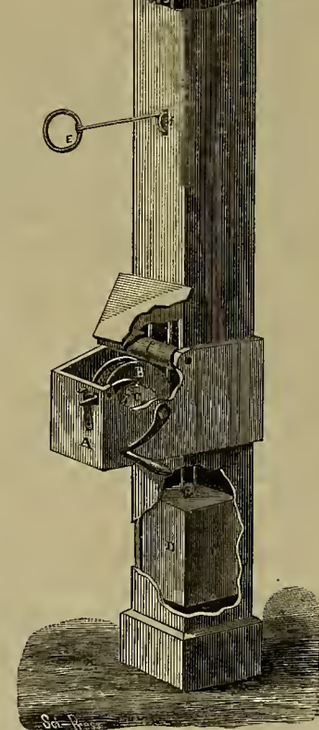
A Valuable Publication.

So rapid has been the progress of science, during the last few years, that it is found almost impossible for the ordinary student to keep pace with its advance. To meet the increased demand for literature in this direction popular scientific books, magazines, etc., have appeared in such numbers, that the student is almost overwhelmed with works of the kind—he is fairly lost in the multitudinous publications devoted to the various branches of scientific knowledge. To meet this condition of things, and to place before him in a compact, condensed form all the important facts and advanced steps connected with the present condition of the physical sciences, those well known publishers, J. B. Lippincott & Co. of Philadelphia, have issued "A Dictionary of Science," embracing Astronomy, Chemistry, Dynamics, Heat, Hydrostatics, Light, Magnetism, Mechanics, Meteorology, Pneumatics, Sound, Statics, etc. The work is illustrated with numerous engravings, and the various leading articles have been prepared with great care by some of the leading scientists of the day.

Science has now ceased to be the study of the chosen few; it is being received more and more into the language of every-day life, and has become essential to the successful prosecution of almost every calling. So rapidly do the facts and deductions of science accumulate, and so complex a character do they often assume when first presented to the world, by those who discover and elaborate them, that it has become absolutely necessary that they should be simplified and popularized before entering into the general literature of the country, through which they are most commonly utilized and brought to bear upon the mechanic arts and other industries. The publishers above named have done a good work in this direction, by presenting to the student and the working man as complete an account as the space admits, of the more strictly experimental science, divested as much as possible of abstruse treatment and difficult formulæ. All recent results and generalizations have been added, and each science, although scattered throughout the book in alphabetical order, is complete in itself. Frequent references are introduced for guiding the mind and introducing the student to collateral subjects and authors. The book forms a volume of over 700 pages, large octavo, closely printed but in very clear and legible type. It will be found a useful addition to every library, and a most convenient book for ready reference. It may be had of A. Roman & Co.

An Improved Clothes-Line Reel and Tightener.

Although clothes-lines are among the necessities of housekeeping appurtenances, they are, like smoking stoves, often the unconscious cause of serious domestic troubles. They always hang in the back yard in a position accurately calculated to either strangle, or injure the noses of, any individual passing, and carefully prepared statistics prove that the average number of persons of the females persuasion who remember to put the line away after using is about one in one hundred. The domestic who systematically removes them at the proper time is to be cherished and an example to be quoted. When left outside, clothes-lines become grimy and dusty and are apt to leave their marks on the linen suspended from them. An addition to these very forcible objections is that of their tendency to stretch at one time and tighten at another, either breaking or sagging down so as to render progress in the rear regions extremely hazardous. Then they are always carelessly fastened to a rusty nail, and every housekeeper will bear testimony that this proceeding is a dangerous one and its results provocative of emphatic language in the kitchen.



IMPROVED CLOTHES-LINE REEL.

In view of these self-evident facts many devices have been invented to overcome the difficulties and render the use of clothes-lines less of a nuisance than formerly. Among them is a new patent recently obtained through our agency by John Brizée, of Alvarado, Alameda county, Cal. As Mr. Brizée lives in a country town where Chinese laundrymen are not so plenty as in San Francisco, he has had experience of the matter and fully relies on an appreciative community for his reward. The improvements consist of an arrangement by which a single shaft is employed for winding both clothes-line and weight line, thus avoiding complication, expense and the liability of the lines becoming fouled. Another improvement is the upright box support inside of which the weight moves down, which forms a part of the reel box; and lastly of an arrangement by which the clothes-line may be tightened at any desired length.

The device consists of an upright box or tube, inside of which a weight, *D*, moves. This box can be of any desired height, and can be either secured upon a proper base on top of the ground or it can be set down in the ground to any desired distance. At the proper height from the ground is made a box extension, *A*, on one side of the tube. A shaft runs across this box, and secured upon this shaft is a large pulley, *B*; one end of the clothes-line is secured to this pulley, and the line is wound upon it by means of crank on the end of the shaft, as shown. The opposite end of this line is carried up and over a pulley, *g*, and through a hole, *f*, in the front of the tube or upright box, at a height corresponding with the height it is desired to have the end of the line elevated from the ground. A ring, *E*, is then secured to the end of the line, to prevent it from being drawn through this hole, *f*, in the box. This weight cord has one end secured to the shaft; hence the pulley, *B*; thence it is carried back to a roller, and up over a pulley, *h*, at the top of this box; thence down to near the bottom of the box, where it is attached to the weight, *D*.

Now, it will be seen that, as the clothes-line is drawn out, the reel or pulley, *B*, is revolved so as to wind up the weight, *D*, but when the strain upon the clothes-line is removed, the weight will wind the shaft in the opposite direction, and thus wind up the line. A strip is secured in each of the angles of the upright box, so as to prevent this weight, *D*, from touching this cord when it moves upward in the box. A ratchet wheel, *C*, is placed on the shaft beside the pulley, *B*, and a pawl engages with the ratchet. The opposite end of the pawl extends to the outside of the box, *A*, as shown, and a hook serves to support the pawl out of contact with this ratchet when its use is not required.

After this clothes-line has been drawn out and the free end fastened to a post or other object, the line can be tightened by means of the crank, and the pawl allowed to engage with the ratchet, so as to keep it at any desired tension. The box extension, *A*, can be provided with a hinged door, so as to serve as a receptacle for clothes-pins, if desired. It will be seen from this description that the device will be an exceedingly useful one in families where washing is done "at home."

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents]

By Special Dispatch, Dated Washington, D. C., August 12th, 1873.

For Week Ending July 29th, 1873.*

Carpet Cleaner.—John Spanlding, S. F., Cal.

Hydraulic Jack.—Anthony V. Ojeda, S. F., Cal.

Combined Catch and Lock.—Audy M. Adams, Sacramento, Cal.

Pen Holder.—John S. Orndorff, Virginia City, Nevada.

Smoke and Steam Burner.—John W. Kingman and Adolphus Eurglus, Laramie City, Wyoming Ter.

Washing Fluid.—Nathan W. Lane, Mendocino County, Cal.

Steam Engine.—Andrew Frazer, Virginia City, Nevada.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Soda Gathering.—We had an interesting conversation, yesterday, with Mr. James Duffy, just returned from his soda springs, situated at Bagtown, twenty miles east of Wadsworth. He says he runs two pumps, miners' big-mouthed pumps, sunk in the ground in an artificial reservoir sixty feet square. This reservoir is filled to a certain depth with soda, which bubbles up from springs underneath as fast as it is taken out. The pumps are employed to cast out the soda as it deepens in the artificial reservoir into a number of naturally formed reservoirs which cover between seven and eight acres of ground. The strongly impregnated water comes up warm, but cools off in the "natural" reservoirs where it grows hard and is taken out with pick and shovel. Mr. Duffy says he has one thousand tons of crude soda piled up there now. He has four men at work who could get twenty tons per day if pushed. He is shipping the soda in its crude state, constantly, to San Francisco, where it is made into sal soda, carbonate of soda and caustic soda, at his own manufactory, where five tons of the manufactured stuff are turned out daily. He works his springs three months in the year. He says he gets all the soda he wants during that time; and that the springs are more than inexhaustible. "They heat inexhaustible," he says, "for the more you take away, the more you can get."—*Carson Appeal.*

Hard Times.

For some time past complaints havs bsen heard from all quarters about ths tightness of our money market, about the slackness of all legitimate business, about the long continued dspression iu real estate; complaints from almost svsry line ot trads, manufacture and production; and, latterly, complaints even from those to whom so much of our financial difficulty has been attributed—the stock operators. "Hard timss" have been tbe topic of conversation on the street, and of discussion in tbs columns of the prss. Naturally euough, we have been favored with almost as many separate reasons for, and infallible prescriptions for tbe cure of, our monetary malady, as there have bsen protests. But witb all this agitation, tbe facts have rather been confused than explained.

There seems to be a tendency to seek too far both for causes and for remedies. Iunumerable specific points are bronght forward to explain the ruling state of tbings, while we should look instead to general undermining influences which have been steadily working for years. True, particular circnmstances affect the market temporarily; but in no single fact nor detached series of events can be found satisfactory explanation. Tbere are those who would have us believe tbat we are suffering from the effects of the Cbinese immigration, and that alone, aud look toward its cessation as the one hope. And yet, while denouncing so scrupulously the many objectionable features, they forget to place on the otber pan of the balance tbe immense assistance this much abused cheap labor has rendered in developing the resources of the State. There are others who would have us believe that we are now being justly punished for former false pride with regard to our coin circulation, and who propose an immediate financial millennium, to be bronght about by simply adopting greenbacks and tbe national banking system, forgetting what a chaos of fluctuating values would follow tbe attempt. And tben, as a matter of course, that accommodating *bete noir*, the Central Pacific R. R., comes in for its share of the blame. Probably there are men to be found who would regard cuttiug its tracks and blowing up its bridges as a certaiu and effectual panacea. To this same aggressive monopoly, domineeriug and graspiug as it may be, we owe more than can readily be summed up. Quite lately, it is true, the company was obliged to directly borrow enougb to place tbe six or eight millions of bonds, unsaleable in Europe and returned to us because of want of confidence caused by tbe Goat Island disturbances and perhaps by the late Union Pacific scandal. Tbis drain was momentarily felt, and more sharply than mere subsidizing, yet it cannot account for previously existiug stringency. An indefinite number of points like tbese might be enumerated, but, passiug to the consideration of actual causes of present dullness, we notice first

Want of Capital.

This is acknowledged to be the great waut of the day. Wbile immense amounts daily change hands, there is less money *per capita*, here tban in any State, excepting only two or three depleted Southern States: but California is not yet old enough to be threatened with exbaustion of her soil. And though we have, during twenty years, produced more gold tban tbe rest of the world combined, it bas not been for ourselves. Of late, the treasure shipments have at times even exceeded the production.

We need capital to develop our mines, to move onr crops, and for many purposes; but, above all, to build up our manufactures. Here ie where we lose most. By exporting raw material to the East and to Europe, to be returned again in the shape of finisbed products, we are annually paying an army of transporters, middlemen and outside manufacturers an amount whicb is noue the less appreciable, because it cannot be precisely stated. All this goes out of tbe State. The ratio between exports and imports of manufactured articles, in favor of the latter, is entirely too high. And wbile interior States bave increased (notably Missouri aud Ohio, the former three hundred per cent. during tbe last decade,) rapidly and steadily in amount of capital and labor employed in manufactures, we have remained practically stationary. Yet, perhaps of all our boasted advantages, tbe facility for manufacturing is pre-eminent. Witb a climate tbat admits of equalized labor throughout the year, with coal and iron lying wellnigh untouchbd at our doors, with superior geograpbical position for export to tbe Orient, Californuia is still, in this respect, the sluggard of the sisterbood.

We need plenty of capital at low rates, no matter whence it comes. Capital from England and Germany at tbree to five per cent., if practicable; capital from tbe East, even, if we can do no better, at the rate of seven per cent. A very few, in tbis city, have already obtained foreign capital: tbis gives rise to the expectation tbat more will follow. While we write, money iu New York rules at three to four per cent., on time loans. Tbis is exceptional; but imagine sucb a state of tbings iu San Francisco.

To procure this capital, after all, it is only required that we should make ourselves beard in tbe more distant money markets of the world; to direct attention to the many industries of the Stats that are dragging on a precarious existence or perishing for lack of it, whsn saving tbs difference of (say) eight per cent. would, by itself, place them on a firm footing. When outside capitalists can be made to see tbat tbers are investments to be made here tbat ars among tbe safest of ths safs (with enough money), and that loans can be negotiated on sound real estats at rates remunerative to them, while offering perfect security, then, and then only, can we hops for an improvement tbat will prove lasting. There is an axiom implicitly believed in by business men of what is known as the "old stamp," that high interest is but another name for poor security. This, like so many otbsr wise saws in repute, is adhered to because of its *bizarre* character in lieu of more substantial ground. There is another somewhat conflicting principle in economy: tbat money is to be regarded as any other commodity, and tbat it will briug wbat it is worth at the time to the borrower. Do not our San Francisco savings banks pay depositors ten per cent.? Are tbey, then, regarded as so insecure, because the rate is three times that of the banks of Great Britain? Or, to take anotber illustration, here we have real estate mortgages on the assessed valuation paying one per cent. per month, and in some instances even more. Are these such very shaky investments? Or, again, do our farmers pay eighteen per cent. for money to move or hold their crops, because they are considered to be insolvent? Otber necessaries are imported freely; money alone does not seem, in our case at least, to yield to the otherwise universal laws of snpply and demand. It is said that San Francisco still feels tbe effect of tbe Cbicago and Boston losses. Tbis may or may not be so: at all events, when the insurance companies began to call in their loane, a marked tightening was felt here.

Again, we are in

Want of the Right Kind of Immigration.

We need bere the class of men wbo will add to the wealth of the State, neither drones nor tbose wbo accumnlate money only to take it away. We need skilled labor. That such is the case is proved by the bigh wages men of all trades are receiving. Tbe demand for such is constant, and ever increasing as the country is opened up. But the State being understood abroad to be totally undeveloped and prodnctive of the precious metals only, an ignorant, sbiftless character marks the great mass of immigrants; wbile practiced mechanics and craftsmen are unaware that it is tbeir services which are in request and bring the highest return.

Above all, we have been kept back by the strange

Want of Confidence

In onr resources and ability to develope them, which prevails among ourselves as well as others. In New York and other commercial centers, panics are unavoidable and occasioually happeu, while the intervening time is one of solid prosperity. But here tbe condition of things seems to be reversed: a chronic state of gronndless panic occupies the greater part of tbe time and is broken by rare "flush times," which, it is true, are generally *very* flush times, though ofteu as unfounded on any tangible basis of reason as the previons state of depression bas been. If America at large is characterized by extremes, what shall we say of California? There is no steady middle ground: we are either very higb up; or, as lately, very low down. And in the race for success, how cau we expect to be backed by foreign capital, while manifesting such mistrust of ourselves?

But the market seems to have tonched bottom at last—it could not well bave beeu duller. Already we notice more cbeerful signs; and it is only required that the dowuward swing sbould pause never so slightly, for the balance to turn and assume a reverse position. From the precedents of tbe past, we may look for a state of things as prosperous, financially, as it has been disastrous; the lower down, the higber up, when the change does come. Sucb has ever proved the case. And now we confidently predict a return to better times.

If "hard timcs" would only teach lessons of economy and steadiness, tbey would not be the unmixed evil tbey are.

Zinc ores are the least abundant of any of the coarser metals found in the Uuited States, and yet the supply is considerably in excess of the demand. The zincs of Missouri and Illinois are not looked npon as offering great inducements for profit, and the New Jersey zincs are scarcely known in a distinctive way. In short tbe Lehigb zinc mines furnish one-half of the annual consumption of tbe country. They were opened in 1853, and are now supplying ore for an annual product of 3,000 tons of oxide of zinc, 3,600 tons of metallic zinc, and 3,000 cases of sbeet zinc. These ores are very rich and pure, and exist in large solid deposits. One deposit is being worked wbicb is 23,000 feet square and 75 feet deep. It measures 12 cubic feet to the ton. It is mined at a depth varying from 175 to 300 feet, and there seems to be no doubt but that tbe supply will last many years.

Water Pipes have not, it seems reacbed the limit of perfectibility. It was stated before the American Socieiy of Civil Engineers that whilc tbe daily consumption of water in New York is about 100,000,000 gallons, 500,000,000 gallons are wasted through unrecognized leaks; and that in Boston more than 17,000,000 gallons are used where 8,000,000 gollons should suffice. By more careful coustructiou and operation of waterworks an immense saving might be effected.

The Precious Metals.—Our Future Supply.—Silevr.

At prresent there is an undoubted scarcity of silver, whils ths proportion of gold to tbat metal rapidly increases. Our silver coin is diminishing and deterioring by wear and tsar. The quantity of it in existence is inadequate, and tbe alloy is such as to make the coin purely Governmsnt tokens, just as copper (bronzs) is. A contemporary lately said, "just as the paper circulation is;" that, however, was a mistake, for tbs Bank of England and the other bauks of issne must ksep an equivalsnt in gold, and pay gold on demand over ths counter far papsr. The silver coin, however, is only a token, not being worth more tban two-thirds of its uominal value; tbere is, therefore, less silver in tbat form than the public imagiue. It is often urged that tbe course now pursued by tbe nations of the Continent in gradually adopting a gold coinage will throw an equivalent value of silver upon the market, and it is likely tbat India will adopt tbat course under the auspices of the India Office. But so wedded are the people of India to the cnstoms that except in tbe province of Madras, where they have been long used to a gold piece of the value of £1 10s., tbis process will be slow, although undoubtedly it will be sure. At the same time this change will not on the whole produce anything like the amount of silver for the world's use that is generally supposed; bscause the silver coinage of France, Belgium, Germany, Scandiuavians, &c., is like our own, below par in actual value. Moreover, while gold is supplauting silaer on the Continent of Europe aud in India, otber countries are ahout to adopt a silver coinage, or much enlarge what they have. Egypt, Morocco, Tunis, tbe Republic of Liberia in Africa, are exemplifications of tbis. In British Burmah, and especially in the southern part of tbe Malay peuinsula, tbe American and Mexican dollars are peferred to money in any oth rform. China will not only bave a silver coinage, but requires a vast increase, and the Government of Pekin are said to be preparing for tbe issue of a new Imperial dollar coinage of higb standard. Cochin China, Persia, and the wbole of the States of South America are calling for new dollar silver of purity. There is in the United Kingdom, the United States of North America. Germany, Belgium, Hollaud, Russia, Denmark, Sweded, the South American Republics, and tbe Brazilian Empire a vast advance in the use of silver plate. It is also applied to the arts, aud ornamentation more extensivcly. Silver plating for carriages, harness, saddlery, arms, accourtements, cabinets, apartmeutal and personal decorations, is extending witb wonderful strides. The well-to-do working and agricnltnral classes in the United Kingdom, the United States, and Continental Europe have got into an eager fashion of carrying silver watchss and silver chains and gnards. Silver rings are worn by tbat class more on tho continent of Enrope, and all over that of Amorica except the English contiuental Nortb American possessions. The blacks of eastern aud western Africa, the West Indiss, and tbe sontbern states of the Nortb Americau Uniou are eager to possess silver rings or silver plated rings. The enlargement in the old uses for silver is most extensive, and tbe demand for new uses excessive. Wbere theu is it to come from? Tbe Uuited Kingdom produces a not inconsiderable quantity of silver, but it is generally, if not always, fouud witb lead in comparatively small proportions. In Ireland, however, it is fonnd nearly pure in tbe Tipperary silver mines. Cornwall has some fine siller-lead miues, and no one doubts that there is a considerable area of unworked silver-lead ore in that wonderful country for mines. In Sbropshire silver-lead bas of late years been worked. In fact the wbole country from Shrewsbury, Oswestry, Wem, and Elsmere, crossing tbe Welsh borders, on tbrongb Cardigansbire to tbe immediate vicinity of Aberystwitb, is strewn with argentiferous lead and lead ore. The mines of Cardiganshire have been famous from a remote antiquity, silver to some amount being found with the lead. The Romans worked those mines, compelling the Britons, wbo hated tbe performance, to serve as navvies. Sir Hugh Myddleton in bisday worked a rich mine which enabled bim to construct "the New River," and entitled him to a monument on Islington-green and a statne in one of the exterior nitcbes of the Royal Exchange. Tbe mine he worked bad been wrought before by "the old men," and is still yielding argentiferous lead. In tbe counties of Wales, around Cardigan, lead is found mixed with silver—the Great Van is an illustration; but Cardigan is the centre of tbese deposits, and the Rigbt Hon. John Bright works a mine on tbe Plynlymmons whicb briugs him an income of tens of tbousands a year. The Isle of Man, minute as it is, is rich in silver-lead, as the marvelous returns of the Great Laxity testify. In Ireland this fraternity of metals abounds; it is peculiarly the argentine lead-bearing country of Europe, or perbaps of tbe world. In several countries of Europe this product is found, and there is much uuworked in Spain and Portugal. In Australia we have several good lead and good silver-lead mines, all profitably engaging capital. It is, however, in America tbat the silver of the world is chiefly, according to present evidences, to be in future found; altbough as Spain from her own bowels and her colony of Mexico once served out the silver of the nations, Hispaniola in tranquillity may yet be searched, and not in vein, for pure silver deposits. Sonth America gave the name of Argentine to the combiuatiou of provinces which south and north of tbe Plats yisldsd silver. Potosi was a proverb of wealth, and ths Bolivian Government gleans it from those mines to-day. On the west of the Andss silver abounds; Mexico is, so to speak, saturated.—*English Ex.*

Monthly Values of Our Shipments.

Following is a statement of the monthly aggregate values of merchandise and produce shipments from San Francisco hy way of the ocean, and coin and hullion shipments through regular mercantile channels, for the six months ending June 30, 1873:

	Merchandise.	Treasure.	Totals.
January	$3,885,235	$1,626,742	$5,511,977
February	2,496,736	2,247,123	4,743,859
March	2,620,715	2,554,114	5,174,829
April	1,966,107	2,244,037	4,210,144
May	1,323,605	1,961,844	3,285,449
June	1,366,197	1,715,883	3,082,080
Totals	$13,658,595	$12,349,743	$26,008,338

It is a noteworthy fact, that nearly $12,000,000 of the merchandise trade was for articles of California produce, exclusive of tbe quantities sent hy rail. The heaviest items were Flour aud Grain, the value of whicb was $9,636,000. The next heaviest items were $333,000 for Ores and Quicksilver, $255,000 for Wine and Brandy, $228,000 for Borax, $210,000 for Hides and Wool, $158,000 for Lumher, $61,000 for Salmon, $86,000 for Leather, and $46,000 for Furs and Skins. We regret that we have not the values of the merchandise and produce shipments to Atlantic cities hy rail. The total quantity thus shipped for five months was 17,509,800 lhs, over half of which was Wool. There was also 4,000,000 lbs. of Tea, Coffee, and Wine. The estimated value of the California produce sent across the railroad in five months is $3,000,000. It is not known how much coin and hullion has heen sent through the mails during the past six months, but it is probable that at least $1,000,000 has thus gone. It is safe to say that our combined exports for the first half of the year exceed $30,000,000.

Receipts of Bullion.

The receipts of Coin and Bullion at San Francisco, througb Wells, Fargo & Co.'s Express, for the six months ending June 30th, were as follows:

	Silver Bullion.	Gold Bullion.	Coin.
January	$295,261	$892,477	$917,197
February	323,375	636,325	621,152
March	332,677	653,915	865,379
April	1,298,128	795,404	614,546
May	1,842,283	855,470	687,133
June	970,861	976,513	652,204
Totals	$5,062,586	$4,709,104	$4,358,211

Making a total of $14,129,901. The sources whence this treasure was received are indicated as follows:

From northern and southern mines	$11,627,984
From northern coast route	950,791
From southern coast route	369,026
From Mexico	1,183,100
Total	$14,129,901

The larger proportion of this amount came to hand during the last quarter. We annex a comparison of the quarterly receipts through the above channel:

	1872.	1873.
First quarter	$9,053,203	$5,437,358
Second quarter	8,719,140	8,692,543
Totals	$17,772,343	$14,129,901

The comparison shows a decrease this year of $3,600,000 in the receipts of domestic Coin and Bullion. How far this dcficiency may be accounted for by an increase of direct shipments to the East from the mines, we are at present unable to determine. The movements to and from the interior, through tbe Express Company, bas hecn as follows:

	Received.	Remitted.
January	$917,197	$1,491,140
February	621,152	1,102,813
March	865,979	963,742
April	614,546	1,006,849
May	687,133	858,104
June	652,204	993,517
Totals	$4,358,211	$6,418,161
Same time in 1872	3,947,941	7,653,978

There is always more Coin received through private channels from the interior than is remitted in that way, and hence the figures of the Express Company do not correctly indicate tbe Coin movement between the city and country.

Colorado Mines.—Tbe Georgetown, (Col.,) *Miner*, in an able article on tbe mines and mining interest of Colorado, takes the following cheerful view of the situation:

We, in Clear Creek county, are having hard times, it is true; but the outlook is bright—was never brighter, and the reasou for the present stringency in our money market, is obvious. We want capital to develop our mines, and give us increased capacity for production. It is like trying to run a large store with a small stock of goods. Mining doesn't pay from tbe grass roots, and it takes money to put a mine in condition to make it pay. We have scores of mines in this country which are paying a bandsome profit; but with few exceptions they are owued and worked by individuals whose meaus are limited, and who put their profits into developing their property.

We will work onrselves out of all thie trouble by and by, however; and capitalists will sometime learn that mining is a legitimate business.

Metallurgy and Ores.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS

ADVANCES MADE

On all kinds of Ores, and particular attention

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4v16 3m

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C. W. STRONG & CO.,

Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

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(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,

(Opposite the U. S. Branch Mint

SAN FRANCISCO, CAL. 7v21-3m

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,

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512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco

Nevada Metallurgical Works.

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WORKING TEST MADE BY ANY PROCESS —TESTING OF PROCESSES.

Plans furnished for the most suitable Process for Ores.

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Analysis of Ores, Minerals, Waters and all other substances.

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Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

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2v26-3m E. G. DENNISTON, Proprietor.

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Vessels, Apparatus, Sheet, Wire, Etc., Etc.

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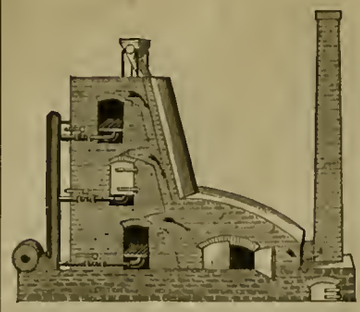

For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

OAKLAND

SMELTING AND REFINING CO.

Is now ready to receive Lead Bullion and separate the Silver and Gold therefrom, and Refine the lead on reasonable terms, and have the same ready for delivery within thirty days from its receipt.

Their works are situated at Melrose, on the line of the Railroad, three and a half miles easterly from Oakland.

The Bullion will be received at the works, directly from the cars, free of expense.

OFFICE:

Northwest Gorner Broadway and Twelfth Street,

OAKLAND, CAL.

SEXTUS SHEARER,

President.

July 18th, 1873. 4v27-tf

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 25v26 1y

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The San Francisco Nickel Plating Company Are prepared to plate articles of all descriptions, of any metal. Cutlery, Liquor Flasks, Pistols, Guns, Swords, Bridle Bitts, Pole Crabs, Hub Bands, Dash Rails, and all articles of household hardware plated at short notice, and warranted. Nickel Plate never tarnishes or corrodes, always retaining its polish until the article is worn out. Office at the KIMBALL MANUFACTORY WORKS, Cor. Fourth and Bryant Streets. 12v26-3m

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Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,

San Francisco.

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom, SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks

Of Every Variety for Sale,

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

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5v27-3m Superintendent.

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SWISS AMERICAN BANK,

Incorporated in Geneva, Switzerland, January 20th, 1873.

HEAD OFFICE, IN GENEVA.

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SUBSCRIBED.—ONE-QUARTER PAID UP.

PRESIDENT.....HENRY HENTSCH.

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Directors:

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Lyons,	Geneva,	Chaux-de-	Lucern,
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An Assay Office

Is annexed to the Bank. Assays of gold, silver, quartz, ores and sulphurets. Returns in coin or bars, at the option of the depositor. Advances made on bullion and ores.

Dust and bullion can be forwarded from any part of the country, and returns made through Wells, Fargo & Co., or by checks. 1v27-3m

The Merchants' Exchange Bank

OF SAN FRANCISCO.

Capital, One Million Dollars.

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R. N. VAN BRUNT.....Cashier.

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London Office.....No. 3 Angel Court.

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Authorized Capital Stock, $6,000,000,

Subscribed, $3,000,000. Paid in, $1,500,000.

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4v27tf G. MAHE, Director.

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Menzo Spring---Manufacturer of the Dr. Bly Artificial Limbs, has removed from 101 Jessie street to 166 Tehama street, near northeast corner of Third and Tehama, and between Howard and Folsom streets. Address Menzo Spring, 166 Tehama st., San Francisco, Cal.

DR. AIKIN, 504 Kearny st., N. E. cor. California st., S. F., cures Catarrh, Deafness, Ear Discharges, Dalormities, and all Eye, Ear, Lung, Liver, Kidney, Blood, Nerve, Chronic, Special and Men's Diseases. Friendly advice; skillful treatment for all invalids. Medicines supplied. Hours, 10 to 4 and 6 to 8. Call or write. Ladies, married or single, speedily cured of any ill health. 23v26

H. C. BENNETT,

STATISTICIAN.

Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

RICHARD H. STRETCH, Civil Engineer,

City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

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GRAY & HAVEN,

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In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,

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Spectacles and Instruments made, repaired and adjusted 22v17-3m

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BARTLING & KIMBALL,

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Paper Rulers and Blank Book Manufacturers.

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SEAL ENGRAVER,

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Brass and Steel Stamps and Dies, 608 Sacramento street, San Francisco. Orders by express promptly attended to.

J. M. STOCKMAN,

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N. W. corner Natoma and Fremont streets, S. F. Entrance on Natoma street. 6v23-3m

San Francisco Cordage Company.

Established 1856.

We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.

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Diseases of a chronic and obstinate character, especially such cases as have for years, or a lifetime, resisted the ordinary modes of treatment, are the class of maladies in the treatment of which Dr. Aborn has become pre-eminent on the Pacific Coast, as well as throughout the Union, and by his success has acchieved for himself an enviable reputation. 23v25-1y

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BOARD, PER WEEK, $3.50. BOARD AND LODGING, $4 TO $5. SIX MEAL TICKETS FOR $1.

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Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES' RANGES, etc.

THAT FAVORITE HOME REMEDY,

PAIN-KILLER,

Has been before the public over THIRTY YEARS, and probably has a wider and better reputation then any other proprietary medicine of the present day. At this period there are but few unacquainted with the merits of the PAIN-KILLER; but, while some extol it as a liniment, they know but little of its power in easing pain when taken internally; while others use it internally with great success, but are equally ignorant of its healing virtues when applied externally. We therefore wish to say to all, that it is equally successful, whether used internally or externally. It is sufficient evidence of its virtues as a standard medicine to know that it is now used in all parts of the world, and that its sale is constantly increasing. No curative agent has had such a widespread sale or given such universal satisfaction.

DAVIS' PAIN-KILLER is a purely vegetable combound, prepared from the best and purest materials, and with a care that insures the most perfect uniformity in the medicine; and while it is a most effective remedy for pain, it is a perfectly safe medicine, even in the most unskillful hands.

It is eminently a FAMILY MEDICINE; and by being kept ready for immediate resort, will save many an hour of suffering, and many a dollar in time and doctor's bills.

After over thirty years trial, it is still receiving the most unqualified testimonials to its virtues, from persons of the highest character and responsibility. Eminent Physicians commend it as a most effectual preparation for the extinction of pain. It is not only the best remedy ever known for Bruises, Cuts, Burns, etc., but for Dysentery, or Cholera, or any sort of bowel complsint, it is a remedy unsurpassed for efficiency and rapidity of actiou. In the great cities of India, and other hot climates, it has become the standard medicine for all such complaints, as well as for Dyspepsia, Liver Complaints, and all other kindred disorders, For Coughs and Colds, Canker, Asthma, and Rheumatic difficulties, it has been proved by the most abundant and convincing testimony to be an invaluable medicine.

We would caution the public against all imitations of our preparation, either in name or style of putting up.

GENERAL MERCHANDISE.

The demand for Bags is quite large, rates being $14½ @15c. for standard. Prices of Coal are no higher, Monte Diablo selling at $6 50@8 50. The trade generally improving.

BAGS.			Barrel kerosene.	30	@ —
Eng, stand. Wh't	14½@ 15		Downer Kerose'o	50	@ 52½
Detrick's Mach'e Sewed, 22 x 36,			Gas Light Oil	37½@	40
Gilroy E	13½@ —		**PAINTS.**		
do, 22x36, do W	14 @ —		Atlan. W. Lead	11½@	12
do. 22x40, do	15 @ —		Whitening	— @	2
do, 22x40	15¾@ 16		Chalk	— @	1
do, 21x40	14½@ 15		Paris White	2½@	—
Flour Sacks, ⅝	14 @ 16		Ochre	2½@	3
" " ¼s	8¼@ 9½		Venetian Red	2½@	3
Stand. Gunnies	— @ 20		Red Lead	10 @	11
" Wool Sacks	— @ 65		Litharge	9½@	11
" Barley do	— @ 15½		**RICE.**		
Hessian 45-in. gds	— @ 11½		China No. 1, ℔ lb	6½@	—
do 60	— @ 16		do 2, do	5¾@	6
Burlaps, yard	10½@ 10¾		Japan	6 @	7½
CANNED GOODS.			Siam Cleaned	— @	—
Asst'd Pie Fruits			Patna	7 @	—
in 2½ lb cans. 3 00	@ —		Hawaiian	6 @	8
do Table do	— @ 4 00		Carolina	10 @	10½
Jame & Jellies 4 00	@ 4 50		**SALT.**		
Pickles ½ gl	— @ 3 50		Cal. Bay, per ton. 5 00	@15—	
COAL—Jobbing.			Carmen Island..14 00	@30—	
Australian, ℔ ton	11 00 @12 50		Liverpool fine...22 00	@ —	
Coos & Bel. Bay. 8 50	@10—		do coarse 9 00	@20—	
Seattle	— @10—		**SOAP.**		
Cumberl'd, cks	— @ —		Castile ℔ ba	11 @	12½
do bulk...21 00	@22 50		Local brands	8 @	9
Mt. Diablo	6 50 @8 50		**SPICES.**		
Lehigh	14 25 @ —		Allspice, par lb	15½@	16
Liverpool	11 00 @12—		Cloves	— @	45
West Hartley	12 00 @14—		Nutmeg	1 10 @1	12
Scotch	10 00 @11—		Whole Pepper	— @	27½
Scranton	10 00 @ —		Ground Allspice	25 @	—
Vancouver's Isl.	12 00 @14—		do Cassia	30 @	—
Charcoal, ℔ sk	75 @ —		do Cloves	30 @	—
COFFEE.			do Mustard	25 @	27½
Sandwich Island	15½@ —		do Ginger	25 @	30
Costa Rica per lb	19½@ 20		do Pepper	26 @	27
Guatemala	19 @ 20		do Mace	35 @	40
Java	23 @ 23½		**SUGAR, ETC.**		
Manilla	19 @ 20		Cal. Cube per lb	11 @	—
Ground in cs	25 @ —		Circle A crushed	11 @	—
Chicory	10 @ —		Dry granulated	10½@	11
FISH.			Extra do	10¼@	—
Pac. Dry Cod, new	@ 7		Golden O	9½@	—
cases	8 @ 9		Hawaiian	20 @	22½
Eastern do	10 @ —		do Roy'l grade	@	—
Salmou in bble. 8 00	@ —		Cal. Syrup in bls.	32½@	—
do ½ bbls 4 50	@5 00		do in ½ bls.	35 @	—
do 2½ lb cans	@ 25		do in kegs	40 @	—
do 2lb cans	@3 25		**TEA.**		
do 1lb cans .2 25	@ —		Oolong, Canton, ℔ lb	19 @	25
Pick. Cod, bbls. 22 00	@ —		do Amoy	28 @	50
do ½ bbls 11 00	@ —		do Formosa	40 @	80
Box on Smoked	@ —		Imperial, Canton	25 @	40
Herr's box	50 @ —		do Pingsuey	45 @	80
Mack'l, No. 1, ½ bbl	10— @10 50		do Moynne	60 @1	00
" Extra	— @ —		Gunpo'der, Cant.	30 @	42½
" in kits	— @2 50		do Pingsuey	50 @	90
" Ex mess. 4 25	@4 50		do Moyune	65 @1	25
NAILS.			Y'ng Hy., Canton	28 @	40
Assorted size, lb	5¾@ 9 —		do Pingsuey	40 @	70
NAVAL STORES.			do Moyune	65 @	85
Pitch, per lb	6¾@ —		Japan, ½ chests, bulk	30 @	75
Oakum	5½@ —		Japan, lacquered bxs, 4½ and 5 lbs	45 @	67
OILS.			Japan do 3 lb bxs	45 @	90
Pacific Glue Co.			do pl'n bx, 4½ lb	25 @	65
Neat P't No. 1	— @ —		do ½ & 1 lb paper	30 @	55
Pure	1 25 @ —		**TOBACCO—Jobbing.**		
Castor Oil, No. 1	1 40 @1 45		Bright Navye	46½@	47
do do No. 2	1 30 @1 35		Dark do	47 @	—
Cocoa Nut	80 @ —		Dwarf Twist	57 @	—
Olive Pinguiol	5 50 @ —		12 inch do	51 @	—
do Pressed	4 75 @ —		Light Pressed	65 @	75
Palm	9 @ —		Hard do	60 @	70
do Bagicalupi	— @ —		Corona Wrap'r	40 @	50
Linseed	95 @1 00		Penn. Wrapper	35 @	45
China nut	82½@ 85		Ohio do	30 @	40
Sperm, crude	1 25 @ —		Virgi'a Smok'g	60 @	95
do bleached	1 90 @ —		Fine ct che'g, gr	8 50 @8	25
Coast Whales	31½@ 40		Fine cut chewing, bu'ts, ℔ lb	.75 @	90
Polar, refined	55 @ —		Banner fine cut	9 25 @	—
Lard	90 @ 92½		Eureka Cak	50 @	—
Coal, refined Pet	37½@ 40		**TURPENTINE.**		
Oleophine	37½@ 40		Eastern	70 @	—
Devoe's Brill't	37½@ 40				
Long Island	37½@ 40				
Eureka	37½@ 40				
Downer's Kero'e	50 @ 52½				

San Francisco Metal Market.

WEDNESDAY, Aug. 13, 1873.

The market has ruled quiet during the week under review. Sales have been slight, with, if anything, a slight depression, though prospects are now better for the trade.

IRON—			
Scotch Pig Iron, ℔ ton	$52 50	@	— —
White Fig, ℔ ton	52 50	@	— —
Refined Bar, bad assortment, ℔ lb	— —	@	— 4
Refined Bar, good assortment, ℔ lb	— —	@	— 4½
Boiler, No. 1 to 4	— 05¾	@	— 06
Plate, No. 5 to 9	— 06¾	@	— 07
Sheet, No. 10 to 13	— 07¾	@	— —
Sheet, No. 14 to 20	— 08	@	— 08¾
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 6	@	— —
Other Irons for Blacksmithe, Miners, etc.	— 5	@	— 6
COPPER—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O. Nail's Pat	— 55	@	— —
Sheathing, ℔ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES—			
Plates, Charcoal, IX ℔ box	14 00	@	14 50
Plates, I U Charcoal	13 00	@	13 50
Roofing Plates	12 00	@	13 50
Banca Tin, Slabs, ℔ lb	— 40	@	— 42½
STEEL—English Cast, ℔ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
ZINC—			
Sheet	— 9¼	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5	@	— 7

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

Prices remain much the same as of late, changes of importance seldom occurring except from violent fluctuations in the French market. Business this month is slightly better than that of the past two months, and Leather promises to soon recover from the recent depression.

City Tanned Leather, ℔ lb	26@29
Santa Cruz Leather, ℔ lb	26@29
Country Leather, ℔ lb	25@28
Stockton Leather, ℔ lb	2@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 19 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 16 Kil. ℔ doz	55 00@ 70 00
Cornellian, 12 to 16 Kil	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumerville, 15 Kil	60 00@ — —
Simon, 18 Kil. No. doz	80 00@ 62 00
Simon, 20 Kil. ℔ doz	65 00@ 67 00
Simon, 24 Kil. ℔ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ℔ lb	30@ 32
California Kip, ℔ doz	50 00 to 60 00
French Sheep, all colors, ℔ doz	8 00@ 15 00
Eastern Calf for Backs, ℔ lb	1 00@ 1 25
Sheep Roane for Topping, all colors, ℔ doz	3 00@ 13 00
Sheep Roane for Linings, ℔ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 4 50
Best Jodot Calf Boot Legs, ℔ pair	5 00@ 5 25
Good French Calf Boot Legs, ℔ pair	4 00@ 4 75
French Calf Boot Legs, ℔ pair	4 00@ —
Harness Leather, ℔ lb	30@ 37½
Fair Bridle Leather, ℔ doz	48 00@ 72 00
Skirting Leather, ℔ lb	34@ 37½
Welt Leather, ℔ doz	30 00@ 50 00
Buff Leather, ℔ foot	20@ 22
Wax Side Leather, ℔ foot	17@ 19
Eastern Wax Leather	— —

LUMBER MARKET.

CARGO PRICES OF PUGET SOUND PINE REDWOOD.—Retail Price.

Rough, ℔ M	$20 00		
Rough Refuse, ℔ M	16 00	Rough, ℔ M	$16 00@18 00
Rough, clear, ℔ M	32 50	Flooring and Step, ℔ M	30 00
Rough clear refuse, M	22 50	Flooring, narrow, ℔ M	32 50
Rustic, ℔ M	35 00	Flooring, 2d quality M	25 00
Rustic, refuse, ℔ M	24 00	Laths, ℔ M	3 00
Surfaced, ℔ M	32 50	Furring, ℔ lineal ft	¾
Surfaced refuse, ℔ M	22 50	Rough refuse, ℔ M	10 00
Flooring, ℔ M	30 00	**REDWOOD—Retail.**	
Flooring, refuse, M	20 00	Rough Pickets, ℔ M	18 00
Half-inch Siding, M	32 50	Rough Pickets, p'd, M	20 00
Beaded floor, refuse, M	22 50	Fancy Pickets, ℔ M	30 00
Half-inch Siding, M	22 50	Siding, ℔ M	25 00
Half-inch siding, ref. M	16 00	Tongued and Grooved,	
Half-inch, Surfaced, M	25 00	surfaced, ℔ M	35 00
Half-inch Surf. ref., M	18 00	Do do refuse, ℔ M	27 50
Half-inch Battens, M	22 50	Half-inch surfaced, M	37 50
Pickets, rough, ℔ M	14 00	Rustic, ℔ M	37 50
Pickets, rough, p'td	16 00	Battens, ℔ lineal foot	—
Pickets, fancy, p'td	25 00	Shingles ℔ M	3 00
Shingles, ℔ M	3 00		

SPECIAL NOTICE.

NEVADA, Cal., August 10, 1873.

DEWEY & Co.—Gents: I see in your paper of yesterday that Hoskins has stated another falsehood in regard to my being beaten in every suit that I have been party to. You will please take notice that the suit of Fisher vs. Craig is on trial and not decided yet. The injunction was denied, but the case goes on for trial. As I think you do not wish to misrepreseut the matter, you will please have it rectified. Respectfully,

F. H. FISHER.

Another Compliment.

STONY POINT, July 16, 1873.—Messrs. DEWEY & Co., Patent Agency—Dear Sirs: I received my patent for harrow on the 12th of this month, by Wells, Fargo & Co.'s Express, all in satisfactory order. I would say to those wishing to obtain patents to employ Messrs. DEWEY & Co. without fail. From my experience with them, I am satisfied from their untiring energy and honesty that if the case deserves a patent they will obtain it, and in full legal form. P. N. WOONWORTH.

Laws Concerning Corporations.

[Under the New Code—January 1, 1873.]

GENERAL PROVISIONS APPLICABLE TO ALL CORPORATIONS.
WAGON ROAD CORPORATIONS.
WATER AND CANAL CORPORATIONS.
HOMESTEAD CORPORATIONS.
MINING CORPORATIONS.
LAND AND BUILDING CORPORATIONS,
ALSO, MINING PARTNERSHIP LAW.

A pamphlet containing the above provisions concerning Corporations has been printed from the Statutes of California. It furnishes those who wish these special laws an opportunity of obtaining them for the small sum of 25 cents (post paid). Address, DEWEY & Co., Publishers, and Patent Agents, S. F.

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Mining and Other Companies.

Alpine Gold Mill and Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Tuckerville Mining District, Amador County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 21st day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 25th day of August, 1873, will be delinquent, and advertised for sale at public auction; and unless payment is made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assesement, together with costs of advertising and expenses of sale. By order of the Board of Directors.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. ly26

Baltic Consolidated Gold and Silver Mining Company.

A meeting of the stockholders of the above named Company will be held at the office, 507 Montgomery street, on the 16th day of August, 1873, at 1 o'clock P. M., for the election of Trustees, and for such business as may come before the meeting.

aug5-2w ROBT. H. GOODWIN, Secretary.

Notice—The Annual Meeting of the

Stockholders of the Cerbat Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held on Monday the eleventh day of August, 1873, at the office of the company, 507 Montgomery street, San Francisco, California, at 1 o'clock, P. M.

jy26td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Table Mountain Alpha Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Table Mountain District, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 8th day of August, 1873, an assessment (No. 1) of 12½ cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 438 California street, up etaire, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 7th day of October, 1873, to pay the delinquent assesement, together with costs of advertising and expenses of sale.

T. F. CRONISE, Secretary.

Office, No. 438 California st., San Francisco, Cal. au13

Rising Star Mining Company.---Location

of works: Nevada County, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
J M Buffington, Trustee	401	395	$22 50
J M Buffington, Trustee	431	100	6 00
J M Buffington, Trustee	434	31	1 86
J M Buffington, Trustee	435	662	39 72
H B Berryman	186	100	6 00
H B Berryman	188	100	6 00
H B Berryman	189	31	1 86
H B Berrymad	365	50	3 00
E B Barnes	368	25	1 60
Jacob Bryan	416	26	1 60
L Englander	99	100	6 00
W Frederick	392	25	1 50
S T Kennedy	158	100	6 00
S T Kennedy	158	100	6 00
S T Kennedy	343	85 5-7	5 20
Samuel Marks	27	50	3 00
S Nathan, Trustee	424	331	19 86
P Newman	194	50	3 00
P Newman	195	50	3 00
P Newman	196	50	3 00
John Wilkes	179	331	19 86
C A Wakeman	418	26	1 60

And in accordance with law and an order of the Board of Directors, made on the 11th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public anction, at the office of the Compauy, 87 New Merchants' Exchange, California street, San Francisco, Cal., on Saturday, the 30th day of August, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California Street, San Francisco, California au16

Stanislaus Water Company—Location of

principal place of business, 526 Kearny street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1873, the several amounts set opposite the nsmes of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
M A Wheaton	10	56,250	$1000 00
M A Wheatou	72	10,000	200 00
John Burcham	17	25	50
John Burcham	18	50	1 00
John Burcham	19	76	1 50
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2 00
E Tripp, Trustee	25	100	2 00
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
E Tripp, Trustee	51	100,856	1009 25
S W Newhall	36	57	1 14
A E McGregor	38	82	1 84
E A Richardson, Trustee	55	56,250	1125 00
D E Hayes, Trustee	56	25,500	510 00
Charles Elliot	63	10,000	200 00
Charles Elliot	64	10,000	200 00
Charles Elliot	65	9,998	81 40
Charles Elliot	66	20,000	400 00
S O Field, Trustee	58	12,000	240 00
S C Field, Trustee	59	6,000	120 00
S C Field, Trustee	60	7,886	3 97

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 526 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON C. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at No. 402 Montgomery Street, room 23. Any stock upon which this assessment shall remain unpaid on the 16th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday the 8th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francisco. ly 12

Confidence Mining Company---Location of

principal place of business, San Francisco, Cal. Location of works, Tuolumne county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fourth day of August, 1873, an assessment (No. 1) of one dollar and seventy-five cents ($1.75) per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the fourth day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, tha 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

H. HAMPTON, Secretary.

Office, 217 Sansome street, San Francieco, Cal. au5

Cincinnati Gold and Silver Mining Com-

pany. Principal place of business, San Francisco. California. Location of works, Kelsey Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 7th day of July, 1873, an assessement of five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the company, No. 331 Kearny street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 1st day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office Room 14, No. 331 Kearny street, San Francisco, Cal. jy23

Day Spring Gold Mining Company—Lo-

cation of works, Kelsey Quartz Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees, held on the fourth day of August, A. D. 1873, an assessment of five cents per share was levied upon the assessable stock of said company, payable immediately in U. S. gold coin, to the Secretary, at the office of the company, No. 302 Sansome street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the tenth day of September, A. D. 1873, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold at auction on Wednesday, the first day of October, to pay delinquent assessment, together with costs of advertising and expenses of sale.

O. F. BROWN, Secretary.

Office—302 Sansome street, San Francisco, Cal. au8

Excelsior Silver Mining Company—Prin-

cipal place of business, San Francisco, California. Location of works, Yellow Pine District, Nye County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 18th day of July, 1873, an assessment of Forty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 640 Washington street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.

Office, 640 Washington street, San Francisco, California.

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the eighth day of August, 1873, an assessment (No. 3) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the twelfth day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the twenty-ninth day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. au9

Globe Mining Company. — Location of

Works: Gold Hill Mining District, Storey Co., Nevada.

NOTICE.—There is delinquent upon the following described Stock, on account of Assessment (No. 3) levied on the 2d day of July, 1873, the several amounts set opposite the names of the respective Shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cope, Geo W, Trustee	381	50	$ 37 50
Cope, Geo W, Trustee	537	20	15 00
Charles, J A, Trustee	691	25	18 75
Agnita Everett, Trustees	443	20	15 00
Cahill, E & Co., Trustees	942	5	3 75
Cook, J E, Trustee	1,104	50	37 60
Cahill & Fox, Trustees	168	20	15 00
Cahill & Fox, Trustees	169	10	7 50
Cahill & Fox, Trustees	250	10	7 50
Cahill & Fox, Trustees	254	10	7 50
Cahill & Fox, Trustees	256	10	7 50
Cahill & Fox, Trustees	258	5	3 75
Cahill & Fox, Trustees	404	26	18 75
Cahill & Fox, Trustees	431	10	7 50
Cahill & Fox, Trustees	421	10	7 50
Cahill & Fox, Trustees	452	10	7 50
Cahill & Fox, Trustees	457	10	7 50
Cahill & Fox, Trustees	459	10	7 50
Cahill & Fox, Trustees	460	10	7 50
Cahill & Fox, Trustees	463	5	3 75
Cahill & Fox, Trustees	464	5	3 76
Cahill & Fox, Trustees	465	5	3 75
Cahill & Fox, Trustees	580	20	15 00
Cahill & Fox, Trustees	625	10	7 50
Cahill & Fox, Trustees	563	10	7 50
Cahill & Fox, Trustees	671	5	3 75
Cahill & Fox, Trustees	672	5	3 75
Cahill & Fox, Trustees	673	5	3 76
Cahill & Fox, Trustees	674	6	3 75
Cahill & Fox, Trustees	676	6	3 76
Cahill & Fox, Trustees	681	30	22 50
Cahill & Fox, Trustees	705	5	3 75
Cahill & Fox, Trustees	714	50	37 50
Cahill & Fox, Trustees	716	20	16 00
Cahill & Fox, Trustees	785	25	18 76
Cahill & Fox, Trustees	736	10	7 50
Duncan, W L, Trustee	702	10	7 50
Duncan, W L, Trustee	974	40	30 00
Drexler, L P & Co, Trustees	730	50	37 50
Drexler, L P & Co, Trustees	731	50	37 50
Drexler, L P & Co, Trustees	732	40	30 00
Drexler, L P & Co, Trustees	1,118	50	37 50
Drexler, L P & Co, Trustees	1,119	50	37 50
Duncan, J M, Trustee	706	10	7 50
Fenn, T W, Trustee	409	10	7 50
Franks, Fred, Trustee	1,061	30	22 50
Franks, Fred, Trustee	1,062	50	37 50
Golly, Leon, Trustee	106	25	18 76
Golly, Leon, Trustee	138	30	22 60
Golly, Leon, Trustee	193	20	16 00

Names.	No. Certificate.	No. Shares.	Amount.
Golly, Leon, Trustee....	194	20	15 00
Golly, Leon, Trustee....	535	10	7 50
Golly, Leon, Trustee....	576	10	7 50
Golly, Leon, Trustee....	577	20	15 00
Golly, Leon, Trustee....	579	10	7 50
Golly, Leon, Trustee....	599	10	7 50
Golly, Leon, Trustee....	600	10	7 50
Golly, Leon, Trustee....	602	5	3 75
Golly, Leon, Trustee....	699	10	7 50
Golly, Leon, Trustee....	701	5	3 75
Golly, Leon, Trustee....	747	25	18 75
Golly, Leon, Trustee....	761	30	22 50
Gordon, C P, Trustee....	495	25	18 75
Gordon, C P, Trustee....	518	25	18 75
Gollin, W W, Trustee...	497	25	18 75
Glover & Stark, Trustees	1,097	50	37 50
Glover & Stark, Trustees	1,098	40	30 00
Herr, J J, Trustee	379	25	18 75
Herr, J J, Trustee.....	1,064	50	37 50
Higgins & Greene, Trus.	489	5	3 75
Hunt, G H, Trustee....	556	50	37 50
Hunt, G H, Trustee....	1,066	100	75 00
Hunt, G H, Trustee....	1,067	100	75 00
Hunt, G H, Trustee....	1,068	100	75 00
Hunt, G H, Trustee....	1,070	50	37 50
Hunt, G H, Trustee....	1,071	50	37 50
Hunt, G H, Trustee....	1,072	50	37 50
Hawkins, J J, Trustee..	1,033	50	37 50
Keul, R F, Trustee.....	163	10	7 50
King, J L, Trustee.....	1,088	50	37 50
Lazure, L T, Trustee....	653	100	75 00
Lazure, L T, Trustee....	1,073	50	37 50
Lazure, L T, Trustee....	1,074	50	37 50
Lazure, L T, Trustee....	1,075	50	37 50
Lazure, L T, Trustee....	1,076	50	37 50
Lazure, L T, Trustee....	1,077	50	37 50
Lazure, L T, Trustee....	1,078	50	37 50
Lazure, L T, Trustee....	1,079	50	37 50
Lazure, L T, Trustee....	1,080	50	37 50
Lazure, L T, Trustee....	1,082	50	37 50
Lazure, L T, Trustee....	1,083	50	37 50
Lazure, L T, Trustee....	1,084	50	37 50
Lazure, L T, Trustee....	1,085	50	37 50
Lazure, L T, Trustee....	1,092	50	37 50
Lazure, L T, Trustee....	1,093	50	37 50
Lazure, L T, Trustee....	1,094	50	37 50
Lieak, L S Trustee.....	1,057	50	37 50
Marina, E J deSta, Trustee	139	100	75 00
Marina, E J deSta, Trustee	219	50	37 50
Marina, E J deSta, Trustee	223	100	75 00
Marina, E J deSta, Trustee	384	50	37 50
Marina, E J deSta, Trustee	440	50	37 50
Marina, E J deSta, Trustee	682	50	37 50
Marina, E J deSta, Trustee	777	100	75 00
Martin, Camillo, Trustee.	781	10	7 50
Martin, Camillo, Trustee.	782	10	7 50
Martin, Camillo, Trustee.	707	25	18 75
Martin & Lane, Trustees	135	50	37 50
Mitchell, J S, Trustee...	166	50	37 50
Mansfield, M, Trustee...	536	50	37 50
Masten, E B, Trustee...	959	20	15 00
Noble, H H, Trustee....	750	10	7 50
Noble, H H, Trustee....	849	100	75 50
Noble, H H, Trustee....	862	25	18 75
Noble, H H, Trustee....	863	5	3 75
Norwood, W W, Trustee.	438	10	7 50
Norwood, W E, Trustee.	856	20	15 00
Rosa, L. S, Trustee.....	1,103	50	37 50
Richison, E A, Trustee	11	100	75 00
Richardson, E A, Trustee	16	100	75 50
Richardson, E A, Trustee	17	100	75 50
Richardson, E A, Trustee	53	100	75 50
Richardson, E A, Trustee	159	50	37 50
Richardson, E A, Trustee	160	50	37 50
Richardson, E A, Trustee	202	100	75 00
Richardson, E A, Trustee	242	50	37 50
Richardson, E A, Trustee	299	40	30 00
Richardson, E A, Trustee	308	10	7 50
Richardson, E A, Trustee	309	150	112 50
Richardson, E A, Trustee	320	50	37 50
Richardson, E A, Trustee	845	50	37 50
Richardson, E A, Trustee	362	65	48 75
Richardson, E A, Trustee	364	50	37 50
Richardson, E A, Trustee	480	50	37 50
Richardson, E A, Trustee	501	50	37 50
Richardson, E A, Trustee	560	50	37 50
Richardson, E A, Trustee	508	5	3 75
Richardson, E A, Trustee	616	10	7 50
Richardson, E A, Trustee	678	20	15 00
Richardson, E A, Trustee	694	100	75 00
Richardson, E A, Trustee	839	50	37 50
Richardson, E A, Trustee	847	25	18 75
Richardson, E A, Trustee	848	25	18 75
Richardson, E A, Tsustee	852	50	37 50
Richardson, E A, Trustee	860	25	18 75
Richardson, E A, Trustee	954	50	37 50
Richardson, E A, Trustee	959	25	18 75
Richardson, E A, Trustee	970	25	18 75
Richardson, E A, Trustee	972	200	150 00
Richardson, E A, Trustee.	1045	30	22 50
Richardson, E A, Trustee.	1090	75	56 25
Sleeper, George, Trustee	949	50	37 50
Sleeper, George, Trustee	950	50	37 50
Sleeper, George, Trustee	1,056	50	37 50
Sherwood, B F & Co, Trus	347	20	15 00
Sherwood, B F & Co, Trus	390	10	7 50
Schmiedell, Henry, Trus	300	10	7 50
Schmiedell, Henry, Trus	642	75	56 25
Stark, John, Trustee....	784	20	15 00
Smiley, G W, Trustee....	330	30	22 50
Smith, E L, Trustee.....	332	100	75 00
Tibbey, E S, Trustee.....	177	50	37 50
Turubull, Walter & Co, Trustees.....	1,055	50	37 50
Townsend, M D, Trustee	801	50	37 50
Uhler, J Clem, Trustee..	206	40	30 00
Uhler, J Clem, Trustee..	493	10	7 50
Uhler, J Clem, Trusteo..	794	50	37 50
Uhler, J Clem, Trustee..	795	30	22 50
Uhler, J Clem, Trustee..	799	20	15 00
Uhler, J Clem, Trustee..	819	50	37 50
Uhler, J Clem, Tructee..	824	50	37 50
Uhler, J Clem, Trustee..	827	50	37 50
Uhler, S Clem, Trustee..	841	20	15 00
Uhler, J Clem, Trustee..	864	100	75 00
Uhler, J Clem, Trustee..	865	100	75 00
Uhler, J Clem, Trustee .	866	100	75 00
Uhler, J Clem, Trustee..	870	100	75 00
Uhler, J Clem, Trustee..	871	100	75 00
Uhler, J Clem, Trustee..	875	50	37 50
Uhler, J Clem, Trustee..	879	50	37 50
Uhler, J Clem, Trustee..	880	50	37 50
Uhler, J Clem, Trustee..	883	50	37 50
Uhler, J Clem, Trustee..	885	50	37 50
Uhler, J Clem, Trustee..	886	50	37 50
Uhler, J Clem, Trustee..	887	50	37 50
Uhler, J Clem, Trustee..	890	50	37 50
Uhler, J Clem, Trustee..	891	50	37 50
Uhler, J Clem, Trustee..	893	50	37 50
Uhler, J Clem, Trustee..	894	50	37 50
Uhler, J Clem, Trustee..	895	50	37 50
Uhler, J Clem, Trustee..	896	50	37 50
Uhler, J Clem, Trustee..	897	50	37 50
Uhler, J Clem, Trustee..	899	50	37 50
Uhler, J Clem, Trustee..	904	25	18 75
Uhler, J Clem, Trustee..	911	25	18 75
Uhler, J Clem, Trustee..	912	25	18 75
Uhler, J Clem, Trustee..	913	25	18 75
Uhler, J Clem, Trustee..	914	25	18 75
Uhler, J Clem, Trustee..	915	25	18 75
Uhler, J Clem, Trustee..	916	10	7 50
Uhler, J Clem, Trustee..	923	10	7 50
Uhler, J Clem, Trustee..	925	10	7 50
Uhler, J Clem, Trustee..	928	10	7 50
Uhler, J Clem, Trustee..	933	5	3 75
Uhler, J Clem, Trustee..	939	5	3 75
Uhler, J Clem, Trustee..	953	100	75 00
Uhler, J Clem, Trustee..	956	10	7 50
Uhler, J Clem, Trustee..	961	5	3 75
Uhler, J Clem, Trustee..	978	200	150 00
Uhler, J Clem, Trustee..	981	200	150 00
Uhler, J Clem, Trustee..	982	200	150 00
Uhler, J Cleu, Trustee..	984	200	150 00
Uhler, J Clem, Trustee..	985	200	150 00
Uhler, J Clem, Trustee..	991	100	75 00
Uhler, J Clem, Trustee..	992	100	75 00
Uhler, J Clem, Trustee..	994	100	75 00
Uhler, J Clam, Trustee..	996	100	75 00
Uhler, J Clem, Trustee..1,000		100	75 00
Uhler, J Clem, Trustee..1,006		100	37 50
Uhler, J Clem, Trustee..1,013		100	37 50
Uhler, J Clem, Trustee..1,016		100	37 50
Uhler, J Clem, Trustee..1,017		50	37 50
Uhler, J Clem, Trustee..1,020		50	37 50
Uhler, J Clem, Trustee..1,024		20	15 00
Uhler, J Clem, Trustee..1,025		100	75 00
Uhler, J Clem, Trustee. 1,027		100	75 00
Uhler, J Clem, Trustee..1,029		100	75 00
Uhler, J Clem, Trustee..1,031		100	75 00
Uhler, J Clem, Trustee .1,032		100	75 00
Uhler, J Cleu, Trustee..1,034		100	75 00
Uhler, J Clem, Trustee..1,035		50	37 50
Uhler, J Clem, Trustee..1,037		50	37 50
Uhler, J Clem, Trustee..1039		50	37 50
Uhler, J Clem, Trustee..1040		50	37 50
Uhler, J Clem, Trustee..1041		50	37 50
Uhler, J Clem, Trustee..1051		50	37 50
Vinzeul, Charles, Trustee1086		50	37 50
Wade, A P, Trustee.....	63	50	37 50
Woods & Freeboru.....	151	5	3 75
Woods & Freeboru.....	165	5	3 75
Woods & Freeboru.....	199	50	37 50
Woods & Freeborn.....	282	10	7 50
Woods & Freeborn.....	283	10	7 50
Woods & Freeboru.....	339	15	11 25
Woods & Freeboru.....	386	5	3 75
Woods & Freeboru.....	659	5	3 75
Webster & Soule, Trustees	957	15	11 25
White, U H, Trustee	473	10	7 50
White, U H, Trustee	470	10	7 50

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of such stock as may be necessary will be sold at public auction, at the office of the Company, No. 26 Hayward's Building, No. 419 California street, San Francisco, Cal., on Monday, the 25th day of August, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

JOSEPH MAGUIRE, Secretary.

Office, Room 26, Hayward's Building, No. 419 California street, San Francisco, Cal. au7

Greenhorn Gold Mining Company.---Location

of principal place of business, San Francisco, California. Location of works, Grass Valley Mining District, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of July, 1873, an assessment of one dollar and fifty cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, No 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 18th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 10th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. jy12-td

Heckerdorn Gold and Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Blue Mountain District, Calaveras County, Cal.

NOTICE.—There are delinquent upon the following discribed stock, on account of assessment levied on the 9th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Louis Reiff.....	174	400	$100 00
Frank Lyon.....	156	40	10 00
Isidore Lyon.....	168	20	5 00
Berson.....	161	100	25 00
Monin.....	157	100	25 00
A Mayer.....	161	00	25 00
Hanson.....	119	60	15 00
Savyeyur.....	93, 107, 156,	840	210 00
Louis Ny.....	157	400	100 00
Louis Ny.....	158	400	100 00
Louis Ny.....	201	800	200 00
Louis Ny.....	207	400	100 00
Louis Ny.....	208	200	50 00
Louis Ny.....	209	100	25 00
Sain Sot.....	169	20	5 00
Sain Sot.....	94	20	5 00
Sain Sot.....	95	20	5 00
Sain Sot.....	96	20	5 00
Sain Sot.....	97	20	5 00
Caterine Ny.....	136	100	25 00
E Gauthier.....	169	200	50 00
E Gauthier.....	190	200	50 00
E Gauthier.....	193	260	65 00

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June 1873, so many share of each parcel of said stock as may be necessary, will be sold at public action, at the office of the Secretary, No. 734 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LGUIS TERME, Secretary.

Office, 734 Montgomery street, San Fraucisco California. jy12

POSTPONEMENT.—At a meeting of the Board of Directors, held this day, the above sale was postponed to the 28th day of August, 1873, at the same place and hour.

LOUIS TERME, Secretary.

San Francisco, Jnly 24, 1873. jy26

Hardy Coal Mining Company—Location of

principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
D M Weston.....	36	887½	$1,775 00
D M Weston.....	53	147	294 00
I Bartlett.....	26	12¾	25 00
I Bartlett.....	32 (old)	66	1,650 00
Bartlett Willcox.....	33 (old)	50	1,250 00
R B Bartlett.....	17 (old)	10	250 00
R B Bartlett.....	46	25	50 00
R B Bartlett.....	47	25	50 00
R B Bartlett.....	48	25	50 00
R B Bartlett.....	49	25	50 00
R B Bartlett.....	50	22	44 00
Edward McLean.....	1	36	72 00
Edward McLean.....	2	52	104 00
Edward McLean.....	5	41	82 00
Edward McLean.....	15	100	200 00
Edward McLean.....	22	50	100 00
Edward McLean.....	23	50	100 00
Edward McLean.....	24	150	300 00
Edward McLean.....	33	2	4 00
Edward McLean.....	35	4	8 00
Edward McLean.....	37	46	92 00
Jacob Hardy.....	10	100	200 00
Jacob Hardy.....	38	15	30 00
Jacob Hardy.....	40	2	4 00
Jacob Hardy.....	51	2	4 00
Jacob Hardy.....	25 (old)	1	25 00
Jacob Hardy.....	39 (old)	1	25 00
M H Eastman.....	28	45	90 00
M H Eastman.....	29	55	110 00
M H Eastman.....	30	50	100 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the Company's office, Room 5, No. 338 Montgomery street, San Francisco, California, on the 30th day of August, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JACOB HARDY, Secretary pro tem.

Office, Room 5, No. 338 Montgomery street, San Francisco, California. jy28

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 28th day of July, A. D. 1873, an assessment (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 8th day of September, A. D., 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

Kincaid Flat Mining Company—Principal

place of business, San Francisco, Cal. Location of works, Kincaid Flat Tuolumne county, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 6th day of August, 1873, an assessment of Four Dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 8th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. H. CORNELL, Secretary.

Office 217 Sansome street, San Francisco, Cal. au13

Lady Esten Tunnel and Mining Company

—Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the eighth day of August, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No 35 New Merchants' Exchange, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 12th day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873 to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. au9

Lady Franklin Gold and Silver Mining Co.

Principal place of business, City and County of San Francisco, State of California. Location of works, Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of July, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of August, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office—507 Montgomery street, San Francisco, California. jy19

Notice---the Annual Meeting of the

Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held at the office of the company, 507 Montgomery street, San Francisco, on Saturday the 9th day of August, 1873, at 1 o'clock, P. M.

jy26td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Placer Gold Mining and Canal Company.

Location of principal place of business, San Francisco, California. Location of works, Placer County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the eighth (8th) day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Apel, J M, Trustee.....	8	20	$2 00
Blanckaert, V J, Trustee...	28	10	1 00
Blanckaert, V J, Trustee...	31	10	1 00
Blanckaert, V J, Trustee...	33	5	50
Blanckaert, V J, Trustee...227		5	50
Blanckaert, V J, Trustee...298		5	50
Blanckaert, V J, Trustee...299		5	50
Blanckaert, V J, Trustee ..303		5	50
Blanckaert, V J, Trustee...304		5	50
Blanckaert, V J, Trustee...305		5	50
Blake, Wm L.....	42	15	1 50
Branger, Jean.....	271	10	1 00
Cummings, E J.....	311	30	3 00
Do Lorme, G V.....	194	50	5 00
Gerber, J B.....	191	10	1 00
Gerber, J B.....	332	50	5 00
Gilmore, Walker.....	273	10	1 00
Hancock, C H.....	195	500	50 00
Hancock, C H.....	196	100	10 00
Hancock, C H.....	197	50	5 00
Hancock, C H.....	198	25	2 50
Hancock, C H.....	323	325	32 50
Hall, Wm D L.....	251	10	1 00
Hall, Wm D L.....	252	10	1 00
Hall, Wm D L.....	254	10	1 00
Hall, Wm D L.....	265	10	1 00
Hoffman, G.....	325	5	50
Hoffman, G.....	326	10	1 00
Haas, S, Trustee.....	329	805	80 50
Kalb, J A.....	187	2	20
Kalb, J A.....	188	3	30
Kalb, J A.....	189	5	50
Kalb, Fred.....	301	10	1 00
Marina, J de Sta, Trustee..107		100	10 00
Marina, J de Sta, Trustee .108		100	10 00
Mariua, J de Sta, Trustee..201		200	20 00
Muller, Henry.....	200	50	5 00
O'Hara, J D.....	60	50	5 00
O'Hara, J D.....	61	50	5 00
O'Hara, J D.....	64	50	5 00
O'Hara, J D.....	100	25	2 50
Parker, Henry, Trustee....324		35	3 50
Rosenfield, A, Trustee.....204		500	50 00
Tromar, M.....	306	50	5 00
Wrede, Wm.....	327	5	50
Wrede, Wm.....	328	10	1 00

And in accordance with law, and an order of the Board of Directors, made on the eighth (8th) day of July, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 411 California street, San Francisco, Cal., on Saturday, the thirteenth (13th) day of August, A. D. 1873, at the hour of twelve (12) o'clock, M., of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of the sale.

GEO. W. R. KING, Secretary.

Office, No. 411 California street, San Francisco, California. au13

Lemon Mill and Mining Company---Location

of Principal place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka county, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of August, 1873, an assessment of three dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the secretary, at the office of the Corporation, No. 608 Merchant street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the seventeenth (17), day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 8th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, No. 608 Merchant street, San Francisco, California. au16-4w

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 16th day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&s

POSTPONEMENT.—The day for deeming Stock delinquent on the above Assessment is hereby postponed until Thursday, the twenty-first day of August, and the day of sale of delinquent Stock until Friday, September 5th, 1873. By order of the Board of Trustees.

au9 CHAS. S. HEALY, Sec'y.

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said company, held on the 8th day of August, 1873, an assessment (No. 6) of fifteen (15) cents per share was levied upon the capital stock of the company, payable immediately in United States gold and silver coin, to the Secretary of said company, at his office, 113 Leidesdorff street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of September, 1873, shall be delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office—113 Leidesdorff street, San Francisco, Cal. au8

Spring Mountain Tunnel Company—Location

of works, Ely Mining District, Lincoln County, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stocks, on account of assessment levied on the 20th day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J M Buffington, Trustee..249		50	$10 00
J M Buffington, Trustee..253		50	10 00
J M Buffington, Trustee..385		1388	257 60
J M Buffington, Jr, Trustee151		25	5 00
B Dougherty.....	341	50	10 00
F M Freund, Trustee.....186		25	5 00
F M Freund, Trustee.....217		50	10 00
W L Hazards.....	95	20	4 00
T C Lewis.....	98	15	3 20
C W Lonker.....	102	8	1 60
H Lowenberg.....	75	80	16 00
J H Marston.....	233	130	26 00
M S Martin, Trustee.....189		38	7 60
M S Martin, Trustee.....207		15	3 00
Geo Phillips, Trustee....201		300	60 00
Geo Phillips, Trustee....202		100	20 00
Geo Phillips, Trustee....203		50	10 00
Geo Phillips, Trustee....204		50	10 00
Geo Phillips, Trustee....257		50	10 00
J T Pomeroy, Trustee....285		100	20 00
J T Pomeroy, Trustee....287		50	10 00
J B Starkweather.....	336	50	10 00
M Tubbs, Trustee.....	209	100	20 00
M Tubbs, Trustee.....	211	500	100 00
J Clem Uhler, Trustee...303		100	20 00
J Clem Uhler, Trustee...305		100	20 00
H Wilder, Trustee.....	95	80	16 00

And in accordance with law, and au order of the Board of Directors, made on the 20th day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, 37 New Merchants' Exchange, California street, San Francisco, California, on Monday, the 18th day of August, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, California. au2-3t

Umpire Tunnel and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., or to W. A. Beal, President. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary

Office, No. 230 Kearny street, San Francisco, Cal.

Union Gold Mining Company—Location of

principal place of business, San Francisco, California. Location of works, Howland Flat, Sierra County, Cal.

Notice is hereby given, that at a meeting of the Directors held on the 11th day of August, 1873, an assessment (No. 7) of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Room No. 22, Merchants' Exchange Building, California street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 15th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

ALFRED K. DURBROW, Secretary.

Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal. au6

Washington Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Mariposa County, California.

Notice is hereby given, that at a meeting of the Board of Directors held on the 11th day of August, 1873, an assessment of two dollars per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Friday, the 10th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. R. WINGARD, Secretary.

Office—Room 13, No. 318 California street, San Francisco, California. au13

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Particular attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

---

THE RISDON

Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore, C. J. Brenham, O. E. McLane,
Wm. Norris, Wm. H. Taylor, Lloyd Tevis,
James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary

24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC

Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

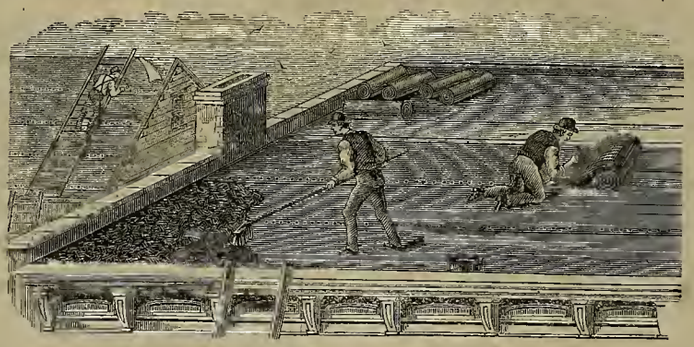
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

ASBESTOS ROOFING.

The "Asbestos Roofing" is a substantial and reliable material, which can be safely used in place of Tin, Slate, etc., on steep or flat roofs, in all climates. It is manufactured in rolls ready for use, and can be cheaply transported and easily applied.



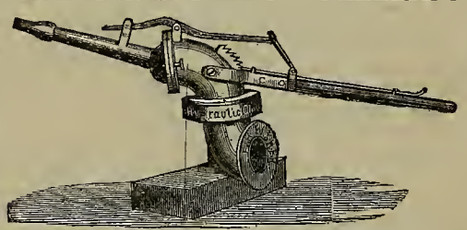
THE PACIFIC COAST TRADE SUPPLIED BY

PERINE & EDWARDS,
No. 638 Market Street, San Francisco, Cal.

2v6-bn4te

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



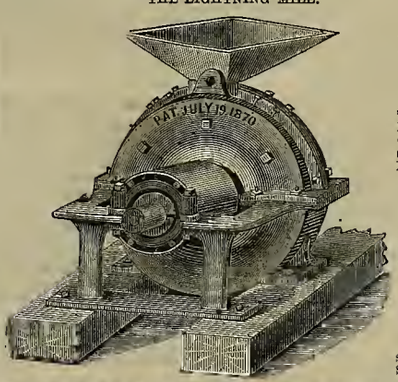
MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

THE LIGHTNING MILL.



THE

LIGHTNING MILL

For Pulverizing Quartz,

"Charleston Rock," and all Native Phosphates, Flint, Feldspar, Iron Ore, Manganese, Antimony, Carbon, Corundum, Old Crucibles, Barytes, Brimstone, Slate, Soapstone, Graphite, Glass, Marble, Plaster, Anthracite and Bituminous Coals, etc.

WM. STEWART'S

Patent Bone Mills and Crushers.

For Grinding Bones, Rock, Quartz, and all hard substances; also, Corn, Wheat, Oats, Barley, Coffee, Spices, etc.

WALKER BROS. & CO., Twenty-third and Wood Streets, Philadelphia, Sole Manufacturers of Stewart's Celebrated Patent Bone Mills and Crushers, A. W. Straub & Co.'s Patent Revolution French Burr Mill and A. Duval's Patent Centrifugal Pumps.

CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND-POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

A. J. SEVERANCE & CO.
Office, No. 315 California street, Rooms 16 and 17.
24v26-tf

PURCHASERS please say advertised in Scientific Press.

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

C. W. MOULTHROP & CO.,

Draughtsmen,

Plans, Specifications, and Estimates for Machinery of all Kinds.

We also design machines to meet particular demands and secure and assign the patents on the same
No. 237 First street, San Francisco. ap19-3m

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

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CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

Foundry Facings of the Best Quality

FOR SALE AT

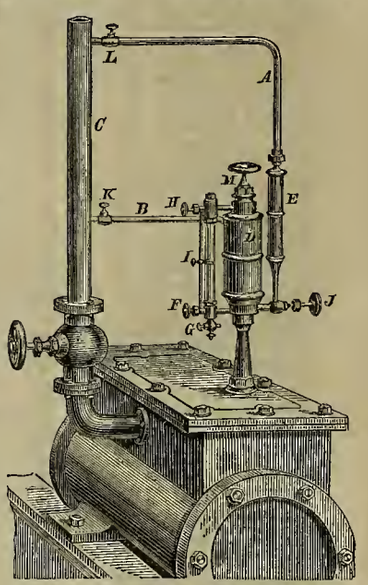
THE WHELPLEY & STORER MILL.

☞ These are WARRANTED equal to the BEST.

5v57-3m

Machinery.

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

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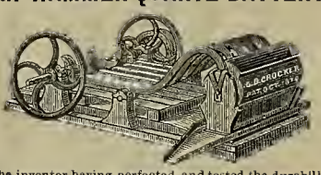
CROCKER'S PATENT TRIP HAMMER QUARTZ BATTERY.



The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

17v26-tf G. D. CROCKER,
315 California street, San Francisco.

STEBINS' HYDRAULIC ELEVATORS

—AND—

BRICK AND MORTAR HOISTS.

For Sale,

The right to Manufacture and Sell in Counties of the Pacific States.

Inquire at Room 32, Merchants' Exchange, California street, San Francisco. an9-1m

August 5, 1873.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of those patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

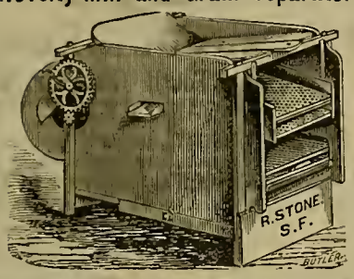
If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, Oakland,
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

THE PATENT Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to

R. STONE,
3v6-3m-eowhp 422 Battery street, San Francisco.

CALIFORNIA INVENTION.

CALL AND EXAMINE.

For Sewing Machines, Dentists' and Jewelers' Lathes.

This Invention can be applied to the operating of all kinds of Sewing Machines, Dentists' and Jewelers' Lathes. Its simplicity is only equaled by its durability; it avoids the use of the treadle, which is ungraceful and injurious.

Application made by the Agents for the Pacific Coast.

SAWYER & WHEDON,
1v6eowhp 633 Washington street San Francisco.

The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast.
337 Kearny St., S. F.

PRICE, $50. 22v21eow-hp-1y

THEODORE KALLENBERG,

MACHINIST,

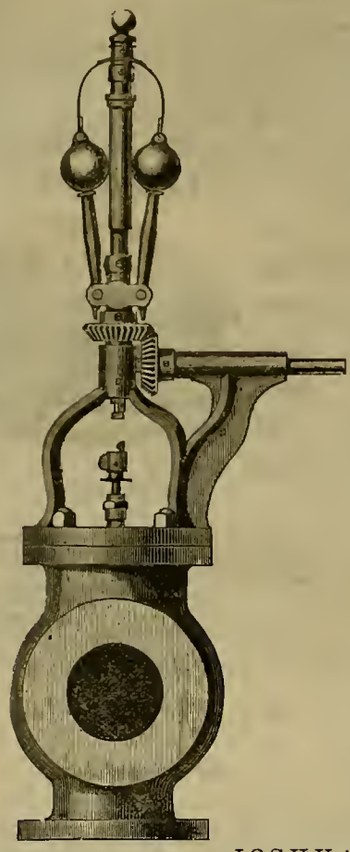
and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

PURCHASERS please say advertised in Scientific Press.

HENDY'S IMPROVED STEAM ENGINE REGULATOR.

OVER 400 HAVE BEEN PUT IN USE.



RECOMMENDATION.

ST. PATRICK MILL, Placer Co., Feb. 10, 1873.

JOSHUA HENDY, ESQ., SAN FRANCISCO:

Dear Sir: We, the undersigned, take pleasure in giving you the following testimonial as to the merits of the Hendy Governor, which we ordered from you about four months ago. Though more than pleased with its workings at first, we deferred writing until we had tested it thoroughly.

Our engine is 12x36 (carrying 70 lbs. of steam), driving 15 stamps, 725 lbs. each; 1 Wheeler Pan, 1 Knox Pan, 6 Hendy Concentrators. The discarded Governor was the common "Arm and Ball Governor;" it giving but poor satisfaction, we decided to try the "HENDY," and are pleased to report in its favor for the following reasons:

1st. IT SAVES ITS FUEL. Previous to attaching your Governor we were burning 3½ cords of wood per 24 hours. We now consume but 2½ cords doing the same work.

2d. FOR SAFETY. The "trip" saved us from an expensive smash up but a few days ago, during the temporary absence of our engineer. The Governor belt ran off the Pulleys. Your little automatic trip worked like a charm, and but one or two revolutions was the result, and no damage. Had we been using any other Governor, the probability is that we would not have had a whole cam in the mill.

3d. IT IS A PERFECT GOVERNOR. We can turn off the Wheeler Pan and hang up one-third of our stamps, without any perceptible change in speed.

4th. THE ADJUSTMENT for regulating the speed without increasing or reducing the size of our Governor pulley, is admirable, and as easily managed as setting a clock.

5th. IT IS SIMPLE and not liable to get out of order, or requiring more than ordinary care.

Yours respectfully,

JAS. H. CROSSMAN, Supt.
GEO. H. BARNEY, Chief Eng'r.

REFERENCES:

Rhode Island Mill, Crown Point M. Co., Gold Hill, Nev.
Eureka M. Co., Overman M. Co., Virginia City, Nev.
Camp Floyd M. Co., Utah S. M. Co., Utah.
Falk & Miner, Eureka; J. M. Brown, Hollister; Gazos Mill, Pescadero, Cal.
Also, Bancroft & Co.; Yolo Mills; The Union, Golden Gate, Ætna and Fulton Iron Works, of this city.

All Governors Tested, the Number Revolutions Marked on the Cross-Head, and Warranted Perfectly Reliable.

JOSHUA HENDY,

No. 32 Fremont Street.....SAN FRANCISCO.

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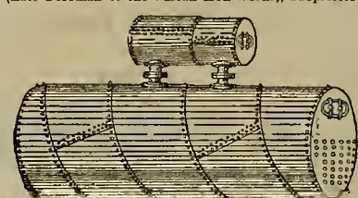

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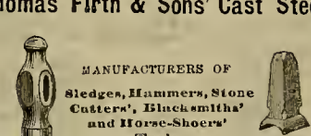

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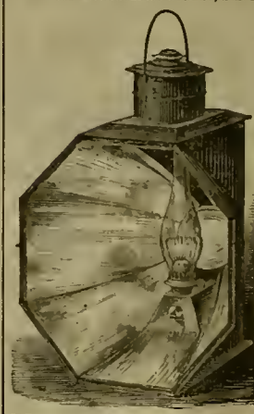

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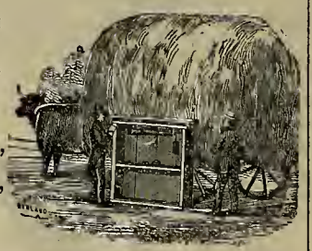

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T. M. MARTIN My dear sir: On your leaving for San Francieco, it givee me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up hy you upon our mine in Freihurg.

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EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

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Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

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SAN FRANCISCO, SATURDAY, AUGUST 23, 1873.

VOLUME XXVII. Number 8.

Improved Telemeter for Engineering and Military Purposes.

At the meeting of the California Academy of Sciences held July 21st, Prof. Geo. Davidson exhibited drawings of an improved telemeter for determining the distance, hearing and difference of elevation of an object from the observer by means within the instrument itself. Through the courtesy of the committee of publication we are able to make the following summary of his description:

The fundamental idea of this telemeter is credited to Gen. Clerk, R. A., F. R. S., etc., who designed it for military purposes, and had one, of two feet in length, made by Pastorelli & Co., of London, (Engineering for November 15, 1872, p. 333, Vol. II,) with a mirror at each end and two in the center. With the micrometer eye-piece he "obtained great accuracy up to 600 feet distance," and the results were "tolerably certain up to 3,000 feet." A similar instrument of six feet in length gave good results at three thousand yards.

The improvement which Prof. Davidson has made, in addition to some matters of detail, is what may be called a repeating micrometer, with a screw of much finer thread than used in the above instruments, where one Micrometer division was eleven seconds of arc. In the Micrometers of the Coast Survey, field Transits and Zenith Telescopes, the Micrometer divisions range from four-tenths of a second of arc to six-tenths, and are read to one-tenth of a division or six-hundredths of a second of arc. For work with this instrument the micrometer may be divided to seconds of arc, and read to half seconds or less.

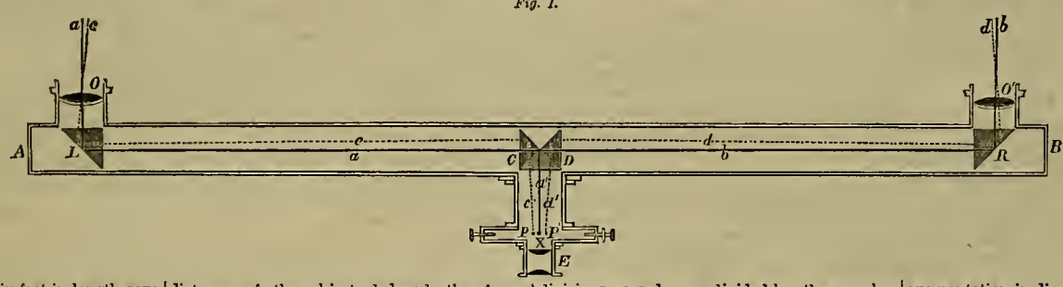
Description of the Instrument.

Figure 1, exhibits without details of bars or adjustment, a plan of the tube *A B*, carrying the base bar of six feet, the object glasses *O* and *O'* of two telescopes with micrometer eye piece *E*, common to both, and the prisms *L R*, and *C, D*. This tube will be about three inches in diameter; the object glass the same, and the powers of the eye glass from twenty to fifty. An opening can be made in the center of the tube in front of the prisms for illumination at night; and above the eye tube a short outside director to rapidly obtain the direction of the object to be observed upon.

Instead of reflectors, right angled prisms are prepared and arranged for each telescope, with their hypothenusal sides parallel to each other at an angle of forty-five degrees with the base. Necessarily the central prisms *C*, and *D*, are placed one above the other but touching. With this arrangement a ray of light from an infinite distance, or from a star, after entering the object glass *O* follows the direction of the line *a, a, a'*, in the left hand telescope to the point *X* in the focus of the telescope, and also entering *O'*, follows the line *b, b, c'*, in the right hand telescope to the same point. If the prisms are in adjustment the image of a star through each telescope will be seen as a single object at *X*. And this last condition is the test of adjustment. In using a star the adjustment would necessarily be made at night, but the test could be frequently made during the day by similar observations upon the border of the sun or upon some well marked spot on its disc. If it is desired to test the adjustment upon a near object, say at one hundred yards, then after the adjustment upon a star or the sun, the micrometer difference of the two images of an object at that distance must be determined (or may be computed) and used thereafter as a constant from which to make the necessary adjustment for infinite distance. But this method would require the change of focus of the telescope whence would arise change of the arc value of the micrometer divisions.

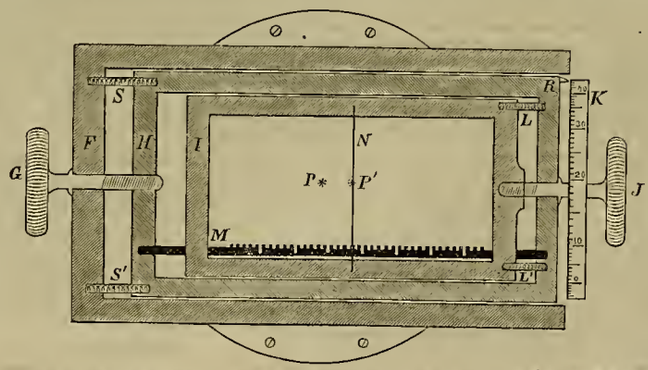
If the prisms are in adjustment and the object observed upon is not at an infinite distance, the rays of light from it will not enter the two object glasses in parallel lines, but at angles varying with a function of the distance, and will follow the lines *c c c'* and *d d d'*, so that the images *P* and *P'* of the same object will be formed at the common focus of the two telescopes. The horizontal distance apart of these images is measured by the micrometer, and the distance of the object deduced therefrom.

Fig. I.



With the ordinary micrometer this separation of the images can be measured by single readings only, but with the proposed micrometer the measure may be repeated any number of times, thereby virtually increasing the length of base used, by each repetition. Thus, by repeating the measure ten times, we have, as it were, increased the case from six to sixty feet; whilst a second set of ten repetitions serve not only as a test of the first set, but give an accuracy approximating that obtainable with a base of one hundred and twenty feet.

Fig. II.



IMPROVED TELEMETER FOR ENGINEERING AND MILITARY PURPOSES.

Figure II exhibits the repeating micrometer which essentially consists of three frames. The first, *F*, is attached by screws to the eye tube of the telescope. At the left hand end it carries a moderately fine micrometer screw, *G*, which moves the two frames *H*, and *I*, which are themselves attached to each other by the fine micrometer screw *J*, bearing the micrometer head *K*, and carrying the micrometer thread *N*. The springs *S* and *S'* between *F* and *H* are for keeping a constant strain between the two frames; and the springs *L*, and *L'*, between *H* and *I* are for a similar purpose. The frame *H*, carries the micrometer rack *M*, by which the whole turns or revolutions of the micrometer head of *J* are noted.

The action of the micrometer is therefore readily seen, and the operation of observing is as follows:

P and *P'* (in both figures) are the two images of the object to be observed upon. The micro meter *J* may be turned until the zero of the head is opposite the pointer *R*, then the micrometer *G* is turned (moving frames *H* and *I*) until the thread *N* bisects the left hand image *P*; the micrometer *J*, is then turned, moving the rack *I* only, until the thread *N*, bisects the right hand object *P'*, and the micrometer read off for the divisions less than one hundred, whilst the whole turns are noted on the rack which has a notch for each turn of the micrometer; this difference of the two readings gives the distance apart of the two images of the object in terms of the micrometer, and constitutes one measure. The micrometer *G* is now turned and carries both frames *H* and *I* until the thread *N* is brought back to bisect the image *P*; then the micrometer *J* is turned until the thread *N* bisects *P'* and read off as before for a second measurement. And so for subsequent measures. The measures can be read off after each repetition; or in rapid work, only the readings of the first bisection, and the last in a set, and the micrometer divisions passed over, divided by the number of repetitions. And any number of sets may be made to test or increase the accuracy of the work.

If the images of the object to be observed upon are small, clear and sharply defined, the probable error of the individual micrometer measures, should not exceed half a second of arc, but on account of the lack of definiteness and sharpness of most terrestrial objects this probable error will be larger; nevertheless it is perhaps a large allowance to assume that a probable error of one second of arc may exist in the mean of ten repetitions. At the distance of one mile this would involve an error of little more than two feet; and at five miles of only fifty-five feet.

Of course another function of the accuracy of the distance, is the accuracy of the base bar itself in the instrument, but this can be obtained with great precision. And as the base changes its length by changes of temperature, tables of distances for a series of micrometer differences with the base bar at different temperatures can be readily constructed.

Upon the upper and middle part of the bar tube a small prismatic compass was placed by General Clerk to obtain the magnetic bearing of the object. In addition to this Prof. Davidson proposes to place a small vertical arc and attached level to give the angle of inclination, by which, with the distance, the difference of hight between the object and observer may be obtained.

SILVER CITY, Idaho, is in a prosperous condition. The mines are said to be looking better than ever and the mills are pounding away day and night.

Improvement in Feathering Paddle Wheels.

From the first introduction of steam navigation all have recognized the many disadvantages of the existing system of paddle wheels and the great advantages of "feathering" wheels, that is, wheels with buckets which are maintained in a vertical position while in the water. The fixed buckets of the simple wheel enter the water at a resisting angle, slapping it, and causing a continuous jar and vibration of the whole machinery and frame of the vessel. But the most serious inconvenience results from the buckets leaving the water in such a position as to carry upwards an immense dead weight of water, which causes an equivalent waste of steam power. To lessen as far as possible these objectionable features, builders are obliged to reduce the hight of the buckets and increase the diameter of the wheel, adding larger numbers of buckets with each augmentation in diameter. This, of course, increases the cost of construction, as more rims and braces are required. The plan, while diminishing the bad points of the fixed buckets can never entirely remove them, as is evident; and this it is that has placed the screw in advance of the wheel, more than any other cause.

Many very ingenious devices for self feathering buckets have been invented and patented. The difficulty with these is one of complication and attendant want of solidity. Mr. A. Lefebvre, a mechanic, residing at No. 720 Lombard street, San Francisco, believes that he has attained the desired end by a simple system, for which letters patent dated May 13th, 1873, have been issued, protecting the inventor in his claim for seventeen years. Great economy of steam and increased speed are expected to result from the use of the new model. On Mr. Lefebvre's system, with the same size of bucket, the diameter of the wheel will be reduced one-half. The number of buckets can also be diminished, and the width of wheel made less. Narrow wheels give more space in the interior of the ship, or less extension in exterior or outside beam measurement. Nothing in the mechanism of the feathering wheel interferes with the present style of construction, but is claimed to add strength. The inventor guarantees that his plan applied to wheels will enable them to resist heavy seas, and will prove of economy in all directions in ocean and river navigation. The models which can be seen at Liesenfeld's Billiard Manufactory, No. 571 Market street, is essentially the same in fundamental construction as those made for the Pacific Mail S. S. Co.'s ships, on the 32nd proportion of the regular model.

NEW SMELTING WORKS.—We see by the Black Hawk *Journal*, that the new smelting works of the Boston and Colorado company, at Alma, are now in successful operation. They start with 1,000 tons of ore on hand, representing purchases amounting to $150,000.

THE Carson River is getting lower every day, much to the disgust of mill men and mine owners. Numbers of men have already been discharged, as the mills can not run all their stamps and some have "hung up" altogether.

CORRESPONDENCE.

Notes of Travel in White Pine County Nevada.—Continued.

[By our Traveling Correspondent.]

Tea-Cup Mine,

This location, consisting of 1,500 feet, Hunter Safford & Co., owners, is the commencing point of an entirely different ledge formation from either of the above mentioned. It begins at a point midway between the Delta and the Mountain View; it runs in a direction nearly north and south, and dips to the west. The hanging wall is a slate shale, 300 feet thick; the foot-wall, limestone. The development upon this mine consists of an incline shaft snnk to a deptb of 90 feet, following the incline of tbe ledge. At the bottom of this shaft they havo a body of ore three feet thick; having only the hanging wall in sight, the ledge matter is not known. At a depth of 50 feet on the incline, a body of ore over five feet thick is in sight; the company have on their dumps about 40 tons of ore that will mill over $80 per ton. The charscter of the ore is similar to that of the Pine Nut mine, described above.

The next claim is the McGary mine, an undeveloped location, owned by some six parties; it contains 1,500 feet. Next adjoining the McGary on the north is the

Chance Mine,

Owned by Curtis, McGary & Co; it coutains the same nnmber of feet as the Tea Cup mine. This mine is looked upon with considerable favor in Cherry Creek district. The development consists of one shaft down 45 feet, and an incline down 20 feet, following the dip of the ore body, which is the same as in tbe "Tea Cup." In the incline, an ore body is exposed over 3 feet wide of a very fine character. Tberc are now 50 tons of ore on the dnmps of this Co., that were extracted in sinking the incline shaft and incline, tbat will pay from $30 to $4,000 per ton. The ledge matter on the croppings shows an average width of over 15 feet. Exteuding north from the Chance mine, there are some six other locations between it and the Baltic, among which are the Vulcsn and Wanderer No. 2. But little development has been made on either of them.

The Baltic Mine,

Located on the same belt as the Tea-Cup mine; but situated 2⅓ miles north of it, at the upper or extreme west end of Silver Cañon, and at an elevation of over 8,000, feet. This location is owned by Messrs. Wbitemau, Masey and Goodrich. The claim is 1,500 feet in extent, running north and soutb, and dipping to the west at an angle of abont 50°. The development on this mine, consists of an open cut, run acress the vein near the center for about 50 feet; at this point the ledge is full 60 feet between the walls, all sbowing more or less mineral. Some 30 tons of pay ore have been taken out, and are now on the company's dump. This is divided into tbree classes; the first class ore will mill from $300 to $500; tbe second class $80, per ton; the tbird class, paying less than $80 per tou, is thrown over the dump.

At the north end of this location, a shaft is sunk to a depth of about 20 feet. In sinking tbe shaft, a body of chloride ore 8 feet thick was exposed, assays from which sbow it to contain $120 in silver and $25 per ton in gold. About 10 tons of this ore are now on the dump, at the North Shaft. This mine is now under lease to Capt. Henry Cheever of your city, with privilege to purchase.

Silver Cañon, in which the above claim is located, contains some of the finest timber to be found in Eastern Nevada. Next to tbe Baltic on the north is the

Wanderer Mine,

The property of Smith, McPherson, Martin and Wilson. These gentlemen claim 1,500 feet on the north of the Bsltic. The development on the same consists of a sbaft sunk to a depth of 25 feet, and at a point about 400 feet from their south line. This shaft is sunk on a line with their foot wall, and shows a body of ore of high grade, the entire width of the sbaft. Tbe width of their ledge at this point, on the croppings abont 20 feet, in every otber respect, it is similar to the Baltic mine, above described. The Wanderer has 25 tons of ore on the dumps.

Fortuna Mine.

This mine is located about 300 feet northeast of the Tea-Cup mine, and upon a parallel ledge, aud still different from either of the above described. This location contains 900 feet on the ledge, and is owned hy the Messrs. Collins & Franks. The ore body is between walls of limestone, and shows an average width of 3 feet. The company have run an open cut upon tbeir ledge, and sunk a sbaft 35 feet deep, taking out about 20 tons of ore, which are now on their dumps. It is expected to average $100 per ton.

Star Mine

This location is 1,500 feet in length and isthe property of Messrs. Moore & Johnson. It is situated in the quartzite, about ¼ of a mile east of the Exchequer and below and east of all of the above mentioned mines. It has been worked but slightly, but enough to reveal an ore body 3 feet thick, similar in character to that of the Exchequer. Some 4 miles south of Cherry Creek is another mining district that has heen known and worked for the last 8 or 10 years, known as, and located in

Egan Canon.

The mines in this district were first discovered in 1863. Two companies were at work in 1865, the Social Co., and the Steptoe Mining Co., which were consolidsted in 1866. The principal mine that has been worked since tbat time is the Gilligan, which has a shaft down 460 feet with levels run east 500 feet, and west 450 feet from the 300 foot level, where it connects with the air shaft; both shafts are inclines run down upon the ledge, which is remarkably well defined. The hanging wall is slate and the foot wall of quartzite, which are cut in a remarkably smooth manner, looking in places as though they had been plastered. There is a five stamp mill belonging to the company, which during the prospecting of the mine milled about $80,000 out of this rock, paying all expenses. The water came in at a point where the ledge was broken at a depth of 360 feet, and drove them out.

A twenty stamp mill was erected, bnt the ore was found to require roasting; while awaiting the erection of a furnace, the mine changed hands and is now being worked by a corporation known as the San José Co. A drift was run into the hill 50 feet below the break, and the ledge found again. The incline was continued down 90 feet, the water being kept down by steam pumps, and a drift run for the ledge, which when struck, opened snch a vein of water that tbe pumps became useless. The work is now snspended awaiting larger pumps.

Schell Creek District.

This district comprises the towns of Schellbourne, Ruby Hill and Centerville. The larger of the three places is Schellbourne. At this writing it is extremely dull, and has less than one hundred inhabitants. It is located in White Pine county, Nevada, and distant 95 miles from Hamilton, the county seat, and 110 miles south of Wells' Station on the C. P. R. R., betweeu which places Woodruff & Ennor's stages ply twice a day, making tbe trip in 48 honrs. The fare is $20. The cause of the failure of this district, (if failure it is,) can be summed up in two transactious, the first of whicb was the bonding of all the principal mines on

Ruby Hill,

To Col. O'Connor Sidney (since deceased) who became involved with English capitalists to such an extent that Mr. Thos. Snowdon was sent out to take charge of these mines as their property. Lawsuit after lawsuit has been the result, and it is still in litigation. Tbe town of Ruby Hill ss a natural result, became depopulated, and those having other locations that were good could not dispose of them, nor induce capital to come to their aid. I venture the assertion that there are to-day just as good mines to the extent of their development at Ruby Hill as anywhere in the new districts of Eastern Nevada. Tbe second and principal cause of the failure was the sale of the

Tehama Property

To Treat, Boggs, Richardson & Co., for $28,500; and they spent $75,000 more for a 30 stamp mill, before they had prospected to a sufficient depth to know that they had a mine.

I do not mention this by way of censure, for any man or compsny has the privilege and right to spend his money as he sees fit. But I do say that if $28,000 only, had been thrown away, instead of over $100,000, to-day a quarter of a million more would be operating there, iustead of being frightened entirely away from the district. I have written the above in partial justification of myself, as one of your Eastern contemporaries saw fit to twit you about your correspondent from here last year. I have surveyed the diffcrent points questioned (on this trip) of my remarks last year—and find nothing to take back. The fact that this Tehama Property did not prove a suc ess is of little import; I did not say it wonld; I did say that there was rock in sight that would pay certain figures, and snch was the case. This location, it appears, proves to be a slide of ore from some point higher up in the mountain, and is very rich on the croppings, which were from 10 to 60 ft. wide, hut only went down from a few inches to 4 or 5 ft. The Queen Springs mines, the Nutmeg and the McMahon are still driving abead, and extracting some good ore. From Robinson District in my next.

Robinson District.

This mining district is about ten miles long by eigbt wide, the lengtb being east and west. The mineral-bearing ground lies on both sides of a small valley which has the same name as the district. Tbe ores found here are quite numerous. I will mention some of them in order of prominence: silver (chloride and bromide), gold (telluride and free), lead, copper, iron and graphite. But small quantities of the two latter substances are found. Black and red garnets are fonnd in profusion, some of them are very beautiful. In the center of Robinson District is

Mineral City,

A place of about 250 inhabitants. This town began its existeuce in April, 1872. Discoveries, however, were made in 1868. There are four mercantile firms in this place, three boarding and lodging houses, two blacksmiths, two livery stables and some half a dozen saloons. There are also a ten stamp quartz mill and a smelting furnace in course of erection. A public school was started three months ago. The town has nearly doubled in size since last year. The mines never looked so prosperous as now, through the scarcity of money makes it rather dull here. Following are the principal mines of the district, with their present state of development:

Canton M. Co.

This is an Ohio incorporation. Mr. G. M. Ogden is Superiutendent. Tbe company own some forty different locatious or ledges The following are the principal, and developed more or less: Minnie-Minora, Blackstone, Yellowstone, New York, Springfield, El Dorado, Randolph, Hayes Extension and Aultman. The latter is the most thoroughly developed, and has the largest body of ore in sight underground of any mine I have ever been in except those on the Comstock lode. The location known as the

Aultman Mine,

With its extensions, is 6,000 feet in length 2,200 in width, 1,500 feet of which, together with the mill site, is covered by U. S. patent. This claim is located on tbe south side of Robinson Valley, below Mineral City and in close proximity to the company's smelting works. Tbis mine is being deve'oped by a tunnel now in 750 feet, and about 200 feet below the croppings. In driviug this tuunel to its present deptb in the hill a body of low grade ore was passed through, 100 feet in extent, prospecting from $12 to $100 per ton. The tunnel is now 25 feet in limestone, and supposed to be within a few feet of the main chimney, or ore body, as revealed by the principal shaft, which is 150 feet deep where it intersects the tunnel, the last 80 feet of whicb were in ore that will pay about $35 per ton in gold and silver—containing rather more of the former. Only a trace of lead is found at tbis point. Ten other shafts are sunk on this claim and its extensions, varying from 30 to 130 feet in depth, with some 600 feet of drifts and cross-cuts, and ore in every direction explored. At present the workiugs show a body of ore from 200 to 225 feet wide and 350 to 400 feet long, with neither side nor bottom. There are now on the dumps of the Aultman about 4,000 tons of ore averaging $40 per ton. On the dumps of tbe

L. P. Mc.

(To be Continued.)

Mining Notes.

EDITORS PRESS:—Having a month's leisure time at my disposal, I coucluded to avail myself of the long coveted privilege of visiting some of the famous mining localities in Lassen, Butte, Yuba and Plumas counties. Tbe weather has been excessively hot and extremely unfavorable to active locomotion, hut I bave learned many valuable facts in swinging around a circle of three hundred miles, and I thought I would give the PRESS and its readers the beuefit of my observations.

Chico

Is a pretty town, rapidly improviug, hot as a furnace in the summer, but is the natural center of a wouderfully rich agricultural region, and is the most available depot, for the great Big Meadow lumber forest. In extent and magnitude of sngar, yellow and white pines, and other trees of the genus *Coniferæ*, tbis grand old forest has no equal in North America, and probably cannot be excelled in the world. As I have stated, Chico is a pretty plsce; is the popular rival of Oroville for county seat of Butte, and will probably carry off the honor, for Oroville is a finished city, has lived out its day of activity and usefulness, and does not deserve to be county seat, or have any other distinguishiug mark of local importauce. As an evidence of the lack of enterprise, they have, within a year past discovered near the town, a bed of marvelously rich placer diggings. Instead of trying to work tbese diggings, as men used to do in '49 and '50, they think it a big thing to snrvey, and sells the mining lots to Chinamen, at prices ranging from $10 to $200 per lot, from which the purchasing Celestial will wash out a thousand dollars in less than a week. I learned from the bankers at Marysville and Oroville, that the Chinese ship regularly from this locality an average of $18,000 per week in fine gold. Is it surprising that Oroville is in its decadence? The life and soul of Butte county are the amazingly

Colossal Works

Which are being carried on in the famous tertiary beds at Cherokee, and at Morris Ravine. These great placers, nnderlying what is known as Table Mountain, extend from Oroville to Dogtown, in the direction, north and south, fully twenty miles, and are nnquestionably the most extensive placer gold deposits in the world. The bed-rock of the plscer, is clay slate, mingled with talcose slate and hard schistose rocks. Upon the bed are found petrified oak logs, and occasionally bones and teeth of the Mastodon, precisely as such vestiges are in the rich gold drift in Siberia. Mingled with the logs and bones is a concretionary deposit of washed pebbles, containing magnetic iron, sand, olivine and diamonds. This gravel bed is the chief matrix of the gold, which is mainly fonnd in fine particles, but is sometimes met with in the form of lnmps and nuggets. The gravel bed ranges from three feet to ten feet in depth, and is really the true pay dirt. Upon the gravel stratum rests a heavy layer of white quick-sand, mingled with iron oxide and tertiary clay. This sand bed is from 10 to 100 feet in deptb, and although it contains a little fine gold, is comparatively barren. The crown and summit of the entire mass, is a broad sheet of black basalt, columnar in structure, hard as iron, and with a perpendicular thickness of from ten to sixty feet. This basaltic cap makes the uneroded summit which hss formed the tertiary beds into table mountsins. Tbe work which hss been done by the Messrs. Hendricks, at Morris Ravine, and by the

Spring Valley Water Co.

At Cherokee, is simply herculean. It is impossible in a short commnication, to givo anything like an adequate idea of the labor performed, or of the obstacles whicb human energy has overcome. Suffice it now to say that they have brought water through pipes, flumes and ditches for many leagnes, over almostinaccessible mountain fastnesses; that they have demoustrated unheard of facts in hydrostatics and pneumatics; tbat they are now gnawing away both ends of tbe great tertiary bed with six thoussnd inches of water, and are monthly cleaning up hundreds of thousands of dollars in gold.

Towns.

Marysville is a nice old town, but it is too far from the mines, is subject to floods and is too closo to Yuba city. Dogtown bas legendary rich mines and is waiting for something to turn up. Iuskipps ditto. Yuba county has, as a whole, got the dry rot. It is a wealthy old stamping ground, bnt it greatly needs water and enterprize. Sierra county beats the world for variety and extent of mineral deposits, but it lacks outside communication. If your folks at the bay could take even a hasty glimpse at the treasures of

Plumas County,

They would wonder why California street runs wild sometimes, over Nevada wild-cat. Let me tell you what I have seen in Plumas: I have traveled over a ledge of fine Steatite one mile in diameter; and fire-bricks, you know, are worth twenty-five cents apiece at Virginia City. I have examined innumerable quartz ledges which bave never been worked and are so rich in gold that you can mash the quartz and pan out enongb to pay your grub bills. Through tbe entire country runs the great central tertiary gravel lead, extending from Laporte to Spanish Peak, which has always yielded more gold than any other gravel bed in the state. I know of two well defined ledges of Barytes, which is now so much in demand as the hardening element in artificial or Steatitic marble. Plumas can boast of the most extensive iron mine on tbe coast. Sbe also has more copper mines with a richer kind of ore than any county in California. I know of a ledge of black oxide of manganese in Plumas, which is thirty ysrds in width and will yield 80 per cent. oxygen. There are vast beds of marble, common limestone, silver, lead and antimony; a grand water-power for machinery, and timber inexhaustible. Plumas is vastly rich iu the future.

Lassen County

Is mainly adapted to agricnlture and also to cattle and sheep raising. It is easily accessible either from tho Sacramento valley *via* Chico, or by the daily stage line from Reno. From the last named place to Susanville, the route passes tbrough Long Valley, Honey Lake Valley and Susanville Valley. The scenery is picturesque and the road almost a level, all tbe way. For twenty years past, gold has been found in paying quantities aloug Gold Run and other streams in this county, but the extent and richness of its placer gravel beds were not fully understood until within the past two years. That gold existed at Hayden Hill and copper at Big Meadows, has been known for a longer period, but more recently miners discovered that the gravel deposits were not only extensive, but richer than any hitherto known. Something more than a year ago attention was attracted to an euormous gold bearing gravel bed on the very apex of the Sierra Nevada, a few miles south of Susanville. Parties are now engaged in developing this mine and the wonderfully rich prospects whicb they have found encourage the belief tbat their labors will be crowued with success. Infinitely beyond Dismond Mountsin and beyond anything whicb I have seen in this region as a placer deposit, is the

The Susanville Gravel Mine,

Near Big Spring, twelve miles west of Susanville. Recently Mr. Isaac Branham, of San José, purchssed a large interest in this mine and is now actively engaged in cutting a ditch to the works. The mine is a tertiary gravel bed having a visible length of one and a half miles from north to south and a length of one mile from east to west. On the north, west and south the gravel is covered by an outflow of lava as at Cherokee. On the east, the mine is bounded by a rim of solid granite. In brief, the mine is a gold-bearing gravel basin of surprising richness. The Susan river, containing for most of the year, 2,000 inches of water, runs directly through the heart of the bed, and can be easily bronght to bear directly upon the mine by making a ditch, or flume, three miles in length.

The gravel bed bas the remarkable depth of about sixty feet and yields pay-dirt to every panful of gravel from surface to bottom. It is easily washed, and unlike the famous deposits at Cherokee, Morris Ravine and other gravel beds, it is not the least encumbered with heavy strata of sand, clay, boulders and other hindrances, but is very rich pay-gravel from top to bottom. There is a splendid fall for under currents; it is easy of access snd is altogether the best opening for a big investment and rich golden harvest on the Pacific Coast. Tell some rich bugs to go and see it. I leave for Quincy in two days. Yours truly,

W. F. STEWART.

Susanville, Aug. 11, 1873.

MECHANICAL PROGRESS.

Shaping Machinery.

Down to about the year 1830, all operations in wood work that involved irregular lines, were without exception performed by hand. No machines were known, or if known, were not used, previous to the introduction of those built under the patent of Boyd or Blanchard. This patent, although dated 1820, failed for a term of twenty years at least to disseminate any ideas of irregular cutting by machinery, and it would be in fact no exaggeration to say that even at the present time the general principles upon which such machines operate are but imperfectly understood. We of course do not mean to say that such machines are to be properly and intelligently arranged by the builders, but that their operation is popularly appreciated as a kind of mysterious one that does not come within the regular sphere of mechanical laws.

There was in fact such an air of improbability about the cutting out of shoe lasts, gun-stocks, etc., by machines at the beginning, that the impression has not yet passed away. Among those unacquainted with mechanics, and we might include a great share of those who have studied only special branches of mechanics, a machine is always associated in the mind with rotary motion and true curves, or rectilinear motion and straight lines. This is less strange when we consider that aside from economizing human force, the great object of machines, and the distinction between machine and hand manipulation may be explained by saying, that *machines act in true geometrical lines with almost unlimited force and speed.* "Hand operations" *are not guided in true geometrical lines, and are limited in power and speed.*

Hence the machinery for irregular forms, although governed by the same laws, presented the idea of an anomaly to the mind. The mechanism involved also contributes to this impression; it is of a character more complicated than that for straight lines or curves, so much so, indeed, that in some cases the plan of operating is with great difficulty explained to the unskilled.

Shaping machinery, in the sense in which the term is here employed, comprehends turning machines for irregular forms, carving machines, and machines operating in one plane only; such as the moulding tables with right and left spindles, etc. The operation of all these machines can be described in a general way as "working from a pattern," duplicating forms already produced, from which and by which the action of the tools is directed. The part in contact with the model can be termed a guide, between which and the cutting tools, or the blank itself, there is coincident movement. In all the various modifications of machinery for shaping, we find the same mechanical equivalents, although for the better understanding of them they can be divided into two classes; those that adjust or move the tools, and those that adjust or move the material, so as to receive the action of the cutters on its different configurations.

In machines for turning lasts, gun-stocks, spokes for wheels, etc., they are about equally divided between the two arrangements. For carving and the more delicate operations, the tools are adjusted to the forms, or, as is sometimes the case, the adjustment is divided between the material and the center spindles; the one moving in a horizontal plane and the other vertically.

Causes of Boiler Explosions.

The causes of explosions with steam generators are numerous and diversified, but may commonly be traced to carelessness, either in construction or management. Of the former, the most glaring is that shown in boilers so made that no provision exists for the uniform expansion and contraction of the parts from changes of temperature. This causes a slow weakening at one place or another, which is sure to give way at one time or another when the usual steam pressure is exceeded. The continual boiling of water is likely to expel all the air therefrom, in the event of which it will remain quiescent up to a temperature as high as two hundred degrees Fahrenheit, when it suddenly flashes into steam. Some writers, Tyndall amongst them, aver the possibility of disastrous explosions from this cause. Experiments made on a small scale with special apparatus seem to show that a film of oil on the interior of the boiler may sometimes produce a like result. On the other hand, the grease used in lubricating engine cylinders, frequently finds its way into the boilers, and few or no authenticated cases of misbief from this source are on record. The idea sometimes advanced that the grease decomposed into explosive gases that produce casualty is nonsense, because the known volume of such gases even if produced would be insufficient to produce such a result. Sometimes an accident, slight itself, brings death and disaster long after, as was the case with the boiler of the steamboat St. John, seven or eight years ago, in which the corner of the cold chisel used in levelling a plate grooved the one below it and led to the parting of the iron as soon as a high pressure, otherwise perfectly safe, was reached.

A LARGE mass of meteoric iron has been found in Saxony, containing 5.31 per cent. of nickel.

The Grandest Bridge Ever Planned.

One of the greatest engineering feats ever projected, is the construction of the great bridge which is to span the Hudson, at Poughkeepsie, about half way between New York city and Albany. This structure, says the Poughkeepsie *Eagle*, will consist of five spans, of 500 ft. each, at an elevation of 196 ft. above the river! A bridge has never before been constructed of five spans of 500 ft. each, but the engineers say "it is only a matter of calculation and money." To give sufficient strength to these spans, the iron work will require to be 64 ft. in hight, and this will give a total hight from the water to the top of the bridge of 194 ft.

It is proposed to run the railroad-track on the top cord of the bridge, so our readers can imagine themselves crossing the river on this magnificent structure 200 ft. above the water. To raise the immense spans of 500 ft. to their places will require the construction of an entirely independent wooden bridge from shore to shore. This wooden bridge alone, built to be immediately removed after the spans are in their place, is estimated by Mr. Lindville, the chief engineer to cost $400,000. This gives but a faint idea of the magnitude of the great work.

Detailed plans for the structure of the bridge have not yet been made, but it will be what is known as the "Lindville Truss," a modification of the ordinary iron truss, having certain peculiarities of bracing, fastenings, etc., invented by Mr. Lindville, from whom it takes its name. This gentleman, who is one of the first, if not at the head of the bridge engineers of this country, will make the Poughkeepsie Bridge his especial care, as he considers it the grandest structure of the kind ever projected, and when completed it will be a masterpiece—one of the wonders of the world.

MORE EXPERIMENTS ON BOILER EXPLOSIONS.—No doubt every one interested in the matter will hear with satisfaction that the United States government has appropriated another $100,000, to be expended in investigations and experiments on the cause of steam-boiler explosions, of a similar kind as were last year so successfully performed at Sandy Hook under direction of Col. Stephens. The Franklin Institute of Philadelphia is charged with the supervision of this important work, which this time will not only be made at Sandy Hook, but also in Pittsburgh and Cincinnati, each under the charge of a committee of five engineers. No investigation, as well in regard to the establishment or refutal of scientific theories, as in its consequences to the safety of life and property, has ever been more worthy of governmental aid, and we hope that it will at last dispose of the fallacies which are still adhered to by many, and establish in an all-convincing way the knowledge of the true causes of those so melancholy and too common accidents—boiler explosions.—*Builder.*

PROGRESS IN LOCOMOTIVE CONSTRUCTION.—AMERICAN LOCOMOTIVES.—The demand for American machinery in foreign countries increases with every year, and the extensive exportations of steam engines to Russia, Austria, and other countries, furnishes ample evidence of the real merit of American mechanism. Upon this topic the *London Engineer* says: "It is beyond question—be the cause what it may—that the locomotive engines used in the United States cost less money and do more work than English locomotives." The successful trial of some American locomotives on one of the Russian railways has recently called forth a glowing acknowledgement of their superiority, in the journals of that country. Such facts are worthy of careful consideration by those who fear that other fields of trade in articles of manufacture are too completely in other hands to permit of competition on the part of American manufacturers.

AN IRON CHALLENGE.—Our spirited contemporary, the *Ironton Journal*, throws down its iron-ribbed gauntlet to the whole world in the following words: "Who can beat it? We have been shown a piece of common iron, the product of the mill of the iron and steel company (formerly the Ironton Rolling Mill), which had stood a tensile strain on their Riehle tester of 90,000 lbs. to the square inch. In last November, we witnessed a test of their iron, which parted under a strain of 81,495 lbs., and this was regarded as most extraordinary, the best test made before that by Mr. Yatman, who put up the testing machine, having been 79,090 lbs. The test now spoken of confirms us in the statement we made last fall that the Hanging Rock iron is the best in the world."

THE OCEAN TIDES SET TO WORK.—One of the first results in the rise in the price of coal has been the formation of a company in France, supported by plenty of capital, whose object is to utilize the power of the ocean tides on the French coast by proper machinery. The first experiment will be made at St. Malo, where the tide rises nearly eighty feet and overflows many square miles of flats.

RAILROADS IN RUSSIA.—It is stated that the Russian government is at present occupied with the consideration of the new network of lines which will embrace fourteen railways, having a total development of 4,000 versts (about 2,600 English miles.) These roads are to form part of a system of railway communication for military purposes.

Improved Hose.

The New England Linen Hose Manufacturing Company produces hose without a seam, making it strong from the start; a rubber lining adding, if possible, to its strength. It has been tested by the Boston Fire Department under a pressure of 230 pounds to the square inch, while several heavily loaded teams passed repeatedly over it. The Lawrence Fire Department carried the pressure to 268 pounds without bursting or sweating. A perfectly water-tight hose can, without fear of damage by water, be carried through private dwellings or warehouses; and this quality of imperviousness is a strong recommendation. Its light weight is another important item, a section of 50 feet of this hose, with couplings attached, weighing on an average 32 pounds. Rubber or leather hose weighs more than double. In consequence of its light weight it is therefore especially adapted for carrying to upper stories and roofs of houses, and much of the danger to firemen by breaking of ladders is avoided, as one man can with ease carry 100 feet. One hose-carriage can also carry 1,500 feet, and only about 600 feet of the heavier kind. The office of the company is at 179 Washington street, Boston.

COLORED TILES are being extensively manufactured in Pittsburg for flooring purposes. There are many advantages in using tiles in this way; they lead to neatness, coolness in Summer, and greater architectural beauty.

SCIENTIFIC PROGRESS.

The Velocity of Light.

Recently M. Fizeau has communicated to *Les Mondes* the results of a series of very elaborate experiments made with a view to the most accurate determination of the velocity of light. The distance between the two stations of observation, as found by triangulation, was 33,828.1 feet (about six miles,) with a probable error of 0.001. The source of the ray was a jet of oxyhydric gas. Six hundred and fifty satisfactory observations were made, the mean of which gave 185,368 miles per second as the required velocity. The experiments of M. Foucault to determine this same velocity give us a result of 185,178 miles.

The formerly accepted determination of the velocity of light was that of Olaf Roemer, a Danish Astronomer, who deducted it from observations on Jupiter's satellites. The earth's orbit being concentric with that of Jupiter, and interior to it, the distance of these bodies is continually varying, the variations extending from the sum to the difference of the radii of the two orbits, making the excess of the greatest over the least distance equal to the diameter of the earth's orbit. A comparison of the eclipse of Jupiter's satellites during many successive years showed that those which took place about opposition were observed earlier, and those about conjunction later than an average or mean time of occurrence. Connecting the observed acceleration in the one case, and retardation in the other, with the variation of Jupiter's distance below and above its average value, the difference was fully and accurately accounted for by allowing 16m, 26s. 6 for light to traverse the diameter of the earth's orbit. From these data Roemer found the velocity of light to be about 192,000 miles per second.

It seems at first sight as if the recent and very accurate determination of Mr. Fizeau had demonstrated a defect in the earlier method, indicating, perhaps, some cause, connected with the acceleration and retardation of the apparent occulations of Jupiter's satellites, other than the time required for light to traverse the earth's orbit. But Capt. C. W. Raymond, U. S. Engineers, at present Assistant Professor of Physics at West Point, calls attention to the curious fact that by substituting in Roemer's calculation a more accurate value of the diameter of the earth's orbit, the resultant measure of the velocity of light becomes 185,344 miles per second, which agrees astonishingly with the figures of M. Fizeau. Similar experiments conducted some time ago by M. Foucault indicated 185,177 miles per second as the velocity. This one of the question which will be affected by the thorough observations, to be made by trained astronomers of all nations, of the next transit of Venus. The diameter of the earth's orbit, which may be called our astronomical unit of distance, will be probably finally determined by those observations.—*Engineering and Mining Journal.*

IT is not, perhaps, generally known that the cause of the cutting properties of several species of grasses, which will cut the hand when drawn across it from the tip down, is the presence of silica, which has crystallized out in much the same manner as the sugar of the sugar cane and other vegetables.

OZONE has been successfully applied as a reagent in chemical research. It is recommended as an oxidiser, to take the place of the common reagents, sulphuric acid, bichromate of potassa, chromic acid, etc., especially in analysis of organic substances.

Agassiz on Darwinism.

Professor Agassiz, in the last lecture of his recent course at the Museum of Comparative Zoölogy, in Cambridge, gave his views on the Darwinian theory with more plainness than ever before. He contended that the fact of a resemblance, in certain stages of growth, between different species, is no proof that one has been developed out of another. On this point he speaks as follows:

"We see that fishes are lowest, that reptiles are higher, that birds have a superior organization to both, and that mammals, with man at their head, are highest. The phases of development which a quadruped undergoes, in his embryonic growth, recall this gradation. He has a fish-like, a reptile like stage before he shows unmistakable mammal-like features. We do not on this account suppose a quadruped grows out of a fish in our time, for this simple reason, that we live among quadrupeds and fishes, and we know that no such thing takes place. But resemblances of the same kind, separated by geological ages, allow play for the imagination, and for inference unchecked by observation."

Professor Agassiz maintains that there is no unvarying, inevitable evolution in the geological succession of organic life. "It has," he says, "just the freedom of manifestation, that independence, which characterizes the work of mind as compared with the work of law." Instead of everything having gone forward mechanically, as the evolutionists claim, the animals that should be ancestors, if simplicity of structure is to characterize the first-born, are known to be of later origin; the more complicated forms have frequently appeared first, and the simpler ones later, and this in hundreds of instances. But here again we cannot do better than to allow the Professor to state his conclusion for himself:

"I believe that all these correspondences between the different aspects of animal life are the manifestations of mind acting concionsly with intention toward one object from begining to end. This view is in accordance with the working of our minds; it is an instinctive recognition of a mental power with which our own is akin, manifesting itself in nature. For this reason more than any other, perhaps, do I hold that this world of ours is not the result of the action of unconscious organic forces, but the work of an intelligent, conscious power."

This able and earnest protest against Darwinism, like the remarkable article on the subject that has recently appeared in the *Quarterly Review*, will command the attention of the whole scientific world. It is hardly possible that these vigorous attacks will be endured in silence by Darwin and his followers. We anticipate some lively fighting between the opposing parties.—*Boston Jour. Chemistry.*

ACCORDING to *Harper's Weekly*, the United States Signal Corps has recently extended its series of observations to include a daily record of the surface and bottom temperature of the rivers and harbors on which its several stations are situated. These observations are not only of interest in a meteorological point of view, but as they are also of great practical importance in connection with the introduction of useful food-fishes into the rivers and lakes of the United States, a work which is now being energetically pushed forward under the supervision of Professor Baird, the United States Commissioner.

It is well known that the possibility of introducing salmon into any given stream will depend upon the relationship of its temperature during the summer and autumn to the particular species; some kinds, as the true salmon of the North Atlantic (*Salmo salar*), requiring a summer minimum of at least sixty to sixty-five degrees, while others will bear a higher temperature.

The Signal Office has also recently established the regular publication of a weekly weather-chronicle, which will doubtless prove of great interest to meteorologists.

ANTIMONY is used principally as an ingredient in various alloys. There are two type-metals; one is composed of tea lead 75 parts, antimony 20 parts and block tin 5 parts, and the other of tea lead 70 parts, antimony 25 parts and block tin 5 parts. 133 pounds of stereotype metal are made up as follows: Lead 112 lbs., antimony 18 lbs. and tin 3 lbs. Britannia metal is composed of 90 parts of tin to 10 of antimony, though sometimes a different proportion is used. Antimony is also used in the manufacture of concave mirrors, to give them a finer texture and higher lustre, and in bell castings, to give a clearer and stronger sound, as well as to make them whiter and harder.

SUBSTITUTES FOR BONE CHARCOAL.—Several substances are used to take the place of bone black, none of which, however, have been found to act as well in decolorizing and clarifying. Among them are a peculiar kind of bituminous shale, carbon obtained by charring molasses, and peat charcoal.

COLORED ENAMELS are made by the fusion of certain metallic oxides. Purple enamel is produced by oxide of gold, blue by oxide of cobalt, black by binoxide of manganese, violet by the latter substance in less quantity, green by oxide of chromium, red and yellow by mixtures of various oxides.

Weekly Variations in Stocks.

[Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Aug. 20, 1873.

NAME OF COMPANY.	IN MINT.	IN MINT.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DEC.
WASHOE.							
Alamo Gold and S. M. Co							
Alpha Consolidated	300	6000	23	21			
Alta	3600						
American Flat		30000	4⅛	3⅞			1/4
Arizona & Utah	1900	18000	1⅜	1			
Bacon Mill & Mining Co.	65	24000	2⅜	2⅛			1/8
Baltimore Consolidated		54000	7⅛	7			1/8
Belcher	1040	104000	66⅜	62			7/8
Best & Belcher	224	22400	4⅛	3⅛			
Bowers	20	5000					
Buckeye		16000	1¼	75c			3/4
Bullion	2500	125000					
Caledonia Silver M. Co	5000	20000	20	15½	2		
Central	150	10800					
Central No. Two	100	20000					
Chollar-Potosi	2800	28000	40	36			1½
Confidence Silver M. Co	130	24960	6⅜	6⅛			
Cons. Gold Hill Quartz	34½	20000	1	1			1/4
Consolidated Virginia	1160	23600	94	91			1
Cook & Geyer	1600	24000					
Crown Point G. & S. M. Co	600	100000	85	77			1
Daney	2000	24000	1¼	1			1/8
Dardanelles	1200	24000					
Eclipse	70	25000	4⅞	4½			1/8
Empire Mill & M. Co	75	50000	3⅞	3½			1/8
Exchequer	400	8000	7½	7			
Flowery	3000	12000					
Franklin							
Globe		20000	1	1			
Gould & Curry S. M. Co	1200	48000	10⅞	9½			1⅜
Hale & Norcross	400	16000	24½	22			1⅜
Imperial	184	100000	4⅜	4			1/8
Indus							
Insurance	2000	30000					
Jacob Little							
Julia Gold and S. M. Co	2000	30000	1	75c			1/8
Justice	3000	21000	5¼	5			1/8
Kentuck	95	30000	7⅜	7			1/8
Knickerbocker	1200	24000	2⅜	2			1/8
Lady Bryan							
McMeans	3600	36000					
Mint Gold & S. M. Co	1600	50000	50c	50c			
Nevada	3000	40000					
New York Consolidated	3600	36000	75c	50c			
Occidental	800	10000	3	3			
Ophir Silver Mining Co	1400	16800	20½	18¾			2
Overman Silver M. Co	1200	12800	22½	6⅜			2½
Phil. Sheridan	1200	12000					
Pioton	2000	30000	30c	30c			5c
Rock Island		24000	40c	40c			22½c
Savage	800	16000	39	35			2
Segregated Belcher	160	6400	33⅜	30			
Segregated Caledonia		24000					
Senator Silver M. Co		24000	75c	50c			1/4
Sierra Nevada		20000	8⅛	8			
Silver Hill		54000	13⅞	12½			3/8
Emerald Hill M. Co		24000					
Succor Mill and M. Co	7600	22800	1⅝	1½			1/8
Sutro		24000					
Trench	20	50 0					
Tyler	2200	33000	45c	40c			5c
Union Consolidated	803	20000	75c	50c			1/4
Utah		20000					
Woodville G. & S. M. Co	1400	28000	1⅜	1			1/4
Yellow Jacket	1200	24000	49½	43			4
NEVADA.							
Adams Hill		50000					
Alps Silver Mining Co	800	30000	1⅛	75c			1/8
Amador Tunnel & M. Co			2	1¾			3/8
American Flag M. & M		30000	5¾	5			1/8
Arkansas	300	30000					
Belmont			4⅜	1¼			2¼
Bowery		30000	62½c	62½c			2½c
Chapman Mill & M. Co		30000					
Charter Oak S. M. Co	1000	30000					
Chief of the Hill		30000	1½	1¼			
Chief East Extension		36000	30c	30c			
Columbus M. & M. Co	10000	50000					
Condor		25000	25c	25c			5c
El Dorado South			3	2			3/4
Eureka Consolidated		50000	13⅜	12			1/8
Excelsior		12000					
Hayes Silver Mining Co		30000					
Hermes	1000	30000	5	3			1/4
Home Ticket							
Huhn & Hunt S. M. Co	3600	30000	1⅛	1⅛			3/8
Ingomar Silver M. Co	1000	40000	60c	50c			10c
Ivanhoe		30000					
Jackson		50000	20c	15c			
Juniata Consolidated	5000	50000					
K. K. Consolidated			4¼	4			1/4
Kentucky Gold & S. Co	1000	30000	2	1			1/8
Kinston	1000	30000					
Lehigh	1000	30000					
Lillian Hall	1000	15000					
Lomise	2400	30000					
McMahon	1000	30000					
Marion		30000					
Meadow Valley	24023	60000	20½	16			2
Mocking-Bird	1200	30000					
Monitor-Belmont							
Murphy	2000	60000					
Newark Silver M. Co	800	32000	4¼	3⅝			3/4
Pacific Tunnel & M. Co							
Page & Panaca S. M. Co	2400	40000		75c			
Peavine	1000	30000	20c	20c			5c
Phœnix		50000					
Pioche Silver Mining Co	1000	20000	6¾	5			1
Pioche West Extension		35000	1	1			
Pioche-Phœnix		40000	1¾	1¼			1
Portland			66⅔	June 27	Aug 7	Aug 25	
Raymond & Ely	5000	30000	72½	67			1
Silver Peak		30000	1¾	1⅝			1/8
Silver West Consolidated							
Standard Mill and M. Co							
Star Consolidated	18000	50000					
Starlight	6900	25000					
Sterling		30000					
Spring Mount		35000					
Spring Mountain Tunnel		20000					
Ward Beecher							
Washington and Orcole	200	30000	2⅛	2¼			
Yellowstone							
CALIFORNIA.							
Alpine	1200	12000					
Believue	8000	20000					
Calaveras Gold M. Co	3200	20000					
Cederberg Gold M. Co		24000	4	4			
Consolidated Amador							
Cottonwood Creek		20000					
Dunderberg M. & M. Co							
El Dorado Ind. Quartz M							
Eureka Gold Mining Co	1680	20000	19½	18⅛			1/2
Gillis		24000					
Independent Gold M. Co	1800	25000	1⅞	1⅜			1/8
Keystone Quartz		10000					
Mt. Jefferson	1500	25000					
Oakville Qnartz M Co							
Rye Patch			7½	6			1½
St. Lawrence M. & M. Co							
St. Patrick	1800	20000					
Tecumseh	3000	30000					
Yule Gravel	400	10000					
IDAHO.							
Empire		25000	4½	25c			3/4
Golden Chariot	750	10000	25	22			2½
Ida Illmore	1300	10000	9	6			1
Mahogany G. & S. M. Co	720	10000	10	8¾			1⅛
Minnesota Gold & Silver	1070	20000	21	18½			1/2
Red Jacket			2½	2			1/2
South Chariot	660	20000	3¼	1½			1/4
War Eagle	1000	10000	50c	50c			
WHITE PINE.							
General Lee	1000	20000					
Mammoth Silver M. Co	1800	36000	12½c	12½c			2½c
Noonday	1000	20000					
Orig. Hidden Treasure	800	21333	4	3			1/8
Silver Wave							
Ward Beecher		24000					
UTAH.							
Deseret Consolidated	2400	30000					
Wellington		50000					
OREGON.							
Virtue	(250)	20000					

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent datee given in this list are those of the mining office.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary. Place of Business.
American Flat M. Co.	Washoe		50 July 22	Aug 26	Sept 16	G. W. R. King, 411 California st
Buckeye G. & S. M. Co.	Washoe.	8	1 00 July 14	Aug 19	Sept 8	J. Magnire, 419 California st
Confidence M. Co.	Cal.	1	1 75 Aug 4	Sept 4	Sept 22	H. Hampton, 217 Sansom st
Cons. Gold Hill Quartz M. Co.	Nev.	1	75 Aug 4	Sept 3	Sept 22	R. Wegener, 414 California st
Charter Oak S. M. Co.	Ely District.		25 July 16	Aug 25	Sept 15	G. W. R. King, 411 California st
Caledonia S. M. Co	Nevada.	5	2 00 July 11	Aug 21	Sept 11	R. Wegener, 414 California st
El Dorado South Cons. M. Co.	Nev.	1	1 50 Aug. 6	Sept. 12	Oct. 2	Wm. Willis. 419 California st
El Dorado Quartz M. Co.	Cal.		10 July 3	Aug 11	Aug 29	G. W. R. King, 411 California st
"420" M. Co.	Nevada.	8	12½ July 25	Aug 28	Sept 16	H. C. Howard, 523 Montgomery st
Globe M. Co.	Nevada.	3	25 July 2	Aug. 4	Aug. 25	Joseph Maguire. 419 California st
Hale & Norcross S. M. Co.	Washoe.		5 00 July 1	Aug 2	Aug 22	J. F. Lightner, 438 California st
Ida Elmore M. C.	Idaho.	10	1 50 July 25	Aug. 29.	Sept. 20	Wm. Willis. 419 California st.
Julia G. & S. M. Co.	Washoe	15	75 Aug 4	Sept 8	Sept 27	G. W. R. King, 419 California st
Kentucky G. & S. M Co.	Ely Dist.	6	1 50 June 2	Aug 5	Aug 26	J. P. Cavallier. 509 Montgomery st
Knickerbocker M. Co.	Am. Elst.	6	1 00 July 24	Aug. 26.	Sept. 15	Henry Boyle. Stevenson's Bld'g
Lady Franklin G. & S. M. Co	Cal.		50 July 1	Aug 15	Sept 15	J. S. Luty, 507 Montgomery st
Mint G. & S. M. Co.	Washoe		10 Aug 20	Sept 24	Oct 12	D. A. Jennings, 401 California st
Mammoth G. M. Co.	White Pine.		10 July 26	Sept. 1	Sept. 22	J. L. King, 411 California st
New York Cons. M. Co.	Nevada	5	25 Aug 4	Sept 6	Sept 25	H. C. Kibbie, 419 California st
C. H. Treasure M. Co.	White Pine.		1 00 July 31	Sept 6	Sept 30	D. A. Jennings, 401 California st
Pioche S. M. Co.	Ely District	4	1 50 Aug 19	Sept 25	Oct 23	C. E. Elliott, 419 California st
Page & Panaca S. M. Co.	Ely District	4	50 Aug 4	Sept 16	Sept 6	L. Kaplan, Merchants' Ex
Rose Creek M. Co.	Nev.	1	10 Aug. 5	Sept. 9	Sept. 30	S. Phillips. 408 California st
Savage M. Co.	Washoe.		5 00 July 24	Aug. 27	Sept. 15	E. B. Holmes. Cr. Cal. & Sansome st
South Chariot M. Co.	Idaho.		50 July 28	Sept 8	Sept 29	J. L. King, 411 California st
Succor M. & M. Co.	Washoe	6	75 July 31	Aug 30	Sept 22	W. H. Watson, 302 Montg'y st
St. Lawrence M. Co.	Cal.	2	1 00 July 25	Aug. 28.	Sept. 16	R. B. Noyes. 411½ California st
Tecumseh G. S. & C. M. Co.	Cal		25 Aug 1	Sept 5	Sept 30	J. F. Hermann, 418 Kearny st
Tyler M. Co.	Washoe.	2	25 July 25	Aug 28	Sept 13	A. K. Durbrow, Merchants' Ex
Yellow Jacket M. Co.	Washoe.	16	5 00 July 10	Aug 15	Sept 15	G. W. Hopkins, Gold Hill
Woodville G. & S. M. Co.	Washoe.	2	75 July 16	Aug 19	Sept 6	A Noel, 419 California st

Other Companies (not on the Lists of the Boards.)

Auburn G. M. Co.	Placer Co., Cal.	5	1 00	Aug 9	Sept 15	Oct 6	R. Wedgener, 414 California st
Alpine G. M. & M. Co.	Cal.		50	July 21	Aug 25	Sept 17	J. F. Lightner, 438 California st
Buena Vista Vincultural Society.	Cal		5 00	Aug 5	Sept 8	Oct 1	N. Selmer, 409 Battery st
Beckwith M. Co.	Ely District.		15	July 7	Aug 11	Sept 2	W. H. Watson, 372 Montgomery st
Brown's Valley Cons. M. Co.		1	50	June 27	Aug 2	Aug 25	R. B. Noyes. 411½ California st
Cederberg First Sth. Ext. M. Co.	Cal.	4	5	July 31	Aug 30	Sept 19	J. N. Webster, 506 Montg'y st
Carson Cons. M. Co.	Nevada	1	10	July 28	Aug 30	Sept 22	A. D. Carpenter, 635 Clay st
Carolina M. Co.	Ely District.	1	20	June 30	Aug 8	Sept 4	C. E. Elliot, 419 California st
Clear Lake Water Co.	S. F.		3 40	July 30	Sept 4	Sept 22	S. J. C. Swezey, 3 & 5 Front st
Cherokee Flat Blue Gravel Co.	Cal.	30	5	July 23	Aug. 26.	Sept. 15	H. Pichoir. 603 Washington st
Cincinnati G. & S. Co.	Cal		5	July 7	Aug 18	Sept 1	Wm. Small, 313 Kearny st
Commercial Coal M. Co.	Cal.		50	July 9	Aug. 16	Sept. 3	S. B. Hanson. 402 Montg'y st
Day Spring G. M. Co.	Cal		5	Aug. 4	Sept. 10	Oct. 1	C. F. Brown. 302 Sansome st
Excelsior S. M. Co.	Nevada		45	July 18	Aug 18	Sept 20	W. A. Kollmyer, 610 Washington st
Equitable M. Co.	Utah	3	10	Aug 8	Sept 12	Sept 29	C. S. Healy, Merchants' Ex
Empire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakins, 230 Kearny st
Emerald Hill M. Co.	Cal.		25	June 24	Aug 1	Aug 26	F. Madge, Merchants' Ex
Golden Eagle M. Co.	Cal.	1	10	July 15	Aug 18	Sept 8	R. Stevenson, 305 Montgomery st
Greenhorn G. M. Co.	Cal.		1 50	July 11	Aug 18	Sept 10	Joel F. Lightner, 438 California st
Granite Tunnel M. Co.	Cal.		10	June 27	Aug 4	Aug 22	W. G. Holmes, Cor. Wash. & Battery
Grace M. Co.	Schell Creek.	1	10	June 20	July 26	Aug 20	W. N. Knight, 331 Mont. st
Hafford & M. Co.	Cal	2	75	Aug 13	Sept 13	Oct 5	J. W. Tripb, 406 California st
Homegnera M. Co.	Lower Cal.	7	3 00	July 29	Sept 5	Oct 27	J. H. Applegate, 729 Montg'y st
Kincaid Flat M. Co.	Cal		4 00	Aug 6	Sept 8	Sept 29	R. H. Cornell, 217 Sansome st
La Paz M. Co.	Ely District.		50	June 16	July 21	Sept 1	W. W. Hopkins, 411½ California st
Lady Emma M. Co.	Cal	4	15	Aug 20	Sept 20	Oct 13	A. D. Carpenter, 635 Clay st
Lady Esten M. Co.	Utah	4	10	Aug 8	Sept 12	Sept 29	C. S. Healy, Merchants' Ex
Lucky G. M. Co.	Cal.	1	10	Aug. 6	Sept. 6	Sept. 23	R. B. Noyes. 411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 13	G. R. Spinney, 320 California st
North Star G. M. Co.	Cal		4 00	Aug 13	Sept 17	Oct 8	D. A. Jennings, 401 California st
Nevada M. Co.	Nevada		60	July 31	Sept 5	Sept 29	B. B. Noyes. 411½ California st
Placer G. M. & Canal Co.	Cal.		10	July 8	Aug 11	Aug 30	Geo. W. R. King, 411 California st
Phenix Tunnel & M. Co.	Utah.		10	July 2	Aug. 21	Sept. 5	C. S. Healy. Merchants' Ex
Pacific Coast Wrecking Co.	S. F.		5 00	Aug 5	Sept 12	Oct 6	G. S. Pratt, 204 Montg'y. st
Rising Star M. Co.	Cal.	5	6	July 11	Aug 13	Aug 30	J. M. Buffington, 37 Merchants' Ex
Sandstone G. M. Co.	Cal.	6	15	Aug. 4	Sept. 1	Sept. 17	Wm. Stuart. 113 Leidesdorff st
Seattle Coal & Trans'n. Co.	Oregon		2 01	Aug 4	Sept 5	Sept 25	H. L. Hutchinson, 537 Market st
San Jose M. Co.	Nev.	3	5 00	July 24	Aug. 25	Sept. 25	A Carrigan. 107 Front st
Stanislaus Water Co.	Cal.	2	2	July 2	Aug. 10	Aug. 26	C. C. Tripp, 526 Kearny st
Summit M. Co.	Cal.	4	25	July 21	Aug 20	Sept 15	Geo. Davidson, 734 Montgomery st
Stickle Quartz M. Co.	Cal.		50	June 11	July 17	Aug. 30	E. Wheaton, 401 Montgomery st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 31	L. Franconi, 314 California st
The City Gardens,	S. F.		66⅔	June 27	Aug 7	Aug 25	G. S. Ladd, 522 California st
Umpire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakin, 230 Kearney st
Union G. M. Co.	Cal	7	50	Aug 12	Sept 15	Oct 6	A. K. Durbrow, Merchants' Ex
Washington M. Co.	Cal		2 00	Aug 11	Sept 16	Oct 10	T. B. Wingard, 318 California st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings, 401 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Alta M. Co.		Wm. H. Watson.	302 Montgomery st	Annual	Aug. 21
Cederberg M. Co	Cal	D. M. Bokee,	319 California st	Adjourned	Aug 21
Caledonia S. M. Co.	Nevada	R. wedgner,	414 California st	Annual	Aug 20
Cerbat Cons. G. & S. M. Co.	Cal	T. E. Jewell,	507 Montgomery st	Annual	Sept 10
Chief of the Hill M. Co.	Ely District	C. S. Neal.	419 Calif rnia st	Annual	Aug. 21
Clay Street Hill R. R. Co.	S. F.	C. P. Campbell,	Cor. Clay & Montgy	Annual	Aug 21
Great Bine Gravel M. Co.	Cal.	Wm. Watson.	302 Montgomery st	Annual	Aug. 21
Howard Hill G. M. Co.	Nevada	L. Kaplan,	Merchants' Ex	Annual	Aug 25
Mendha S. M. Co.	Nevada	G. R. Spinney,	320 California st	Special	Aug 22
Mohave Cons. M. Co.		T. E. Jewell,	507 Montg'y. st	Annual	Sept 8
Meadow Valley M. Co.	Ely District	T. W. Colburn,	419 Californdat st	Annual	Aug 28
North Beach & Mission R. R. Co.		H. W. Hawthornc,	Cor. 4th & Lonisa	Annual	Aug 25
Noonday S. M. Co.	Nevada	J. Maguire.	419 California st	Special	Aug 30
Occidental M. Co.		C. E. Elliott.	419 Cahfornia st	Annual	Aug 26
Pacific Mining Tunnel Co.		Wm. H. Knight,	331 Montg'y st	Annual	Aug 28
Rising Star M. Co.,	Cal	J. M. Buffington,	Merchants' Ex	Annual	Sept 4
Red Jacket M. Co.	Nevada	H. C. Howard,	332 Montg'y. st	Annual	Aug 25
San Marciel S. M. Co.	Mexico	C. F. Schulze,	426 Montg'y st	Special	Aug 22
South Eureka M. Co.	Nevada	Called by a Stockholder,	409 Cal. st	Special	Aug 30
Senator M. Co.	Washoe	Henry Boyle,	Stevenson's Bl'd'g	Annual	Aug 27
Succor M & Co.	Nevada	W. H. Watson,	302 Montgomery st	Annual	Sept 1

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	F. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	7 00	Aug 9
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	4 00	Aug 12
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Imperial M. Co.	Cal.	F. B. Latham.	402 Montgomery st	1 00	Apr. 1
Diana M. Co.		N. C. Fasset.	220 Clay St	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Aug 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Taylor.	419 California st.	1 00	Aug 20
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Aug 9
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Aug 14
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Aug 7
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	5 00	Feb. 1

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r,	Nevada & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	Pichoir,	Cor. Mont'g. & Wash. sts	1½ per cent.	Aug 15
German Savings & Loan Society.	S. F.	Geo. Leite,	526 California st.	9 & 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st.	9 6-10, 8 & 4 per cent	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves. Sec'y.	No. 5 Post st	8.75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Lonisa sts.	½ per cent.	April
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 per cent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

Our Weekly Stock Review.

THURSDAY EVE., Aug 21, 1873.

Stocks are down and politics are up. The movements in the Stock Market are of no interest to anybody while the movements in political circles absorb the attention of a large majority of the community. The past week has brought no change in the aspect of the Stock Market, and it continues dull and weak. Prices have shown no remarkable fluctuations, and the amount of business done has been small. Monday was an exceptional day in respect : Stocks which have of late been down, went up a little; and the contrary is usually the case on that day of the week. The following day, however, the advance was lost again and the market resumed its inactive tone.

California Stocks are very little operated in, which is no doubt a subject of congratulation. Most of the California mines are being worked by private parties or corporations who don't want to sell any stock. In this connection the *Post* makes some pertinent remarks. It says: To be sure, there are many good mines which are paying dividends, but they are not known among the California street Arabs, and therefore are not appreciated because they are not quoted as salable and speculative in the Stock Board by the daily press, or talked about upon every street corner. There is Eureka (Grass Valley), which at one time was held firm because it paid about two per cent. per month, but that was when the Comstock was supposed to be "played out," and such mines as the Crown Point and Belcher were not dreamed of. Now, it pays five per cent., and does not fluctuate enough in price to pay for the feed of a church mouse. So, taking the California stocks sold in Board, the they don't draw the attention of outsiders any more than Original Hidden Treasure in White Pine. In fact, speaking of a market, they are left out in the cold. The Ely Stocks are also getting narrowed down so much, that, for a regular thing, there are only three or four gambled in extensively.

The low state of the water in the Carson river checks hullion production, although the Comstock mines are turning out about the usual quantity of ore. The only advances in stocks over last week's prices are about as follows: Buckeye, 75 cents; Caledonia, $2; Chollar, $1.50; Belmont, $2 25; Bowery, $2 25; Empire, $3 25; The other advances are slight and the declines also,

SEVERAL thousand miners in Leicestershire, in England, having struck in consequence of dissatisfaction with the weighing system, many of the coal pits have been closed.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned:

California.

AMADOR COUNTY.

GOOD HOPE MINE.—Amador *Ledger*, August 13 : Mr. Charles Peters left at this office several pieces of quartz rock, taken from the above-named mine, all of which are well filled with free gold, visible to the naked eye, and certainly give evidence encouraging to the owners. Our readers are aware that the Good Hope adjoins the town tract on the south, and is undoubtedly a continuation of the great mother lode of this belt. From the very flattering indications so far developed in prospecting the mine, it should by all means command sufficient capital to fully prove its worth. Should this be obtained, there is every probability the Good Hops will prove to be as valuable a mine as any in the Co.

STATE OF MAINE MINE.—Amador *Ledger*, August 16: We are pleased to learn that work has been resumed upon the above named mine, and is now being vigorously prosecuted, and that it is the intention of the owners to thoroughly develop the mine. Since the resumption of labor, we learn the mine presents a very flattering appearance. We have seen very rich rock taken from the State of Maine mine, and from our knowledge of the veins of this mineral belt, we entertain no doubt, but, when the above mine shall be fully developed, it will prove to be one of the really valuable mines of the county. We are pleased to know that the owners are determined to push forward its development.

KERN COUNTY.

CLARA BELLE DE BILK. — Havilah *Miner*, August 9: MESSRS. Carson & Webb have sold out their splendid little lead for the insignificant sum of $1,000 to Blake & Milton. We are of opinion that the boys have let a good thing, although a "bilk," go too cheaply. They have made many "runs" on rock, and they are making one now on the proceeds of the sale of the mine. We hope they will enjoy themselves on this last run.

THE CAPE HATTERAS MINING CO. have bought steam-hoisting works, and are busily engaged putting them up. A large force of men are employed.

THE MAMMOTH TUNNEL is now in 180 ft. A blind ledge, 15 in. thick, was struck 3 days since, and gives a good prospect.

RICH ROCK.—Mr. Joe Hudnut arrived in town last Monday, from the Claraville district, where he has been working several months, running a tunnel to a new lead, which he calls the Bella Union. He struck the ledge and brought some of the average ore to town. He prospected about 2 oz., and found a dollar in dust in the horn spoon. Pretty good for average.

JOE WALKER MINE.—Over 100 men will be required at this mine as soon as the water is pumped out. As we go to press we learn that the pump has been lowered several feet. A large quantity of high grade ore is being extracted from this mine.

PANAMENT DISTRICT.—Havilah *Miner*, Aug. 16: The new district of Panament is situated in what is known as the Telescope range of mountains in the southeastern part of Inyo county, about 130 miles northeast of Havilah by the route traveled. It is represented by experts, who have visited it for speculative purposes, as being one of the very richest and prolific districts on the Pacific Slope, in silver ores. These mines were first discovered last Fall, but no extensive explorations of the district were made.

In the spring of this year prospecting was again resumed, and as a result some 100 silver lodes have been discovered and located, which for body and richness stand, at least in the State of California, unrivalled—the lodes running from 2 to 30 ft in width, and assaying from $200 to $1200 per ton of ore. Principal among these mines are: The Wonder of the World, Challenge, King of Kawit, Little Chief, Esperanza, Marvel, Garry Owen, Woodpecker, Sunnyside, Wide West Canon, Peuos, Atlas, Canadian, Stonewall Jackson and Robert E. Lee.

We have seen and conversed with many persons who have visited these mines, and without an exception they speak in glowing terms of the wealth of the Panament

District, and whilst we are disposed to make all due allowance for the excitability and exageration of the California mining prospectors, we have no doubt this district is all that has been claimed for it, and is sure to be one of the wealthiest and most noted mining districts of our State.

PIUTE.—Mr. Henry Babten was in town this week. Everything at the Bright Star is developing encouragingly. Additional stamps will soon be set. The yield is so regular in this mine, we believe that the proprietors could now tell their yield for next December.

ACTIVE PROSPECTING.—This week has been one of unusual activity among our amateur miners. Some of them have brought in good finds, and knowing it they are as silent on the compass as though they had never heard of such an instrument.

BELLA UNION MINE.—This mine was this week furnished additional working force. Joe Hudnut is superintending the works. Ten tons now on the dump with $100 per ton.

ROCK brought in from the Grizzly this week encourages the owners, and high hopes are entertained of its developing into another of our big finds.

BIG BUCK.—We are informed the contract has been let and work commenced on an immense shaft on the Big Bina at Kernville. The hole is being made just back of the town.

PLUMAS COUNTY.

THE PLUMAS EUREKA.—Plumas *National*, August 16: This mine is again doing well, though running only 30 stamps. The Superintendent who came up from Sutter Creek, and remained a few weeks, shut down work in all the different chimneys except the big one discovered 4 years ago, and of known rich quality; since then the mill has been doing well for the number of stamps at work, but as soon as a donkey engine can be brought up and put in place the mill will run to its full capacity, in the meantime the lower levels will be pushed forward as fast as three eight-hand shifts can run them, and by early winter the chimney will be tapped a great deal lower, giving backs for several years milling. Another Superintendent is expected to arrive on the next stage. The outside improvements now going on are bulkheads and fillings on the upper side of the mill, to prevent the bank from sliding, and the erection of a building to be used for offices and storehouse. They are also building a mammoth woodpile on the lee side of the mill, upon which they expect to place three thousand cords, or amply sufficient to run them a year, even if the supply of water should be as limited as that of the present season.

TUOLUMNE COUNTY.

THE SHAWMUT.—Union *Democrat*, Aug. 16: There was a breakdown in the machinery of the mill at this mine a few days ago. It is in order again and crushing ore. There is a force of 22 men employed at this mine.

We learn that Elias Dunaway and C. O. Dresher have opened a vein of quartz near Algerine that promises to be rich. It is from 6 to 18 inches in thickness, and shows free gold throughout.

TUOLUMNE *Independent*, Aug. 16:—The mines here are pushed with might and main, day and night. On Saturday, the men working in the tunnel in the Funk mine struck their vein at a distance of some 300 ft. from starting. Every effort is going to be made by Mr. Funk to have quartz enough out to start his stamps to crushing next month. Good luck, we say to the Hidden Treasure Mine.

HILL & MARSHALL MINE.—The tunnel is on the last 100 ft., and they are making the most strenuous efforts to have it soon finished, which no doubt they will accomplish when they have assistance of first-class miners like Wm. Logan Esq. This mine hitherto has proved to be very rich, running as high as sixty dollars per ion, for weeks at a time.

POWLES, SMITH & GRAY are getting both their mines in easy condition to get ore, and sometime next month will be ready to have their arastras running. Their rock in both veins is said to be first-class. Mr. Gray, one of the firm, is going to spend a few weeks among the mountains, up above here, to rest him up, preparatory for the winter's work ahead.

THE PATTERSON is yielding ore abundantly, which is mined and milled at a low figure—a few hands being only required to keep the batteries flooded, and it is said at present that it is only a question of stamps which keeps it from being placed at the head of the list of the paying mines upon this Coast.

AN IMPORTANT DISCOVERY.—Stockton *Independent*: While in Tuolumne county, a few days ago, we were shown specimens of ore taken from the claim of Messrs. Tullock, Knowles and others, located near the summit of the Sierras in Tuolumne county. While we do not pretend to be expert in silver ores, we are satisfied that these gentlemen have a valuable mine, and that rich developments will soon be made in that locality. We learn from the Tuolumne *Independent* that rock from this claim, taken only 12 ft. from the surface, assays at the rate of $208 per ton in silver. The discovery of such rich silver mines on this side of the Sierras will materially aid the development of Tuolumne county, and anything that benefits that county will also benefit San Joaquin. We hope that the favorable reports from this newly discovered mining district may be confirmed, and that these enterprising prospectors may be richly remunerated for their labor. The rock now being taken from this mine is sufficiently rich to warrant the erection of a mill, and, as we are informed that the lead is extensive, there is a probability that this district may soon be one of the most important mining localities on the Coast.

Nevada.

BRISTOL DISTRICT.

SULTAN.—No particular change to note in the Sultan mine this week. The vein maintains its size, and the ore its average richness. Taking out the usual amount of ore in sinking.

CAVE.—The winze is now down 22 ft., following the seam in the limestone. It has now widened out considerably, showing a width of 2½ ft. of decomposed vein matter, and 6 ins. deeply stained with mineral, showing the close proximity of ore. The tunnel is in 25 ft., having yet 75 to run to make the connection with the winze. Taking out from 10 to 15 tons daily from the old workings.

HIGHLAND.—Ploche *Record*, Aug. 3: The Hamburgh ledge at the bottom of the shaft is fully 2 ft. wide; all paying ore. The tunnel, which is being run to tap the vein, will cut the ledge, some time this week, at a depth of 300 ft. from the surface.

CHAPMAN.—The indications on the 430-ft. level are improving very much.

LOUISE.—Nothing of public interest has transpired since last week.

MAZEPPA.—Sinking on the main shaft with the usual force.

CORNUCOPIA DISTRICT.

NO EXAGERATION.—Ploche *Record*, August 13: Quite a number of persons who made a flying trip to the new mines from this place, to satisfy themselves as to the correctness of the reports from that point, have returned, and all with whom we have conversed express themselves without hesitation as being convinced that neither the value of the strike nor the general character of the country has been in the slightest degree exaggerated, and they are now making preparations to return for a prolonged stay.

SPECIMENS.—We were shown specimens of ore from several new locations that were good enough to satisfy any reasonable man. Mr. Roulstone, of Railroad District, brought with him samples of ore for assay, from other new locations, and judging from appearances we shall be much mistaken if they do not run high in the precious metals.

The ledges from which these samples were taken are large and well defined.

ANOTHER LOCATION.—We learned on yesterday morning from a resident of this place that five days ago he in conjuncture with four other persons located a gold-bearing ledge 20 miles south of Cornucopia in the same range. A shaft 5 ft. square has been sunk near the hanging wall, which is well-defined, showing a clay seam, but the lower wall has not yet been reached. At a depth of 5 ft., the rock is said to have prospected well in free gold. Samples of the ore have been sent to Virginia for assay. So soon as returns are made particulars will be given.

Only a few days prior to the new strike we visited some mines situated 8 miles south of the diggings, and found one of the prettiest locations we have ever seen in the State. A tunnel, 50 ft. in length, was run upon the ledge, showing a vein 5 ft. wide, between 2 smooth walls, clay seams, from which issued a stream of water 3 inches in volume. The casings are of granite, and the assays showed $15 in gold and $32.50 in silver. We also found float 6 miles south of these locations, but could not spare the time to do any prospecting.

CORNUCOPIA.—Virginia Evening *Chronicle*, August 13: Reports from the Elko mines continue favorable. At the depth of 12 ft., the character of the rock is similar to that on the surface. Experienced miners express the opinion that a true ledge has been discovered. Prospectors are engaged through the surrounding hills, and some are engaged in jumping each others claims. Several tunnel sites have been located, and another town site surveyed. Many buildings are on the way from the line of the railroad to be put up in the new district.

LEOPARD AND CHLORIDE.—Territorial *Enterprise*, Aug. 16: We yesterday saw in the hands of Mose Hayhes, of Elko, two very fine specimens of ore from the Chloride and Leopard, two of the principle leads in the new and much-lauded Cornucopia District. That the samples shown are immensely rich can be seen by any one who is a judge of ores, without waiting for the test of an assayer. From samples of ore from the Chloride lode some very high assays have been obtained. An assay made by Conrad Wiegand, of this city, yielded at the rate of $17,000 to the ton. A sample of ore from the Leopard showed $400 in silver and $100 in gold. We like the appearance of the ore from the last-named lead much better than that from the Chloride.

The rock has a better grain and a more free and "healthy" look. The piece of Leopard ore shown us, rich as it is, had evidently been broken from the top of the ledge, as it presented that worn and weather-beaten look which no one familiar with ores can easily mistake.

ELY DISTRICT.

AMERICAN FLAG.—Ploche *Record*, Aug. 10: The mine looks unusually well throughout, all the stopes showing a marked improvement. Working the usual force. During the past week no connection has been made by pipe between the mine and the upper water tank, thereby securing an abundant supply of water for all purposes, and rendering the works doubly secure in case of fire. The company's mill is running temporarily on ore from the Newark mine, and, as usual, is giving a good account of itself.

MONTANA.—The drift in the 173-ft. level is being pushed steadily onward. The dip of the country rock, which has hitherto been towards the valley, has turned, and is now dipping into the mountain, in this respect following the dip of all the principal mines in the district. The vein was very large and strong on the 100-ft. level, and when it is reached in the lower level, we look for something pretty good.

PONTLAND.—For the last day or two have not been taking out the usual amount of ore, in consequence of some timbering done at a point which impeded the work of extraction. The main shaft is being rapidly sunk by contract. The ore in the drifts and stopes, from the 200-ft. level upwards, never looked better.

SPRING MOUNTAIN TUNNEL. — No new developments to report since last week. The work of sinking on No. 3 ledge still continues with improved prospects with every foot made. The ground is also improving in other respects, as it is gradually getting softer and showing the near presence of mineral and a larger vein body.

ALPS.—Working 21 men, and hoisting about 5 tons of ore daily. The Amador mill is now running on ore from the Alps. About 240 tons are to be crushed, and the bullion returns may be looked for about the 15th inst. The ore is of a high grade. The winze on the 154-ft. level is down 45 ft., in ore which assays well.

INGOMAR.—The main shaft is now 575 ft. deep, and a drift has been run on the vein at that depth for a distance of 220 ft., showing a large and strong vein of excellent ore. For the past month the production of the mine has averaged fully 3 tons of ore per day. Working a full force of men.

PAGE AND PANACA.—Sinking a winze in the vein from the 360-ft. level. Have now reached a depth of 90 ft. The ground is improving in character for working, and shows more favorable indications. The greatest drawback is the presence of water in the winze, which causes much delay. The bottom of the winze is now dry, all the water coming in from above. Working twelve men.

MEADOW VALLEY.—There is no change to note in this mine at present. Work is just now suspended in No. 5, on account of accident to the machinery, which is referred to in another column. It will be resumed, however, in about five days.

PIOCHE-PHENIX.—Drifting to the west at a depth of 500 ft., and it is expected that the ledge will soon be reached. The miners will begin taking out ore as soon as they cut the ledge.

SILVER PEAK.—Twenty-five men were put to work on this mine on Monday last. The new machinery spoken of in our last review, works to the entire satisfaction of the owners. The shaft has been continued 10 feet, and 15 tons of first-class ore have been taken out. They expect to commence hauling ore to the mill to-morrow.

HAVANA.—Day before yesterday the east drift was started on the vein, at the 250-ft. level. The face of the drift is all in ore, of a very high grade. It is the intention to erect hoisting works as soon as practicable.

PIOCHE.—There are now on the dump 50 tons of ore. The assay of the car sample of Aug. 9, was $207.24. This ore when milled will therefore yield about $140 per ton. The new shaft is completed to the depth of 175 ft. It is calculated that the ledge will be struck at a depth of 900 ft.

CAROLINE.—The machinery for new hoisting works is now all on the ground. The work of putting it together was commenced yesterday, and it is expected to be finished in 8 or 10 days' time. As soon as this is finished 15 men will be put to work.

CHIEF OF THE HILL.—The sinking on the main shaft has been continued 12 ft., and a progress of 20 ft. has been made in the west drift at the 210-ft. level. A small quantity of ore is taken out daily.

WASHINGTON AND CREOLE. In the west drift, in which no ore had been previously found for some time, a ledge of first-class ore, one and a half feet wide has been struck.

SUMNER.—Work on the contract for sinking the shaft is progressing steadily, and the vein shows a marked improvement in size and quality.

RAYMOND & ELY.—Last week work was resumed with 160 men. There is no change in the character of the ore, 75 tons of which are taken out daily. Shipping ore commenced on Friday.

BOWERY.—Sinking the main shaft, and taking out the usual amount of ore.

PEAVINE.—The new shaft is down 45 ft.

VULTURE.—Work is being pushed ahead as fast as possible, with no material change to note.

BROOKLYN.—The vein in the winze looks better than ever.

MERIDIAN.— Sinking is steadily continued on this mine, with the most flattering results.

CHIEF EAST EXTENSION.—Stoping $225 ore from the 225-ft. level.

SOUTH SIDE.—Will put another shift to-morrow, so that the sinking will go on at the rate of 2 ft. a day.

ORIGINAL DEXTER.—Work is suspended for the present. A whim to be put up soon.

SPRING MOUNT.—DOWN 430 ft. One ledge 3 ft. wide, but hardly rich enough to pay, has been run through.

ALADDIN.—Nothing of interest about the mine this week.

WASHOE.

CROWN POINT.—Gold Hill *News*, Aug. 16: The main south drift, on the 1500-ft. level, is being pushed vigorously ahead, with strong indications of soon reaching the ledge. The main south drift on the 1400-ft. level is again being driven energetically ahead. The flow of water from the two east cross-cuts on this level is all the pumps can manage, but is being drained in such a manner that the supply can be increased or decreased at pleasure. The ore-breasts on the 1200-ft. level are looking and yielding splendidly. The ore-breasts on the 1000 and and 1100-ft. levels are looking and yielding finely. Daily yield 350 tons of ore, which can be greatly increased whenever the capacity of the mills on the river, which is greatly decreased by the extreme low water, are again able to crush their full amount of ore. The north winze, from the 1300-ft. to the 1400-ft levels, is down 36 ft; still in good ore. The middle winze, on the same level, is down 32 ft., the bottom in excellent ore.

BELCHER.—The incline is down 47 ft. below the 1300-ft. level, the rock in the bottom working finely, and excellent progress is being made. The main south drift on the 1300-ft. level is still driven vigorously ahead, the face in excellent ore. The winze from the 1300 to the 1400-ft. level is down 33 ft. the bottom in rich ore. Daily yield 450 tons, which amount can be greatly increased whenever it is the wish of the company to do so. The ore breasts throughout the mine are looking remarkably well, in fact never better than at the present time.

CONSOLIDATED VIRGINIA.—The erection of the new hoisting and pumping machinery is nearly completed; everything so far as tried is working with the utmost perfection. Excavating for the tank pits at the 250, 500 and 750-ft. levels is making excellent progress. The flow of water from the main north drift at the 1167-ft. level from the Gould & Curry shaft continues unabated, an attempt during the week to run a side drift around the break in the main drift proving a perfect failure, the flow of water soon putting a stop to the work.

GOULD & CURRY.—The main north drain on the 1500-ft. level is still driven ahead, with no change of interest during the week. The east cross-cut from the main south drift on the 1600-ft. level has developed a considerable body of low grade ore, with excellent prospects of a gradual increase in the value of the ore as the development progresses. Daily yield 20 tons of ore from the old upper working. Prospecting in the other portions of the mine continues without change of interest.

SAVAGE.—Sinking the incline is progressing at the rate of 4 ft., per day, the rock in the bottom blasting and blocking out splendidly. The east and west crosscents from the main south drift on the 1700 ft. level have developed nothing of value during the week. Crosscuts both east and west have been started on the main north drift on the 1600 ft. level, but have discovered no bodies of ore in that part of the mine as yet. The prospects are yet good for finding ore in both these levels, as they still have large bodies of virgin ground entirely unprospected, and which it will yet take months to explore.

ARIZONA AND UTAH —The shaft is down 360 ft., the sinking progressing at the rate of three ft. per day. The pump continues to handle the supply of water with perfect ease. The incline raise from the main east drift at the 250-ft. level will make connection with the main shaft to-day. The track and cars all being prepared and in readiness, sinking the incline can be at once resumed, the work being greatly facilitated by hoisting directly through the main shaft.

BALTIMORE CONSOLIDATED.—The flow of water is again completely under control, and the shaft sufficiently drained to admit of the resumption of work in the drifts on the lower level. Clearing out and preparing for work in the face of the drifts at the second station will be commenced on Monday next. The face of the south drift at the first station running toward the American Flat line is in good ore.

SILVER HILL.—Sinking the main shaft was resumed the first of the week, good progress being made. During the week, while cutting out the shaft for a set of timbers, a considerable body of water was tapped, for a while greatly impeding the work, but which the pump now handles with ease, and will no doubt be entirely drained in a few days. The northwest prospecting drift at the second station has developed nothing new during the week. The ore breasts in the north drift at the first station are holding out and looking splendidly. Daily yield 50 tons of ore, keeping the Bacon mill steadily running.

OVERMAN.—Sinking the shaft has been resumed, and is making steady progress. The main west drift is still driven ahead, without change of interest. The face of the northwest drift shows considerable quartz, with some water coming in, but not enough to interfere with the progress of the work. The southwest prospecting drift has developed nothing of value during the week.

EMPIRE.—The cross-cuts are still being energetically driven to the eastward on the 1,700-ft. level without change of value. The up-raise from the 1,600 to the 1,500-ft. level is being pushed with all the vigor possible so as to make the connection and give a much needed circulation of pure air, which will greatly facilitate the prospecting on that level.

KNICKERBOCKER.—The blower and other necessary machinery for supplying the mine with air is completed. The southwest cross-cut from the main west drift on the 400-ft. level is being driven rapidly ahead, without material change of interest for the week. Work has been resumed in the face of the main west tunnel on the 400-ft. level.

AMERICAN FLAT.—Work will be resumed in the south drift from the west tunnel, 450-ft. level of the Baltimore shaft, on Monday next.

JUSTICE.—The east cross-cut from the main south drift on the 400-ft. level, is still pressed vigorously ahead, with no developments of importance for the week. The main north drift from the 300-ft. level of the Waller Defeat shaft shows some excellent indications of good ore developments. The main south drift on the same level is making good progress, with no material change of interest to report.

CROWN POINT RAVINE.—The southwest drift from the main west tunnel on the 250-ft. level, is in 45 ft., having cut during the week a fine body of quartz, assays of which give from $3 to $10 in gold and silver to the ton, gold appearing to predominate. The north drift from the main west tunnel, on the same level, is in 20 ft., the face in a mixture of clay, quartz and broken porphyry.

UTAH.—The new pumping machinery is nearly completed and sinking the shaft will be resumed in a very short time. Much trouble has been experienced in getting the necessary castings from the foundry, it being so crowded with work as to greatly delay the fulfilling of contracts.

OCCIDENTAL.—Daily yield, 40 tons of ore. The lower tunnel is being extended along the west casing of the ledge to the northward. The ore breasts are both looking and yielding finely. The mill is kept steadily running on ore from the mine.

CHOLLAR-POTOSI.—Daily yield, 155 tons of ore, the assay value of which is $31 per ton. The ore breasts are all looking finely, and the daily yield of ore is steadily on the increase. There is nothing new to report of the prospecting operations on the lower levels.

TYLER.—The new pumping machinery is all in place and works finely. Everything will be in readiness and draining the shaft commended by Monday next. This will probably take three or four days, and, as soon as it is accomplished, sinking the shaft will be resumed.

DANEY.—The erection of the new hoisting and pumping machinery is making rapid progress, and there is but little doubt that everything will be in readiness to resume sinking the shaft by the 15th of next month.

OPHIR.—Sinking the shaft is making fair progress, though the rock in the bottom is quite tough and hard to hiast. Prospecting the different levels continues as usual, with no ore developments of value to report.

KOSSUTH.—The erection of the new hoisting works is completed, the machinery working to perfection. Sinking the shaft is making excellent progress; it is now down 20 ft.

FRANKLIN. — The main west tunnel is still driven ahead, without change of interest to report.

IMPERIAL. — Prospecting the lower levels continues without change of interest to report.

HALE & NORCROSS.—The usual amount of prospecting is being done on the lower levels, with no developments of value since our last report. Daily yield 50 tons of ore from the old upper workings.

SENATOR.—Hoisting the water from the shaft, preparatory to resuming sinking, is making rapid progress. Sinking will be resumed as soon as the water is drained.

YELLOW JACKET.—Cross-cutting and prospecting the lower levels, as usual, with no change or developments of value to record.

JACOB LITTLE.—Still drifting on the ore-body found in the east cross-cut from the main west tunnel.

MINT.—The south-east cross-cut from the main east drift at the second station is in 50 ft., cutting through the ledge, which at this point is 10 ft. in width, of low grade ore. The course of the drift has been changed more to the eastward so as to follow the line of the ledge and prospect it at convenient intervals by running cross-cuts.

LOWER COMSTOCK.—The shaft is down 100 ft., the contract for sinking to that depth being finished. Another contract will be let and the sinking resumed in a very short time. This is an excellent location, and when the ledge is reached will no doubt richly reward its owners for their outlay.

SIERRA NEVADA.—Daily yield from 55 to 60 tons of ore, keeping the mill steady running. There is little or no change to report in either the looks or yield of the ore-producing sections of the mine. Prospecting the upper level continues, without further development of interest to note.

DAYTON.—The main west drift at the first station tapped the ledge on Wednesday last, developing a body of fine ore, the extent of which is not known. The main west drift at the second station, 340-ft. level is in 80 ft. showing indications of a near approach to the main ledge.

CROWN POINT EXTENSION.—The shaft is down 100 ft., and the sinking suspended for the present, pending the letting of another contract. As soon as that is consummated, which will be in a very few days, sinking the shaft will be resumed.

CALEDONIA.—Preparations are being rapidly completed for working the ore bodies developed last week on the 500-ft. level. Daily yield of ore, 50 tons. This ore is mostly extracted from the ore breasts on the 400-ft. level. The Sappbiro mill is kept steadily running on ore from the mine.

Arizona.

MOHAVE COUNTY.

CEDAR VALLEY.—Mr. H. A. Eastman, arrived here about the middle of the week, from this county. In a conversation with him, we learned that a great deal of work is being done in Wallapai and Cedar Valley districts, that a new nest of ledges has been found beyond Cedar Valley district, to which men were rushing.

PIMA COUNTY.

COPPER.—We see by the Tucson *Citizen* that Mr. Brown of Tucson, has had men at work on some copper lodes west of Tucson—said to be rich—which he is about to "patent."

YAVAPAI COUNTY.

NEW DISCOVERY.—The recent discovery of a pretty rich silver lode, near Bowers' Agua Fria ranch, about 18 miles east of Prescott, has raised quite a breeze in Prescott and vicinity. The first specimens from the lode were brought to town, last week, by Col. Jas. M. Barucy and Mr. Wm. B. Hellings. They contain silver in various combinations. The rock is of a dark reddish color, compact and close grained, just such rock as we would stoop to pick up in almost any mining locality. Assays of it have been made by Mr. L. B Jewell of this place, not one of which has given a poorer result than $800 to the ton, while others went away up into the thousands.

Upon these results having been made known, there was quite a rush to secure extension claims on the lode, which is now located for an immense distance. Mr. Herbert Bowers was one of those who struck for the ledge Tuesday last. He has since returned with the flattering news that, besides being rich, the ledge is large.

Messrs. Barney & Hellings have control of several hundred feet of the lode, and will straightway set men at word upon it, and ship some of the ore to San Francisco. They may, ere long, work the ore at the mine, good facilities for this purpose being close by.

TIGER.—Governor Safford has moved in the good cause of trying to induce capitalists to take hold of the Tiger mine, in Bradshaw district, which he looks upon with great favor, thinking it a second Comstock. He has written to persons in London, who desire to purchase good property of this kind.

WAR EAGLE.—Jackson & Co. are still working the War Eagle lode, and other parties are taking ore from other ledges in the same vicinity.

BENJAMIN.—We have no later news than that published last week, from Mr. A. O. Noyes, concerning the resumption of work on the Benjamin mine, near Prescott, a mine that is too rich to be allowed to much longer remain idle.

WALNUT GROVE.—Colonel Cany returned to town last week, from a trip to Walnut Grove and Weaver districts, in both of which he says many good lodes exist. He is preparing for a trip to San Francisco, with the view of inducing moneyed friends there to invest in some of the mines.

SMITH'S MILL.—The news from Smith's mill, near Wickenburg, is, of course, encouraging. The mill is running and paying handsomely. The success of its indomitable proprietor is now settled, and well does he deserve success.

BIG BUG.—Mr. Bashford of this place is in receipt of a letter from the Big Bug Mining Company, which letter informs Mr. B. that the mill is in good condition, ledges as rich as ever, so that the closest scrutiny of the keenest mining sharp cannot find a flaw in this splendid property. About the usual amount of placer mining is doing in this vicinity, and gold dust is not all scarce.

WE UNDERSTAND that Dr. Brenau is about to publish a monthly "Scientific Health Journal" in this city, which will be called "Dr. Brenan's Note Book," and will be published for the purpose of giving advice on various subjects not generally treated by other papers. He claims that a paper of the kind proposed has never been published before. The doctor is well known on this coast, and in the East as an eloquent, witty lecturer, and if as ready a writer ought to publish a good paper.

MILL AND MINING PROPERTY.—Attention is called to an advertisement in another column of an important sale of mining property comprising the Auburn Quartz Mill and water right, near Reno; the Alpha mine at Rye Patch; the Whitmore and North Sheba mines, near Star City,, Nevada; rights for use of Stelefeldt furnace in Humboldt Co., Nevada.

THE COINER of the Mint in this city delivered to the Superintendent one day this week $300,000, the largest delivery ever made at one time since the Mint has been runniug.

The Crown Point Ore Body—History and Description.

In last weak's issue we gave at some length a synopsis of the progress of the Crown Point Mine during the past year. Ae the superintendent's report gives an excellent description of the wonderful ore body iu the mine, and as it has become the incentive which urgss on so many other minee on the Comstock, we devots considerable spacs to matter condenssd from the report referred to

Superintendent's Report.

J. D. Fry, Esq., president Crown Point gold and silver mining company, DEAR SIR: The last gensral rsport submitted hy the Supsrintendent was dated May 1st, 1870. At that time the Crown point mine was yielding nothing. Work in the mine was principally confined to the 1100 feet level, where a prospecting drift had been driven due east from the shaft a distance of 800 feet. at which point; nothing but porphyry and barren seams of quartz having been exposed throughout its entire length, it was discontinued. It being apparent that further exploration in that direction wonld prove futile, a drift was started almost due eouth of the above mentioned drift at a point 360 feet eaet of the shaft and 101 feet south of the north boundary line. In this drift at a point 340 feet south of the north boundary line, a clay-wall, running N. E. and S. W., was diagonally traversed. The drift wae then tnrned directly east, and continued for 20 feet through soft whitish qnartz, containing occasional spots of ore. It next cut a formation of porphyry ab ·ut 10 feet in thickness, somewhat decomposed and resembling soapstone in appearance, which proved to be the west or foot wall of an ore-body about one foot wide and bounded on the east by a hard casing. The ore coneisted of boulders encased in cement, which would yield in the mill about $40 per ton. The drift wae then further continued in a southeasterly direction 38 feet, skirting the foot wall, when the ore body euddenly widened to 13 feet, and continued at that width for 20 feet further south, at which point the east wall made rapidly toward the east until the ore-body had attained a width of 84 feet. The drift was extended nntil the southern houndary line of the claim was reached, developing a continuous and uniform body of ore its entire length. Thie ore-body was also explored by a raise along the west wall, which dipe eaeterly at an angle of about 38degrees, until it reached the 1000 foot level, where it was intersected by a drift from the main ehaft, after which it was followed by a series of winzes and raises to the 900 feet level. How much higher it may extend will be determined by future explorations. But little is as yet known of the extent of the ore-body on the 900 feet level, the prospecting being confined to a drift 80 feet in length commencing at the southern boundary line and running northerly. Throughout the entire length of thie drift a body of ore, nine feet in width, was found, which averaged $28 per ton.

The ore-body on the 1000 feet level is 200 feet in length, and hae an average width of about 45 feet. But little ore has been extracted from this level, the entire workings being confined to an area 190 feet long, with an average hight of 23 feet. The ore on this and the 900 feet level is held as a reserve in case of an accident to the main incline or machinery, which might impede or temporarily prevent work on the lower levels. The 1000 feet level is in good condition to work at any time; the drifts and shutes are in good repair, and ventilation ie secured by winzes connectcd with the 900 feet level.

The ore-body on the 1100 feet level is 255 feet in length by 58 feet in width, aud has been worked out for a distance of 240 feet north of the south line. On this level there are from 30,000 to 40,000 tons of low grade ore stowed away in cribs, carefully marked and available for extraction at any time, which will yield a small margin of profit over the cost of hoisting and reducing.

While the upper levels are being prospected, the main incline was driven steadily down, preparatory to opening and exploring the 1200 feet level, As soon as this level wae reached, a station was cut out and a drift started south, following the course of the west wall, and continued until the southern boundary line was reached. From this drift two cross-cuts were made—one 120 feet and the other 220 feet from the south line. The former showed the vein to be 118 feet in width and the latter 76 feet. The very rich ore on this level wae confined to the 15 fest next to the weet wall; the remainder of the ore was of very good quality and character and remarkably free from waste. The ore-body on this level is 310 feet in length, and averages about 70 feet in width, about three-fifthe of which have been extracted and reduced. This is excluesive of the eastern ore-body, hereinafter described, which has uot been worked at all.

In brcasting out on the sill-floor of the 1200 foot level, at a point 102 feet east of the west wall and 100 feet north of the south line, a hard flinty wall of quartz was strnck, which wae coneidered the eastern boundary of the pay ore and practically the east or hangiug wall. In order to ascertain how far east thie barren quartz would extend, a cross-cut was started at the point referred to and driven 36 feet east, where ore of very fine quality was found, six feet wide, and bounded on the east by a porphyry wall, which is now believed to be the eaet wall. The course of this new ore-body is south, 36 degrees sast, and it has been followed by a drift to ths south boundary lins, showing orc of the same good quality all the way. This drift was also extended northerly until it interscected the south cross-cut, exposing the sams character of ore throughout ite entire length. A winzs was then commsnced at the point where the cross-cut first struck ths ore, and continued down along the east wall, which here dips easterly at an angls of about 32 degrees, and has now reached a dspth of 120 feet on ths lins of the dip, or 70 fest vertically, showing excellent ore the entire distance. This ors-body has been further explored from the third and fifth floore of the 1300 feet level and, in order that my description of the same may be continuous, I will complets it before describing the opening and working of that lsvel.

On the fifth floor, 1300 feet lsvel, in hreasting out at a point 100 feet north of the south line and 90 feet east of the west wall, the same barren wall of quartz was encountered, which has been hitherto referred to, as the apparent eastern bonndary of the pay ore on the 1200 feet level. From this point a cross-cut was made to intersect the above mentioned winze. Sixty feet east of the starting point ore of fair quality was found, which will, with a little assorting yield $35 to $40 per ton. This lasted for 20 feet, when a formation of porphyry, 16 feet in width, wae cut, followed by another body of ore of excellent quality, averaging $80 per ton, which continued for 27 feet, where the intersection with the winze was completed. The entire length of this cross-cut, it will be seen, is 123 feet, of which 47 feet is solid ore, and the entire distance between walls 213 feet, of which 137 feet is ore.

A similar cross-cut was started on the third floor of the 1300 feet level, at a point 35 feet north of the south line and 72 feet east of the west wall. Ninety-one feet east of the place of beginning a body of ore was struck four feet wide, which averages $70 per tou. Next to this was found a formation of porphyry, which continned for seven feet, at the end of which another body of ore was cut, ten feet wide, which averages $90 per ton, and is bounded on the east by the hanging wall. Still another cross-cut has been started to intersect the winze, at a point on the sill-floor of the 1300 feet level, directly under the cross-cut on the fifth floor. Thie last cross-cut is now in 47 feet, and has cut thus far only barren quartz and porphyry, not having yet reached the point where the eastern ore-body should be fouud. As this ore-body was only six feet wide where first struck on the sill-floor of the 1200 feet level, and had already increaeed to 47 feet in width at the fifth floor of the 1300 feet level, a still further increase in width may be reasonably expected on the sill-floor of that level.

The ore-body in the 1300 fcet level is 360 feet in length, and has an average width of 90 feet. This is by far the richest and moet extensive level ever opened on the Comstock lode. It will be remembered that on the 1200 fcet level the very rich ore was confined to a belt, 15 feet in width, lying next to the west wall. On the 1300 feet level the rich ore is confined to no particular part, but the whole level showe a high and uniform grade of ore from wall to wall. On this level niue floors have been opened for a distance of 165 feet north of the south liue, and on every floor ore of excellent quality has bsen found. The remaining 195 feet has not been worked at all, and even in the nine floore referred to an immense amount of first class ore yet remains. The ore in the northern half of the level, however appears to be of lower grade than that in the southern half, and is not expected to yield more than two-thirds as much. The 1300 fcet level has already yielded about $4,000,000 in bullion, and will probably yield about $10,000,000 more, about 75 per ceut. of which will be net profit. The following table shows the average yield per ton for the six months just past—during the last three mouths of which a large proportiou of the ore extracted came from thie level—aud indicates more clearly than any description the extraordinary increase in the value of the ore:

Average per ton for	November,	1872.....	$30.58
" " "	December,	1872.....	32.95
" " "	January,	1873.....	41.18
" " "	February,	1873.....	61.98
" " "	March,	1873.....	70.72
" " "	April,	1873.....	82.11

On the 1400 feet level a large and commodious station has been cut out, and a double drift run from it 142 feet south, from which point the level will be opened at the earliest practicable moment.

The main incline has also been driven down to the 1500 feet level, and preparations made to cut out the station there.

A recapitulation of the foregoing details will enable one to acquire a very good general idea of the form and character of the great Crown Point bonanza. It may be briefly described as an immense wedge-shaped body of ore, with its edge uppermost, having a strike or course N. W. and S. E., and penetrating the earth with an easterly dip of about 36 degreee.

On the 900 feet level the upper edge or apex has been developed for 80 feet in length, with an average width of 9 feet, and au average value of about $28 per ton.

On the 1000 feet level the ore-body is 200 feet in length, with an average width of 45 feet, and an average value of $32 per ton.

On the 1100 fset level it is 255 feet in length, with an average width of 58 feet, and an average value of about $37 per ton.

On the 1200 feet level it is 310 feet in length, with an average width of 70 fset, and an average valus of about $45 per ton.

On the 1300 fset level it is 360 feet in length, with an average width of 90 feet, and an average value of about $75 per ton.

It thus appears that the ore-body has steadily increased in length, width and richness as we have dsecended upon it, and there is every indication of its continuing to do so. Much significance has been attached, and I think justly, to the fact, that evsi since this chimnsy of ors was struck, the various aeams and etratifications of whatever kind, whethsr clay, porphyry, barreu quartz or ore, have uniformly maintained about the same course and dip as the walls encasing them. When it is remembered that in the ors-bodies worked prior to this discovery thers was no such uniformity, but the chimneys were as likely to stand vertically as any othsr way, it is fair to presume that ws havs passed below the range of surface disturbance, and that the vsin will penetrate ths earth in its present shape to an indefinite depth.

From this immense chimney we have extracted and worked about onc-eeventh of the ore between the 900 and 1000 feet levels, abont four-fifths of the ore between the 1000 and 1100 feet levels, and about three-fifths of the ore between the 1100 and 1200 feet levels, and about one-fourth of the ore between the 1200 and 1300 feet levels. Above the 900 feet level the ore remains untouched. In the aggregate, we have taken out and crushed from May 1st, 1871, to May 1st, 1873, 217,421 10-2000 tons, which have given a grose yeild of $9,944,783.57, and an average yield of $45.73 per ton. We have in reserve and available for immediate extraction the remainder of the ore, as indicated by the foregoing figures, in the levels above the 1300th, and have now everything in readiness to open the 1400 and 1500 feet levels.

In addition we have made a new and very promising development, as hitherto described, in the 1200 and 1300 feet levels, eastward of the main chimney, which seems to be the upper portion of another wedge-shaped ore-body, similar to and overlapping that first diecovered. This may continue in depth, as an independent chimney, or unite with the other to form one large ore-body. I regard thé latter as the more probable, but in either event the importance of this development can hardly be overestimated.

Brief History of a Placer Claim.

A correspondent of the *Engineering and Mining Journal* writes from Washington Gulch, M. T., as follows:

SIR—On the 1st of April, 1872, I went up on the side of a bar, pnt down a prospect-hole to bed rock, and washed out sixty cents. Then, without further trial, I claimed the surplus water of the gulch, constructed the necessary ditches, dame and gatee, and proceeded to ground-sluice on the bed-rock, using a space about three feet wide, formed by the bank on the one eide, and by the rocks picked out of the ground-sluice on the other, as a race to carry off the tailings as I advanced.

Iu this way, in ahout a month, the length of time the water lasted, I ran off an area of 200 feet long and forty feet wide, and in depth from two to eight feet. So far, it had been nearly all work and no money; at long intervals I picked up pieces worth two or three dollars, and, two or three times, ten to fifteen dollar nuggets. Now comes tbe time to clean np the bed-rock. This was a hard slate, which had to be taken up and washed for a depth of from two inches to two and even three feet; aleo any loose gravel that remained on the eurface. How this was done, I will now endeavor to show, and in doing so I think I can prove that it requires the excercise of a little braine, as well as a great deal of muscle, to succeed at mining. The ground where I was at work had been, three or fonr years previously, taken up by a party, and proved to pay sufficiently well, while they had water to work it, during the snmmer; but, so soon as the water lowered every season—eome time in the latter part of June—the water of the gulch was conveyed in a small ditch into an adjacent reservoir, which left but one inch available for them. After they had given up, and I had taken hold, the same state of things contiaued. By an "inch" I mean 2½ cubic feet per minute. This, I believe, is engineers' measurement; and, to eome extent, that used in California, though not in Montana.

The first thing I did was to erect a structure, after the fashion of a log cabin, 5 feet high, 16 feet long, and about 5 feet wide. On this I placed a "dump-box," 12 feet long, 32 inches wide, and 15 inches high, and a "mouth-piece" 4 feet long, and in width so shaped as to connect the dump-box with a string of three or more flume-boxes, 16 inchee wide. All these boxes, to be used for sluicing, I set *down* the gulch, giving them a grade of 9 inchee in 12 feet; six more boxes, of the usual length, 12 feet, I set *up* along the gulch, to be used as a reservoir. The grade these got, was as follows: first box, ¼ in.; second, ½ in.; third, ¾ in.; fourth, 1 in.; fifth, 1½ in.; and sixth, 2 inches.

The size of the boards used in this reservoir flume was: sides, 18x1 inch; bottoms, 16x1¼ inch. So you see, when full, it contained an hour's water; and, by reason of the curve-like grade, when the gate at the lower eud was raised to a sufficient hight, a *steady* etream flowed through the dump-box, washing from five to eight barrowfuls at a time. This amount of water, so used, wae sufficient to keep one man eteady at work; and, if reservoired dnring the night would of conrse bs eufficient for two. Nor did the contrivance canse any more trouble than if the water was running steadily, as, when a man dumped hie last barrow, he could raise the gate, and shut it again from where he stood. In addition, I will say that the washing-boxes wsre placed on two long poles (36 ft.), so fixed in a simple way at the upper end that the lower end could be swung around in a fsw moments as ths place became filled up with tailings.

As any one of ordinary ingennity can supply ths details of this story for himself, I will end by saying I got one thousand dollare that season for my trouble—one-eighth of which I took out in a single day—a sort of day that seldom smiles on ths Montana mines.

The St. John Quicksilver Mine.

The work of developing ths St. John mine is being prosecuted with unabated vigor. New buildings are being erected; new drifts, ehafts, etc., are being etarted; new roads are being graded, old ones repaired. In fact, all is life and bustle there, and quite a village hae sprung up dnring the past few months. Since onr last report of the progress at the mine, some four new buildinge have been erected, making twelve in all. Three new tunnels have been started, one of which hae been driven in over 200 ft. during the past forty days. This tunnel is expected to tap the eame floor of metal opened in the "Vallejo drift" on a level 100 ft. above. It is eetimated that it will take thirty days to reach the ledge. Should they find the metal, as anticipated, the value of the mine will be greatly increased. This floor, as bsfore stated in previous descriptions of the mine, was opened on the eurface, and wae subsequently tapped by the "Vallejo drift," on a level of seventy-five ft. below; and it is from this drift that the principal portion of the ore reduced since the etarting of the furnace, has been taken out; now, should they find the floor in the new tnnnel, it is firmly established that there is a deposit of metal thirty feet wide, extending from the surface of the ground to a depth of 175 ft.; and there is every probability that it extends hundreds of feet further dowu.

Marion Drift.

A new drift has been etarted, named as above, a short dietance above the boarding-houee. It is in about seventy-five ft. A small vein of metal has been struck here, of a fair grade, with indications of the close proximity of a larger body of ore.

Quicksilver Shipments.

The Company redneed with their little 6-ton furnace, and shipped to San Francisco during the month of July, 200 flasks of metal and 75 flasks last week, which is the largest shipment they have yet made in one week. Last month, several days in running the furnace were lost by accidente in the management of the furnace, or the shipments of metals would have been one-third larger.

New Road.

The Company ou Satnrday last let the contract to George Smith, for the constructien of a road from the mine, through the Hunter tract, to the county road back of Lake Chabot. This new road will shorten the distance to the mine fully one mile. It is estimated that by the new proposed road the mine will be five miles distant from Vallejo. The contract calls for the completion of the road in thirty days.—*Vallejo Chronicle.*

INVESTING IN UTAH MINES. — Within the past nine months, citizens of the State of Michigan have invested about nine hnndred thousand dollars in Utah mining propertiee; and one capitalist from that State, now here, is satisfied that five millions more from the eame State, will be invested in like property before Spring. This is the showing that the peninsula State makes. And now comee St. Louie, with investmente and examinatione of property. The St. Lonis Mining and Tunneling Company, of which Mayor Brown of that city is Preeident, hae been operating on Peruvian Hill, Little Cottonwood, for eome time with the most satisfactory resnlts. A deputation of gentlemen, consisting of Mayor Brown, Meesrs. J. A. Jackson and P. Behr, of St. Louis, and Messrs. S. Haas and G. L. Bradbury, of Council Bluffs, recently visited the property of the company on Peruvian Hill, inspected the Clipper tunnel, owned by them, and the Clipper ledge, which is being run in tap, and were so satisfied with them and the other claime owned by the company, that they felt like making further investments. Mayor Brown left some days ago for San Francisco, while the other geutlemen rsmained and continued their investigations. After inspecting a number of claims, some of them developed to a considerable extent, Messrs. Jackson, Bent and Haas secured the service of competent experts and continued their investigations; and subsequently made purchase of a group of minee in the bend above Grizzly Flat, where some of the finest leads in the Territory are opened up. From assays made yesterday by five of the leading assayere in this city, ore taken from one of these claims, and the one best developed, carried $538 per ton in silver and fifty-one per cent. lead; while the lowest assay from another claim showed $37 in eilver with a high percentage of lead, and this from but a little below the surface. These are excellent prospects, while the locality ie one of unquestionahle richness.—*Salt Lake Herald.*

Useful Information.

A New Variety of Opium.

A new variety of opium has been met with in commerce for some time, which, according to a recent medical journal, is said to be obtained from Persia. This opium occurs in the form of conical cakes weighing about a pound avoirdupois, is partially covered by the remains of poppy leaves. It is free from seeds of Rumex; its odor differs from that of Smyrna opium, being rather comparable to that of green coffee, and when it is heated an odor of chocolate is exhaled. It is soft like ordinary fresh opium, the softness being due to 5:6 per cent. of moisture. When well dried it is easily powdered, but it is slightly deliquescent. The paste is of a fawn color, and does not darken on exposure to the air; and when examined by the naked eye or with the aid of a glass appears fine and very homogeneous. It mixes freely with cold water, without requiring to be much worked up in the liquid, which it only slightly colors.

Whilst Smyrna opium usually yields 49 per cent. of aqueous extract, this variety yields 52 per cent. In this operation it always presents a remarkable peculiarity; when two-thirds of the water has been evaporated in a water-bath, successive crystalline crusts are formed in such a manner that if the liquor be left to cool, a nearly solid mass results, in consequence of the interlacing of the crystals. By treating such a product with water, M. Carles separated 1.10 per cent. of pure narcotine.

An analysis of the crude opium, gives as the mean of two operations—morphine, 8.40 per cent., narcotine 3.60 per cent., that is to say, a smaller proportion of morphine than Smyrna opium.

A New Class of Explosives.—Nobel's discovery in 1864 of effecting the explosion of nitro-glycerine and analogous substances by means of a detonating charge has initiated a new era in the history of explosives. An explosion may be regarded as the sudden release of that force which previously held together the molecules of gaseous matter, and explosives are those solids and liquids which can suddenly assume the gaseous state. Heat is usually the cause of this change, so that explosions, as a rule, are simply rapid combustions of compounds which yield gaseous products; the higher the higher the temperature produced, of course, the more these gases are expanded, and the more powerful the explosion. On examining a large number of mixtures of oxidizing and combustible substances, it is found that mixtures of nitric acid, density 1. 5, and nitro-compounds of the hydrocarbons, fired by a detonating cap, are the most effective. A mixture of nitro-benzole, or picric acid, with nitric acid, explodes with the greatest violence, comparable to nitro-glycerine. The materials are harmless as long as they are kept separate, and then may be mixed with comparative ease. Something is gained even when one only of the components is liquid, and with this object I propose the use of porous cakes of potassium chlorate, saturated with a combustible liquid, such as bisulphide of carbon or nitro-benzole. These are found to be five times as effective as an equal weight of gunpowder in open granite quarries.—*Dr. H. Sprennel.*

Tea.—A tea plantation is a very pretty sight; when seen at a distance, it looks like a shrubbery of evergreens, the leaves of the plant being of a rich dark green. Green tea is multiplied by seeds which are ripe in October; when gathered they are put into a basket and mixed with sand and earth in a damp state, and kept in this condition till spring. In March the seeds are taken from the basket and placed in the ground. They are sown thickly in rows in some some spare corner of the tea farm. After picking, green leaves are spread out thickly on flat bamboo twigs to dry off their moisture; they are then placed in roasting-pans, and rapidly moved about and shaken up with both hands. When affected by the heat and flaccid they are placed on a rolling table. Several men then roll the balls to get rid of the moisture and twist the leaves. They are then shaken out on flat trays, after which they are then taken to the roasting-pan and thrown in again. The second part of the process consists in winnowing the tea through sieves in order to get rid of dust, and to divide the tea into "Gunpowder," "Hyson," "Twankay," etc. The process of curing black tea is about the same, only the leaves are permitted to lie longer after picking, and are tossed in the air and beaten by the hands. The Chinese never color teas for themselves. It is entirely done for the foreign market.

Iron for Specific Purposes.—The quality of bar iron may differ according to the purpose for which it is to be employed. Wire-iron is manufactured in the charcoal forge and the double puddling furnaces with iron hoshes. Easily welded iron is made by allowing a small portion of carbon to remain in the metal, and by expelling, so far as possible, foreign matter. But this, by destroying the fibre, will make iron cold short. If we want fibrous railway or heavy bar iron, we must employ a metal from which the carbon is easily expelled, as that from the run-out fires. This is to be puddled in a very warm furnace. Wire-iron should be of the same quality, but the puddling by which it is produced would be inapplicable for railway iron, for the latter would become cold short. Iron for small rods, hoops, gas-pipe, and wire ought to exhibit a crystalline fracture, a steel-like grain, which is produced by carbon. But of all other foreign matter it should be free. Silex and phosphorus will not evaporate like carbon on repeated exposure to heat; and the iron which contains either in a non-vitrified state will be cold short under all circumstances, and will be useless for wire or any other purpose for which strength is required.

How Hot Iron May be Handled.

About the year 1809, one Lionetto, a Spaniard, astonished not only the ignorant, but chemists and other men of science by the impunity with which he handled red-hot iron and molten lead, drank boiling oil, and performed other feats equally miraculous. While he was at Naples he attracted the attention of Professor Sementem, who narrowly watched all his operations and endeavored to discover his secret. Sementem's efforts, after performing several experiments upon himself, were finally crowned with success. He found that by friction with sulphuric acid, diluted with water, the skin might be made insensible to the action of the heat of red-hot iron; a solution of alum, evaporated until it become spongy, appeared to be still more effectual. After having rubbed the parts which were rendered, in some degree, incombustible with hard soap, he discovered on the application of hot iron, that their insensibility was increased. He then determined on again rubbing the parts with soap, and after this found that the hot iron not only occasioned no pain, but that it actually did not burn the hair. Being thus far satisfied, the professor applied hard soap to his tongue until it became insensible to the heat of the iron; and after having placed an ointment composed of soap mixed with a solution of alum upon it, boiling oil did not burn it. While the oil remained on the tongue a slight hissing was heard, similar to that of hot iron, when thrust into water; the oil soon cooled, and was then swallowed without danger. Several scientific men have since successfully repeated the experiment of Professor Sementem.

Perfumes.—Fair readers may be interested to learn where, for the most part, the flowers grow the sweet perfume of which is found in those pretty *flacons* on their dressing-tables. The chief places of their growth are the south of France and Piedmont, namely, Montpellier, Grasse, Nimes, Cannes, and Nice; these two last especially are the paradise of violets, and furnish a yearly product of about 13,000 pounds of violet blossoms. Nice produces a harvest of 100,000 pounds of orange blossoms, and Cannes as much again, and of a finer color. Five hundred pounds of orange blossoms yield about two pounds of pure Neroli oil. At Cannes the accacia thrives well, and produces yearly about 9,000 pounds of accacia blossoms. One great perfumery distillery at Cannes uses yearly about 140,000 pounds of orange blossoms, (Acacia Farnesiana,) 140,000 pounds of rose leaves, 32,000 pounds of jessamine blossoms, 20,000 pounds of violets, and 8,000 pounds of tube-roses, together with a great many other sweet herbs. The extraction of the ethereal oils, the small quantities of which are mixed in the flowers with such large quantities of other vegetable juices that it requires about 600 pounds of rose leaves to win one ounce of otto of roses demands, a very careful treatment. The French, favored by their climate, are the most active, although not always the most careful preparers of perfume; half of the world is furnished by this branch of their industry.

Care of the Teeth.—Rousseau said that no woman with fine teeth could be ugly. Any female mouth with a good set of teeth is kissable. The too early loss of the first teeth has an unfavorable influence upon the beauty and durability of the second. The youngest should accordingly be made to take care of them. All that is necessary is to brush them several times a day with a little ordinary soap or magnesia and water. After eating, the particles of food should be carefully removed from the teeth by means of a toothpick of quill or wood, but never of metal. Camphorated and acid tooth powders are injurious, both to the enamel and the gums, and if employed, every particle should be removed from the gums by careful rinsing. The habit which some ladies have of using a bit of lemon, though it may whiten the teeth and give a temporary firmness and color to the gums, is fatal to the enamel, as are all acids. No one, young or old, should turn their jaws into nutcrackers, and it is even dangerous for women to bite off, as they often do, the ends of the thread in sewing. It is not safe to bring very hot food or drink, especially if immediately followed by anything cold, in contact with the teeth.

Musty Barrels.—Many barrels at this season of the year are found to have become musty, and consequently unfit for use. The Ohio *Farmer* says: "Put in them about a pint of unslacked, fresh lime; pour thereon one or two gallons of water; bung up and shake the barrel; while shaking, loosen the bung occasionally, to give vent. When it has stood three to six hours, pour out, and rinse with clean, cold water; if not perfectly sweet, repeat the dose. Usually one application will be sufficient."

Irving received about $240,000 for his entire literary labors, and no American author has equaled him.

Good Health.

The Cholera Moving.

Steadily but surely is the cholera advancing westwardly; and if we can rely upon our exchanges it has already crossed the Mississippi. Still there is no assurance that it will reach California this season or next, yet it will be well to be prepared for its coming, by the adoption of sanitary measures and the practice of cleanliness and moderation in indulgences.

Prevention Better than Cure.

"More than forty years ago," says the New York Journal of Commerce, "when it was found that prevention for the Asiatic cholera was easier than cure, the learned doctors of both hemispheres drew up a prescription, which was published (for working people) in the New York *Sun*, and took the name of "The Sun Cholera Mixture." Our contemporary never lent its name to a better article. We have seen it in constant use for nearly two score years, and found it to be the best remedy for looseness of the bowels ever yet devised. It is to be commended for several reasons. It is not to be mixed with liquor, and therefore will not be used as an alcoholic beverage. Its ingredients are well known among all the common people, and it will have no prejudice to combat; each of the materials is in equal proportion to the others, and it may therefore be componnded without professional skill; and as the dose is so very small, it may be carried in a tiny phial in the waistcoat pocket, and be always at hand. It is: Tinct. opii, capsici, rhei co., menth. pip., campho.

Mix the above in equal parts; dose, ten to thirty drops. In plain terms, take equal parts tincture of opium, red pepper, rhubarb, peppermint and camphor, and mix them for use. In case of diarrhœa, take a dose of ten or twenty drops in 3 or 4 teaspoonfuls of water. No one who has this by him and takes it in time will ever have the cholera. We commend it to our Western friends, and hope that the receipt will be widely published. Even when no cholera is anticipated, it is an excellent remedy for ordinary summer complaint."—*Exchange.*

Springing Out of Bed a Bad Practice.—Dr. Hall does not approve of the old doctrine which was formerly instilled into the minds of children—that they should spring out of bed the instant they awake in the morning. He says that up to eighteen years every child should be allowed to rest in bed, after the sleep is over, until they feel as if they had rather get up than not. It is a very great mistake for persons, old or young—especially children and feeble or sedentary persons—to bounce out of bed the moment they wake up; all our instincts shrink from it, and fiercely kick against it. Fifteen or twenty minutes spent in gradually waking up, after the eyes are opened, and in turning over and stretching the limbs, do as much good as sound sleep, because the operations set the blood in motion by degrees, tending to equalize the circulation; for during sleep the blood tends to stagnation, the heart beats feebly and slowly, and to shock the system by bouncing up in an instant and sending the blood in overwhelming quantities to the heart, causing it to assume a gallop where the instant before it was in a creep, is the greatest absurdity. This instantaneous bouncing out of bed as soon as the eyes are open will be followed by weariness long before noon.

Teeth Set on Edge.—All acid foods, drinks, medicines, and tooth-washes and powders, are very injurious to the teeth. If a tooth is put in cider, vinegar, lemon-juice or tartaric acid, in a few hours the enamel will be completely destroyed, so that it can be removed by the finger-nail as if it were chalk. Most people have experienced what is commonly called teeth set on edge. The explanation of it is, the acid of the fruit that has been eaten has so far softened the enamel of the tooth that the least pressure is felt by the exceedingly small nerves which pervade the thin membrance connecting the enamel and the bony part of the tooth. Such an effect can not be produced without injuring the enamel. True, it will become hard again, when the acid has been removed by the fluids of the mouth, just as an egg-shell that has been softened in this way becomes hard again by being put in the water. When the effect of sour fruit on the teeth subsides, they feel as well as ever, but they are not as well. And the oftener it is repeated, the sooner the disastrous consequences will be manifested.

Lemons or Oranges in Sick Rooms.—Lemons or oranges remaining any length of time in a sick room produce a very unpleasant effect upon the atmosphere. I have often observed this in the rooms of persons dying of consumption, and supposed it was the disease that tainted the air, but mature experience has taught me my mistake. Sick persons generally want lemons and oranges, and they also give a cheerful cooling look to the room, but their sickly fragrance is so unpleasant that they should be banished entirely except as they are needed for immediate use by the patient.—*Hearth and Home.*

Domestic Economy.

Raspberry Jelly.—To each pint of juice allow ¾ lb. of loaf sugar. Let the raspberries be freshly gathered, quite ripe, and picked from the stalks; put them into a large jar, after breaking the fruit a little with a wooden spoon, and place this jar, covered, in a saucepan of boiling water. When the juice is well drawn, which will be in from three-quarters to one hour, strain the fruit through a fine hair sieve or cloth, measure the juice, and to every pint allow the above proportion of loaf sugar. Put the juice and sugar into a preserving pan, place it over the fire, and boil gently until the jelly thickens when a little is poured on a plate; carefully remove all the scum as it rises, pour the jelly into pots, cover down, and keep in a dry place. This jelly answers for making raspberry cream, and for flavoring various sweet dishes, when in winter, the fresh fruit is not obtainable.

Green-Corn Pudding.—Allow one long ear of sweet-corn for each person. Take half a pint of milk, one egg, a dessert spoonful of white sugar, one of sweet butter and add a teaspoonful of salt to every two ears.

Beat the eggs and sugar well together and add the milk and salt. Cut the corn off the cobs with a sharp knife, and chop the divided grains with a chopping knife, but not too fine; or, better still, split each row of corn down the middle before cutting them off their cobs. The corn must not be boiled first. Stir the chopped corn into the milk, and bake in a brisk oven in custard cups or in a tin-pan until the top is nicely browned, but not hardened. Serve hot, with sauce. This is a delicate dish. Common corn may be used, if young and tender, but requires as much again sugar.

Pineapple Preserve.—To every pound of fruit, weighed after being pared, allow one pound of loaf sugar and quarter of a pint of water. The pines should be perfectly sound, but ripe. Cut them into rather thick slices, as the fruit shrinks very much in boiling; pare off the rind carefully, that none of the pine be wasted, and in doing so notch it in and out, as the edge cannot be smoothly cut without great waste. Dissolve a portion of the sugar in a preserving pan with quarter of a pint of water; when this is melted, gradually add the remainder of the sugar, and boil until it forms a clear syrup, skimming well. As soon as this is done put in the pieces of pine, and boil well for at least half an hour, or until it looks nearly transparent. Put it into pots, cover down when cold, and store away in a dry place.—*Queen.*

Iron Rust in Stockings.—Wet the spot with milk, and then cover it with common salt. This will do if the article has not been washed. Another plan is to take an ounce of powdered oxalic acid, and mix it with four ounces of cream tartar. Keep this in a box. To use this, wet the finger in clean water, dip it in the above powder and rub it on the spot gently, keeping it rather moist until the stain disappears. Then wash the spot out with pure water. Another plan is to wet the mark with yellow sulphate of ammonium, which will blacken it. After a minute or two wash out the spot with clean water, and then treat the spot with cold dilute muriatic acid. Afterwards wash with clean water again.

Tomato Honey.—To each pound of tomatoes allow the grated peel of a lemon and six fresh peach leaves; boil them slowly till they are all to pieces, then squeeze them through a bag; to each pound of liquid allow a pound of sugar and the juice of one lemon; boil them together till they become a thick jelly; then put them into glasses and lay double tissue paper over the top.

Delicious Food.—No part of any animal used for food is more delicious to many people than the brain when well cooked. It may be fried in butter, boiled in milk, and then placed in vinegar, or boiled in water two or three minutes, then beaten fine, mingled with sage, salt, yolk of an egg, a gill of cream and fried in the form of drop cakes in butter. Before cooking it should be carefully washed.

Apple Jam.—Weigh equal quantities of sugar and good sour apples; pare, core and chop the apples fine; make a good clear syrup of the sugar; add the apples, juice and grated rind of three lemons, and a few pieces of white ginger. Boil it until the apple looks clear and yellow. On no account omit the ginger.

MINING AND SCIENTIFIC PRESS

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San Francisco:

Saturday Morning, Aug. 23, 1873.

Legal Tender Rates.—S. F., Thurs., Aug. 21.—buying 86⅜; selling 87⅛.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Telemeter for Engineering and Military Purposes; Improvement in Feathering Paddle Wheels, 113. About Quicksilver Extraction; Beet Sugarie at Sacramento; Utah Silver and Lead Company; Charges of Transportation, 120. Blodgett's Road Scraper; Improvements in Refining Copper Bullion, 121.

ILLUSTRATIONS.—Improved Telemeter for Engineering and Military Purposes, 113. Blodgett's Road Scraper, 121.

CORRESPONDENCE.—Notes of Travel in White Pine County, Nevada—Continued; Mining Notes, 114. Butte County Mines, 122.

MECHANICAL PROGRESS. — Shaping Machinery; Causes of Boiler Explosions; The Grandest Bridge Ever Planned; More Experiments on Boiler Explosions; Progress in Locomotive Construction—American Locomotives; An Iron Challenge; The Ocean Tides Set to Work; Railroads in Russia; Improved Hose, 115.

SCIENTIFIC PROGRESS. — The Velocity of Light; Ozone; Agassiz on Darwinism; Substitutes for Bone Charcoal, 115.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 116.

MINING SUMMARY from various counties in California, Nevada and Arizona, 117.

USEFUL INFORMATION.—A New Variety of Opium; A New Class of Explosives; Tea; Iron for Specific Purposes; How Hot Iron May be Handled; Perfumes; Care of the Teeth; Musty Barrels, 119.

GOOD HEALTH.—The Cholera Moving; Springing Out of Bed a Bad Practice; Teeth Set on Edge; Lemons or Oranges in Sick Rooms, 119.

DOMESTIC ECONOMY.—Raspberry Jelly; Green-Corn Pudding; Pineapple Preserve; Iron Rust in Stockings; Tomato Honey; Delicious Food; Apple Jam, 119.

MISCELLANEOUS.—The Crown Point Ore Body—History and Description; Brief History of a Placer Claim; The St. John Quicksilver Mine; Investing in Utah Mines, 118. The Origin of Metals; Gold Quartz in Butte County; Build up Home Manufactures; Pacific Borax Company; Mines at Muncey Creek; Salmon River District; Railroads in South America; How Carson River is Fed; Charcoal at Eureka; Washoe Coal, 122. Cheek, 123.

POSSIBLE.—In San Joaquin County a man is under arrest for stealing a mowing machine. This is probably the individual who attempted to walk off with a quertz mill some time ago.—*Chronicle.*

The *Chronicle* gives the above item probably under the impression that an individual can't "walk off" with a quartz mill. We assure our cotemporary that we know of many well authenticated instances where individuals have "walked off" with quartz mills, and big ones at that; moreover, in some cases, they gobbled up the mine in the bargain. The circumstance has'nt happened once, but many times. Though they did'nt literally put the mills in their pockets, they did the coin which was paid to build the mill. These facts will be attested by hundreds of men, rich in mining experience, but poor in purse. It looks as if it would be more difficult to steal a mine than a mill, but one is equally as easy as the other, provided you know the ropes and are in with the California street rings. A movable threshing machine is nothing to a quartz ledge which one would suppose was a fixture; but many a one has melted into thin air and carried a heavy weight of coin with it.

VIENNA AWARDS.—We see by a dispatch that among the awards at the Vienna Exposition, were the following for the Pacific Coast: Joseph Nenman, of California, for cocoons; G. Kuetel of California, for minerals; Sutro Tunnel Co. of Nevada, for mine models. Little Neumann must be in high feather over his success, for he had such a terrible time in getting to Vienna, and may have a worse time getting back here. We are particularly glad to see that Mr Kuetel's efforts in making a collection of minerals, meagre though it was, met with some appreciation.

A MILL is to be built for Peavine District, and according to the Reno *Crescent*, the lumber for it is now being cut.

About Quicksilver Extraction.

In our issue of June 14th, 1873, was published a communication from Mr. Guido Kustel, our Vienna correspondent, in relation to Patera's quicksilver furnace. He stated that the officers of Idria admitted a loss of 37 per cent., as compared with the usual assay, but the usual assay by retorting, compared with the analysis, shows a heavy loss besides. "The analysis of a series of samples compared with the retort assay gave an average with the following results: Idria assays, 3.94 per cent. Analysis of the same 5.00 per cent." This shows 12 per cent. loss by the assay, and with the above loss of 37 per cent. it would amount to 49 per cent. real loss. Patera claims to work up to 84 per cent. of the real amount the ore contains, and Mr. Kustel examined tailings, from which there was no reaction of quicksilver obtained.

A correspondent of a cotemporary, referring to our article, thought that Patera was making small progress in his improvements, as viewed from a California standpoint, stating that, with all the new methods in vogue in Europe, the average loss remains far greater than the most wasteful process in vogue in this State. The correspondent further stated that the loss at Almaden is not above 5 or 6 per cent.; while the Coalt & Roach and the Knox & Osborne and other processes claim to work within one per cent. of assay value; and where wood could be had at $5 per cord, at a cost of $1.25 per ton for ordinary selected rock, reduced to egg size.

Now our friend Mr. Kustel, whose experience and reputation entitle him to a respectful hearing, does not believe the statements of the correspondent referred to above, and his opinion is shared by many others. Very few apparatuses of any kind work as close practically as they are supposed to theoretically. In conversation with one of the owners, of one of the prominent California quicksilver furnaces, this week, he said he could work the ore up to within one-half of one per cent. of assay value, or 99½ per cent., an assertion that will be doubted by many besides ourselves. A certain percentage of the metal will go into the bricks of the furnace, and into the ground under and about it. When one of the furnaces at New Almaden was torn down some years since, traces of mercury were found at a depth of 20 feet under where it had stood. Some people however, who are indentified with certain metallurgical processes, have a "hobby" of the "percentage" business, and make accurate calculations on paper, which practice seldom bears out. We remember overhearing some years ago a conversation on this subject, in a stage coach while on a trip to Washoe. An enthusiastic individual who had purchased some newly invented pans for a new mill, was talking about their capabilities and had picked up a few ideas from the inventor, while he had but indifferent knowledge of the subject himself. He stated in all good faith, that he expected the pans to work up to 105 per cent. of assay value. This is an isolated case, but many others are scarcely less reckless in their assertions than this incipient mill men. The subject is better understood now-a-days, but still we have a good deal to learn about actual loss of metal in ore.

In speaking of the matter above referred to, Mr. Kustel writes us from Vienna as follows: There is little doubt that improvements are proposed and carried out in California more frequently and quickly than in any other part of the world, and are often very successful, as illustrated by our quartz batteries, which stand above the European in every respect; but the "California Standpoint" is a very peculiar thing. The correspondent who writes in reference to the Patera Process, and says the loss of quicksilver at New Almaden is 5 or 6 per cent. while the Coalt & Roach and the Knox & Osborne, and other processes claim to get out 99 per cent. is like many others. It is not surprising to read such statements; and on the other hand it would not really be surprising, if by a little more improvement it was claimed that from 120 to 125 per cent. could be extracted; that is, it would not be surprising from a "California standpoint." An assayer, who understands his business, would be congratulated if he were able to extract 95 per cent. of the quicksilver contained in rich ore, not to speak of the poor; and it must be admitted that a distilling furnace never can be made as perfect and hermetically tight as it is possible to construct an apparatus on a small scale in an assay office. But there is no use to talk about an imaginary 99 per cent. Belief is required; nothing else. All one can say is that the inventors of the 95 and 99 per cent. processes have it in their hands to make a fortune by introducing them in Europe, where 40 per cent. of quicksilver is lost, and where this metal can be traced ten thousand feet away from the furnaces for a foot deep in the ground. This quicksilver is a dead loss, but in tearing down a furnace, tons of it are obtained from below the foundation; where the balance of the 40 or 50 per cent. goes to is not known. It may be, from a "California standpoint," an imaginary loss; but the Idria people, for instance, who have worked on quicksilver ore for more than a century, know and admit the loss. They have been experimenting to find out the real loss, not to save 99 per cent., which is thought impracticable, and in this investigation they differ a little from California methods, which may account for the different results. Tell them that in California 95 per cent. of the quicksilver is extracted, they smile without any remark; but if any one can *prove* to them that he can extract 90 per cent. of the mercury contained in the ore, he is a "made man."

Of course we understand very well that the new processes introduced within the past few years for the extraction of mercury from its ores, are very great improvements on those in vogue ten or twelve years ago; and no doubt they save more metal. But that they work as close as represented, is doubtful. At the Phœnix mine, in Napa County, the fumes are led over 100 feet *after* leaving the condensers, which are supposed to extract all the metal. At the end of this long process means are adopted to catch escaping mercurial vapors, and the Superintendent of the mine lately informed one of the gentlemen connected with this office that he caught at the end of this pipe about $50 worth of quicksilver every month. How much is lost, of course we do not know; nor does he. If some of our friends connected with the quicksilver mines of the Coast who have made experiments in this direction, will give us the benefit of their experience, they may rest assured it will be appreciated. Let some one, where one of the furnaces referred to is in operation, suspend a gold coin for a short time in front of the air passing from the furnace, after it has gone through all the processes, and see the result. Let him tell us what proportion of quicksilver is caught in each separate condenser, especially the last, for if any is caught there it is highly probable that some escapes.

Beet Sugarie at Sacramento.

It is gratifying to learn of the very flattering prospects attending the opening of the season's campaign at the sugarie of the Sacramento Company. The season has been a fair average for the growth of beets; the yield per acre from 20 to 30 tons, and the quality better than in any preceeding year, showing a saccharine percentage ranging from 10 to 15 per cent. of the gross weight of the beets; the working factory yield slightly exceeding 10 per cent.

The season's operations were commenced on the 5th of August, being a full month earlier than is attainable in European countries. Eighty tons of beets are required and worked every twenty-four hours. To run the sugarie twenty-four hours requires the labor and attendance of sixty men, working a single shift, or thirty men on and thirty off, one shift commencing at midday, the other at midnight, this division of the time being preferred by the men to any other.

Except a few white overseers, the workmen are Chinese. White men have been tried, with a view of employing them solely; but they are found to be less reliable, less inclined to do as directed, and not as quick to discern what is required or to do it, as Chinamen; the men on being told that they must neither smoke or chew tobacco inside the sugarie, understand it, and refrain. Not so with white laborers, who seem to think the rule is to apply to any but themselves.

Working a sugarie amidst the heat of furnaces, the steam of engines, boilers and evaporators, is a very warm business to say the least, and will start the sweat from the coolest inclined; but with each shift of hands, every Chinaman comes on with his clean towel suspended upon his breast or convenient for use, whilst bathing twice a day is made a *sine qua non*, indeed they seem to vie with each other in the matter of cleanliness.

If there are any who longer doubt the complete success of the best sugar enterprise in California, they should visit the Sacramento sugarie any time this fall or winter, while in full tide of operation, and they will be convinced of just two facts in regard to the business of sugar making from beets; one being the large outlay required in getting up the necessary machinery for the business, and the other, the unquestionably large profits that must attend the manufacture.

We have, at 414 Clay street, a sample of sugar from the factory of the present season's make, which we would like to have examined and tested by those interested in home productions.

The Utah Silver and Lead Company.

We see by the London mining *World*, that a meeting of this company was held in London on July 25.

Mr. G. Batters, the Chairman, gave a *resume* of the past operations and the progress of the new company. Alluding to Mr. Longmaid, the present Superintendent, he said: "I have known him for the last twenty-five years as a competent man in his profession. Before his departure for Salt Lake City, he made himself acquainted with all the machinery that would be required for dressing the ores. He also spoke in the highest terms of Mr. Argall, the present Secretary.

The Chairman likewise said "that Mr. J. P. Sewell, brother of Mr. Henry Sewell, the eminent mining engineer, was also at the meeting, and that he would like very much to have him on the Directory."

Mr. Lake also moved the election of Mr. J. P. Sewell, for he knew that his brother out in Utah had always taken the warmest interest in the success of the company. He knew them both, and entertained the highest opinion of them.

Mr. J. C. Bateman was also reëlected a director.

The Salt Lake *Journal* thinks the Company is destined to be a permanent-paying concern. The new Superintendent, Mr. Longmeid, who lately arrived from London, is a mining engineer of many years' practical experience. He has expressed himself in the very highest terms about the great value of this mine, and the immense quantities of ore in sight. As regards the concentration of second-class ores, he has proved this to be a complete success—raising the ore from 35 to 75 per cent. in lead, and from 17 to 20 ounces in silver. As soon as the rest of the concentrating machinery arrives from England, he is confident he can save more silver and raise the percentage to 25 ounces.

We are fully cognizant how our old friend and correspondent, Mr. Henry Sewell, has fought this battle against all comers. He also holds £600 worth of stock in the new company, which he invested, to prove his faith tangibly in the mines of the company, notwithstanding the bad management. This is one of the many proofs how ignorant and reckless management will cause a collapse in the best mining property.

Charges of Transportation.

The Subject to be Investigated by a Senate Committee Sitting in San Francisco.

Senator Casserly announces that the sub-Committee of the Senate on Transportation, will begin its sessions in this city, on August 26th. In a communication he states that among the heads of inquiry within the powers of the Committee, the following have special reference to the Pacific Coast and its interests:

First—Charges for transportation of grain, wool, ores and other staple products, and of freight generally, by land or water, including: 1—Charges of transportation, storage, etc., from the interior to tide-water. 2—Freights from ports on the Pacific to foreign ports, for the past five years and upwards. And how these charges compare with those elsewhere in the United States.

Second—Discriminations in charges of transportation, as between way freight through freight, and as between freight of either of these classes; or in respect of any other classification.

Third—How far these charges of transportation by rail are in excess of what the staple products of the Coast should be made to pay; or of what is a fair return upon a fair outlay for construction, repairs and running expenses; having in view the public aid granted to the company.

Fourth—Value and amount of the different kinds of grain produced in California and Oregon annually, for the last ten years. Value and amount of the same exported from each of these States annually, for the same period. Same statistics as to flour.

The inquiry will not be confined to these heads, but will extend to all matters bearing on the subject of transportation, inland or by sea.

The sessions of the Committee will be public. All persons specially interested, are invited to be present, and to give any facts in their possession throwing light upon the injury.

The co-operation of Commercial Boards and other business bodies, as well as that of farmers' organizations—in furnishing information to the Committee—is specially desired.

Another Labor-Saving Machine — The Blodgett Road-Scraper.

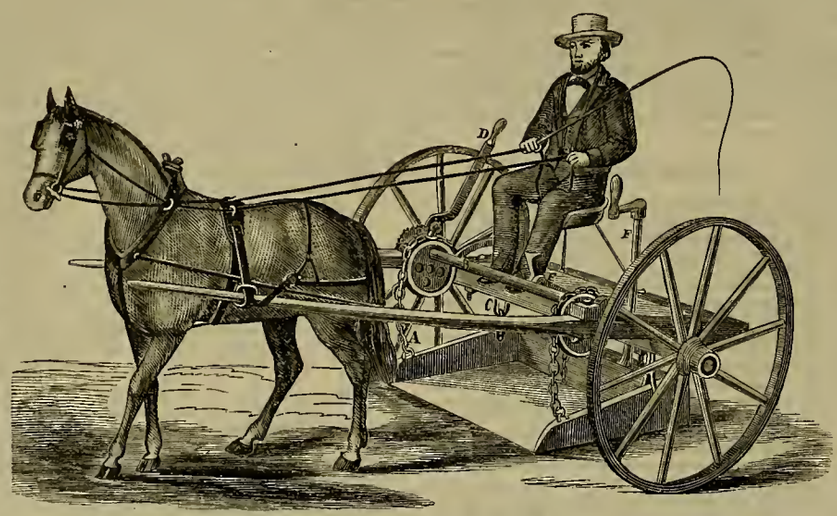
The accompanying illnstration represents a device just being introduced into California, called the "Blodgett Road-Scraper," which has many apparent advantages over other implements constructed for similar purposes. The mannor of operation will ho easily seen hy reference to the cut. Tho scraper or hody, *A*, is suspended by means of links and chains under the axle and hetween the wheels, as shown. Across the shafts, in front of tho axle, is placed a shaft, *B*, having an eccentric at each end, around which chains pass and are attached to the front end of the scraper. The lever, *D*, at one side, on the right hand of the driver, serves to operate these eccentrics, and raise or lower the front end of the scraper as desired. Behind this level is a har with a pawl, which engages in a ratchet at the lower end of the lever, *D*. This pawl-bar on being lifted, disenguges the pawl, and the scraper is allowed to drop to take on the load. A crank is secured to n vortical shaft, *F*, on the left of the driver, and when it is desired to discharge the load, hy turning this crank, the bottom of the scraper drops open. A foot lever, *E*, which connects with the hind end of the scraper by means of a chain, serves to raise the bottom again.

There is one part of the apparatns which tho engraver hae omitted to show. The bottom of the ecraper ie divided into two parts, hinged together. A short distance from the front of tho scraper the hinges are placed, and a rod at the bottom of the rod, *F*, keeps the hinder part up when the load is on, and whon it is desired to dump it, the rod, *F*, is turned, when the under part falls and tho load is discharged. The machine operates as follows; The driver assumes his seat, and when at the place where the load ie to be taken on, he raises the lever behind the lever, *D*, at his right hand, when the front part of the ecraper *A*, is lowered to the ground.

The hind end being firmly held in poeition by the links, *C*, a short distance above the ground, the scraper is thue inclinod forward in the usual position of a common scraper. The forward motion of the horse eerves to fill the body of tho machiue with dirt. When the scraper ie full, the driver operates the lever, *D*, which, being connected with the bar, *B*, and the eccentrics, moves easily and raises the front end of the scraper as high as necessary. This operation inclines the scraper to the rear, so the load slidee off easily. The load is drawn, without tho necessity of the horse stopping, to where it is to be dumped. The driver then turns the crank, *F*, which drops the hind portion of the bottom of the scrsper, and the whole scraper being inclined to the rear, the load discharges itself. The driver then puts hie foot on the lover, *E*, which raisee up the hind portion of the bottom of the scraper, and again secures it in position by meaus of the rod, *F*.

As will he eeen, the machine ie a very simple one and may be used for many purposes. Not only for a road scraper, hut for grading, digging ditches, levelling off ground, etc. For mining ditches in many locslitiee it would answer very well. For diggiug irrigating ditches and canale it bears the same relation to common ecrapore and wheelbarrowe, as a "eteam paddy," or mud dredger, does to a dnmp cart and man with a shovel. The driver is not compelled to travel at the tail of the machine all day, but has a comfortable seat on which to ride. There is no necessity for the horse to stop at all and a good deal more work can accordingly be accompliehed in a day with this than with a common ecraper. For farm work it would be very convenient, since the body being under the wheels, manure, dirt, etc., could be moved from place to place without the necessity of ueing pitchforke or shovels, and the animsl draws all the weight and carries none. Heavy stones can be moved in this machiue, as the front end of the scraper, which is shod with eteel, can be run under the stone and it can be raised with the lever.

We are informed that some three thousand of these machinee are now in use in the Easteru States, more particularly on farme and railroads. It is just being introduced on this coast, by an incorporation called the Blodgett Road Scraper Manufacturing Oo. The president of the company, Mr. H. K. Moore, No. 528 California st., informs us that one of the machines is now being made in this city, which is to be used in making tront ponds and ditches, and a nnmber more have been contracted for. The irrigation projects of the San Joaquin Valley, which are going on in an extensive scale, will probahly necessitate the manufacture of qnite a nnmher of these machines, which aro peculiarly fitted for that work. It is the intention of the company to dispose of theso machines at a rate which will place them within tho reach of all desiring to use them.



BLODGETT'S ROAD SCRAPER.

Improvements in Refining Coppery Bullion.

In working "tailings" from tho ores of the Comstock lode a large addition of blue stone is generally made, which forms no inconsiderable portion of the expense of the process. Tailings therefrom always yield an amalgam very rich in copper, and also very "coppery" bullion. This is a drawhack of tho process. Besides that, in selling the bullion, tho copper is not paid for, and the cost of refining such hullion is always larger than for refining common hars. Copper is much less soluhle in sulphuric acid than silver, and bars of a high percentage of copper reqnire more time, fuel, and acid, than those with little or no copper. If the per centage of copper exceeds 10 to 15 per cent, it is ever necessary to alloy euch bare with others, in order to ohtain a mixture soluble in enlphurio acid. As a consequence, coppery bars sell on this coast at a larger discouut thsn the usual Comstock bullion.

To refine a bar of 1000 ouncee, 800 fine in gold and silver, with 20 per cent of copper, costs in this city, st two cents per ounce, $20, of which eum $4 is paid for the 200 ounces of copper. Each pound avoirdupois of copper, therefore, coste 29 cents for refining. Now the above 200 ounces, or 13.7 pounds, avoirdupoie of copper have been, dnring the amslgamation, reduced from 54.8 pounds of blue etone, for which the mill owner has paid—at say 12 cents per pound—$6 57; that is 48 cents for one pound of copper. Thue the mill owner instead of receiviug something for the copper in the bulliou, loses not less than 77 cents for each pound of it. This fact certainly leaves a margin for improvement.

The facte being well know, experimente have been tried in some tailing mills, to roaet the retorted amalgam in a reverberatory furnace and to remove the oxidized copper by means of sulphuric acid. This method, which has been practiced in Europe for centuries, is feasible enough, if judiciously practiced. The roasting of copper in reverberatory furnsces is, however, a rather impracticable operation. It is a source of loss in silver and in time. The reverberatory flame ie to much of a reducing flame to csuse a powerful oxidation of the metal. The amalgam becomes covered with ashes and soot, which in "pickling" makes the solution turhid and the silver, owing to the presence of the carbon, refractory in the crucible.

Mr. Frederick Gutzkow of this city, in view of the foregoiug facts, has devised a modification of the old procese, which presents some advantages. It is in substsnce as follows: By this new method the roasting of the amalgam is effected in the same retort in which the retorting takes place. Most of tho quicksilver is removed hy distillation in the ordinary way. Then the firing being kept np, a strong current of air is forced through the porous mass. The air enters through opening of the door and after passing through and over the contents, escapes through the same pipe, which previously served for the escape of the qnicksilver vapors. The strong draught required is effected hy means of a steam jet. For that purposo a gas pipe hranches off from the outlet of the quicksilver vapors and ends in an iron T piece, on which a small steam jet creates a vacuum.

The mixture of steam and air is made to pass through cold water, before escaping into the atmosphere, in order to condenso any partieles of silver or quicksilver that might be carried away. It is not necessary to delay the admission of air until tho last traces of quicksilver have distilled off, as the distillation will keep on with the oxidation of the copper, and is even facilitated by the current of air. The more porous the mass is left the more effectual the oxidation will be. The little steam jet apparatus can be connected with any retort without trouble, and causes no expense worth mention, unless where steam is not availsble.

It is commonly believed, that for the purpose of freeing silver from copper by oxidizing the latter, the operation has to be frequently repeated. This, Mr. Gutzkow thinks, is not necessary. The oxide of copper formed does not prevent the further oxidation of the copper in the heat. There is something similar in it to the oxidation of iron in moist air. In both cases combinatione of metals and oxygen are formed, which tranemit some of the oxygen to the metal core, then take up fresh oxygen, and so on. Mr. Gutzkow eaye he has frequently cupelled silver bars with forty and more per cent. of copper, and obtained pure silver therefrom, when the metal itself wae only touched by the air blast for a few minutes at the commencement. It very soon became covered with a thin fluid consisting of a mixture of oxide and protoxide of copper, which increaeed to a thickness of one or two inches, acting on the metal below nearly ae powerful ae the blast would have done.

The sufficiently oxidized amalgam (a perfect separation of copper aud silver is not intended) is taken from the retort in the usual way and placed in a lead-lined tank filled with sulphuric acid. The oxide of copper dissolves and the silver remains as it is. Silver being, however, also somewhat oxidizable, a little of it will always be found disolved. A few sheete of copper precipitate it easily. The settled solution is withdrawn and either used over again until it ie etrong enough to separate crystals of bluestone, or, better still, given directly into the amalgamators instead of the bluestone of commerce. There have been some tables prepared, which indicate the percentage of bluestone in a solution of a certain strength. According to these tables one gallon of blue-stone solution of 10 degrees Beaumé containe one pound; one gallon of 17 degrees two pounds; one of 23 degrees, three pounds of bluestone disolved. The silver residue in the tank ie thrown in a filter, washed with hot water and then dried and melted. The first wash water ie mixed with a proper smount of sulphuric acid and saved for another operation. The weak wash may be run off without incurring much of a loss.

The costs of the operation Mr. Gutzkow eays, consist principally in the expenee of sulphuric acid. For one pound of copper to be oxidized may be reckoned one and a half pounds of sulphuric acid. For the above mentioned silver bar of 1,000 ounces troy or 68½ pounds avoirdupois, with 20 per cent of copper, about 20 pounds of acid are reqnired, costing in Washoe say $1.20. Therefrom 54.8 pounds of bluestone are formed—valne $6.57. Besides, $4.00 gained by the higher value of the bullion as explained above. It is to be hoped that some of the Washoe mill men will give this method of Mr. Gutukow's a trial. If any further information is desired he can be addressed, corner Columbia and Harrison streets, in this city.

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents]

By Special Dispatch, Dated Washington, D. C., August 19th, 1873.

For Week Ending August 5th, 1873."

Window-Fastening.—William A. Hawthorne and Edgar E. Scott, Carson City, Nevada.

Stamp for Crushing Ores.—Geo. D. Crocker, S. F., Cal.

"The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

San Francisco Microscopical Society.

On Thursday evening, August 14th, Dr. J. H. Wythe delivered a lecture at the Mercantile Library Hall, on Microscopical Investigation, before the San Francisco Microecopical Society and its numeroue friends. After the lecture the following objects were exhibited nnder microscopes:

Polariscope.--Folsom Granite, Salicine, Chloride of Barium, Bi-Tartrate of Thallium. Exhibited by H. G. Hanke.

Dark Field. — Polycistina, Selected Diatoms, Arsenioue Acid, Sautonine. Exhibited by C. M. Kinne.

Transparent.—Liver of Rattlesnake, Foot of Tree Toad, Section of Indian Corn, Scale of Butterfly. Exhibited by D. P. Belknap.

Diatomace.—Arachnoidiscus, Thiceratium, Pleurasigma, Melosira. Exhibited by Henry C. Hyde.

Promiscuous.—Blood Circulation iu Living Frog, Shelle of Embryo Oysters, Horn of Rhinoceros, Tartrate of Lime (moving). Exhibited by Charles G. Ewing.

Opaque.—Elytron of Diamond Beetle, Star Fish, Wing of Atlas Moth, Feru Leaf. Exhibited by George A. Raymond.

Rock Sections.—Labrador Porphyry, Melaphyre, Petrified Wood, Diatom Mud. Exhibited by James Blake, M. D.

Metals.—Native Gold Cryetals, Native Silver, Native Moes Copper, Volcanic Iron. Exhibited by Gen. John Heweton.

Minerals. — Cinnahar in Chalcedony, Gold (from Gold Bluff), Silicified Wood, Gem Sand. Exhibited by Charles H. Denison.

Insects.—Larvæ of Lady-bird, Marsh Fly, Spit Fly, Ant. Exhibited by Melville Atwood.

Pathological.—Hepatic Vein, Oblique Section of Mnscle, Papillæ of the Tongue, Trichina Spiralis from Muscle. Exhibited by Fred'k Hiller, M. D.

Microscopical Photographs.—Charlee Dickens, Miss Amy Sedgwick, Suffer Little Children, Engine Room S. S. "Great Eastern." Exhibited by John J. Hncks.

Living Frog.—Circulation of Blood. Exhibited by H. J. Holmee.

Histology.—Sectiou of a human bone, Section of fœtal Hand, Structure of Nerve, Injected Vessels of Liver. Exhibited by Rev. J. H. Wythe, M. D.

Natural History. — Spiculæ of Alcyonium, Spiral Cells Cobœa Scandens, Scalee of Diamond Beetle, Arachnoidiecus Formosus. Exhibited by Arthur B. Stout, M. D.

During this exhibition some very good music was furnished. The Committee of Arrangements had evidently done all in their power to render the entertainment most agreeable. The Society ie now etrong and very prosperone. The rooms are at No. 649 Clay Street. The apparatus, microscopes, polariscopes, etc., ie well selected and is being constantly added to.

It is reported in Salt Lake that an effort is to be made by the Cincinnati victims of the Wyoming mine ewindle to expose and punish the guilty partiee.

Butte County Mines.

Editors Press:—Perhaps a few notes from the mining section of Butte county may be of intereet to some of your readers. In this county there have been, are at present and are yet to he, without doubt, some of the richest and most extensive placer mines in this State. In the immediate vicinity of Oroville, the mining interest ie rather dull, hnt in passing helow town, yon are hardly heyond the town limits when you see some of the effects of the recent excitement in thie locality. The Cbinamen, of whom there are about 3,000 here at present, have so completely gophered ont the old chaparal flats for five or six miles around, that it is dangerous attempting to navigate off from the main roads witbout a guide. It is being mined hy Chinamen only, and in precisely the same way as hy a few of them who have been working on these flats for years; that is, hy rockere, and they are making, it is thonght, from $4 to $10 per day.

Some of these claims have changed hands at large prices. A few of the people have found locating, for the purpose of selling to tbe Chinese, quite profitahle. Claims are proepecting well in the agricultural district abont eight miles below Oroville.

Most of the old vineyards and orchards near are being rapidly turned upside down. At Cberokee Flat, the Spring Valley and Cherokee Mining Companies, which were coneolidated last spring, have just completed their ditch from Butte Creek, crossing the west hranch of Feather River, connecting with the former ditch of S. M. Co. This now furnishes a good snpply of water, running two and tbree seven-inch pipes. The number of pipes will he increased to five during the winter. The company expects to receive $2,000 on an average each working day, which is quite prohahle, as $1,000 were produced for each day's washing of the first season. After completing the S. M. ditcb, and, notwithstanding all experimenting, $750,000 have already been expended on improvements. The stock, which is $4,000,000, is valued at 75 per cent., and will pay, it ie said, two per cent. monthly on that amount.

The bringing of water to this ground in such abundance was certainly a gigantic enterprise, and the result will probably continue, as thns far, proportionately great.

Tbis lead is said to extend from about eight miles north of Cherokee to Tbomson Flat in the south, and is from two to four miles wide. It can be justlv claimed as one of the richest and most exteusive gravel deposits in the State, and, as has heen quite appropriately eaid hy others, "the gold-bearing material is here in inexhaustible quantities and visible masses, and to he turned to usefulness only awaits the hand of industry and energy." F. G. S.

Cherokee, July 1873.

The Origin of Metals.

The origin of mining recedes into the obscurity of the most remote history. The origin of metals is still more mysterious. Some of tbe *elite* of moderu German philosophers attribute their formatiou to the raye of the sun. Like the light aud heat emitted by coal during combustion, which are now helieved to be the deposits of tho sun's rays treasured up for us through thousands of centuries, so tbe metals are presumed to be deposits of the sun's material suhstance emitted hy its rays, and deposited upou our own and the sister orbes of our planetary system. The theory is that all the material of which the planets of our solar system is comprised has heen "sbot out" from the groat central orh. Recent scientific discoveriee unfold the fact that all incaudescent metals give forth a flame the color of which is definite and peculiar. Tbis has been ascertained by experimeuts eo numorous and so carefully conducted hy philosophere of the highest eminence as to be iucontestihle. By this meaus it is ascertaiued the sun is a vast globe of incandecent metals, how sustained no one presumes to sap, farther than that inscrutable electric agency dominates tbe wonderful phenomena. By this merns all, or prohably all the metals known on this planet, are proved to he iu the sun, heeming with an energy seen nowbere else in nature, and sending forth rays of ligbt and heat to the congregation of worlds that wait upon the great luminary. These rays are supposed to consist of infinitesimally small particles of all the known metals, aud have been in the long history of solar existence, and mundane dependence upon it, flowing forth in a etream of luminous material from wbich tbe metallic lodes and veins of our world have derived their virtue. No doubt these were originally snrface deposits, hut gradually forced their way through the veins and crevicee they occupy hy the instrumentality of water, and were partly brought into their present positions hy eruptive powcr. The comiugling of metal ores eupports this theory: gold and silver are found together; tin and copper almost invariahly in this country; silver and lead nearly everywhere, hut in some places more particularly than others. At all events one thing ie remarkable, that while the flora and the zoological regions of the earth are well defined, metals are found in all old countriee, universally diffused as if to teach ue that they are the fonndation of universal civilization.—*Mining and Commercial Times.*

Gold Quartz in Butte County.

Mr. D. W. Gaskill, owner of the South Feather Water Ditch, has brought in a piece of the gold quartz from the vein recently discovered near Forhestown, Butte county, on Deadwood Ravine. The piece is wbite quartz, containing some gold, and hlue sulphuret-hearing quartz, with gold perceptible everywhere. This blue quartz is what they call the "pay streak," and yields so profusely that it is evidently not misnamed. Though this is called a recent discovery, it really is not so. The qnartz vein was discovered in tho bed of the creek in 1853, and tbe rock was taken out and pounded in a hand-mortar, yielding $4,000; but it was thought to be only a "pocket" and work was not further prosecuted.

Abont a montb ago, wbile piping into the hank, one hundred feet from tbe first discovery, the ledge was uncovered, and it was followed up to where the firet strike had been made, showing a pay streak of eighteen inches the whole length. Some of the rock was taken out and worked in the primitive style, with a hand-mortar, and $4,392 showed up as the result of two days work. It is estimated that $10,000 worth of ore is now in sight. This ground or part of the ledge, ie owned by Roherts, McCormick & Co., who will at once erect a mill and work the ledge systomatically. No ebaft has heen sunk lower than seventy feet heretofore, for lack of capital; but now there will he no such ohstacle to prevent tbe full development of the riches of the ledge.

Tbe ore belt runs from Forbestown to Hansonville, plainly traceahle the whole twelve miles. One thousand feet from the Roberts-McCormick strike, the same pay streak has been found. Deadwood Ravine eeems to cut the belt, and, as Garden Flat, Ohio Flat and New York Ranch all have proved very rich, it is doubtless from the gold liberated from this ledge hy the action of the rains. Forhestown Ravine, which cuts the vein twice, has proven immensely rich. From Ohio Flat, into which Deadwood Ravine empties, Gaskill & Bowers took over $100,000. From these evidences of the richness of the vein, there is the happiest result predicted for the fortunate owners of the new strike.

Build up Home Manufactures.

The following, from an exchange, contains nothing that we have not previously urged, hut the points made will bear frequent urging:

It is useless to talk of building up a prosperons and wealthy county, and thriving, independent cities and towns, when we depend so much npon assistance from the East as well as the neighboring towns and citiee of our own State. In order that a county and its towns should be self-supporting and have a free circulatiou of money among the people, we must bave consumers of the greater part of our country produce, and those consumers must compose the manufacturing class of our community. It is useless as well as detrimental to our best intereets, to talk of sending our produce to foreign markets in payment for our manufactnred articles, our clothing, and often the necessaries of life, because in this case we are doing just opposite of that which the Farmers' movement is endeavoring to prevent, and that is the payment of eo much freight at such enormous rates. We send our grain to market and pay tbe railroad companies one tbousand bushels to take tbe other thousand to market. We purchase with the money we obtain for our grain agricultural implements, euch ae plowe, harrows, reapers, mowers, rakes and wagons, and ship them home, payiug as freight the same large percentage on the cost of these implements; thus we leave no money iu tbe country. Unless we change this order of tbings and build up and patronize home manufactures we may always expect to hear the cry of hard times, scarcity of mouey, and low prices for our produce.

Pacific Borax Company.—The Pacific Borax Company ie the only incorporated company engaged in the manufacture of borax in Esmeralda Co. The company i incorporated under the laws of the State of California, with the principal office in Sau Francisco. The Board of Trusteee for the present year consists of Francis Avery, President; Justinien Caire, Robt. Marrow, M.M.Tompkins and I. Lawrence Pool. The lands now owned by this Company were snrveyed in December, 1871, for tbe origiual locators hy William McBride, then Depnty County Surveyor ot this county, and consist of ninety-five-quarter sections or 15,200 acres. The locations were made under the Act of the Nevada Legislature, approved Febrnary 24, 1865, entitled "An Act to provide for tbe location of lauds containing salt," and the company since acquiring possession from tbe original owners have been in constant occupation and complied with the provisions on the ahove mentioned law. Their lands are located partly in Fish Lake Valley and partly on Columhus Mareh; and some of them are of great value, containing deposits of horate of lime and horate of soda in variable quantities and of like variation in quality. The company have heen successfully and continually manufacturing borax at their works—located five miles from Colnmbus—since June, 1872; and now employ eighteen men. They keep two boilers of an aggregate capacity of ahout seventeen hundred gallone running day and night; and bave thirty-six cryetalizing tanks of a capacity of nearly twelve hundred gallons each.—*Borax Miner.*

Mines at Muncey Creek.

Situated 25 miles in a south-easterly direction from the town of Sbellburn, and lying between Piermont and Ruby Hill, some of tho most promising locations in Eastern Nevada have been fonnd at Muncey Creek. The ores discovered thcre consist of rich chlorides, contained in galena, and have heen traced on the croppings for a long distance. Some samples brought in recently by Fred. Plageman, one of the original locators are sufficient evidence to anyone of their richness, and peculiar fitncss for smelting purposes. The facilities necessary for a mining locality are ample, water existing in greater abundance than in any other locality found in the State; wood ahounding in large quantities and of good size and of superior quality. The main wagon road traveled from Piocbe to Toano, on the railroad, leads directly hy the locations, and transportation is conecquently always availahle. Some weeks ago a party of gentlemen visited Muncey Creek, took samples of ore from the various locations, and the assays were much more encouraging than they had been led to believe. The principal work bas been done on tbe Muncey Creek Consolidated, on which a shaft has been sunk 35 feet in depth in ore, with no limit ae yet to its width. The locatiou of the mines, the general appearance and cbaracter of the ores fonnd coincide perfectly with those on Ruby Hill, Eureka District, the float rock being a counterpart of the latter, and the accessions nearer at hand. Negotiations are now in progrese, as we are informed, for the sale of a whole or part of thie really valnable property, and, if consummated, we are confident tbat a mining camp of no mean pretentions will soon spring into existence, which may rival even Enreka in a short time. One decided advantage possessed hy tbis district is tbe large percentage of gold contained in the ores, in some instances averaging as high as $20 per ton. But slight mention has ever been made of the subject of our sketch, and hut few know the real value contained in the immense quantity of ore now in sight. We are meditating a trip out that way the present season, and sball take pains to inform ourselves more fully in regard to affaire there, for the benefit of the community at large.—*White Pine News.*

Salmon River District.

A Correepondent of the Salt Lake *Tribune* writes as follows concerning this district: Salmon River District is situated ahout fifty miles northwest from Toano, and is in Elko County, Nevada. Knowing that the newe of thie district will be read witb interest, I take the opportunity of my late visit there to give my views of it.

To hegin with, the mosquitoes, gnate and green-headed horse-flies are in abundance, and visitors going there ought to take a mosquito net with tbem for protection.

Tbe principal mines are the Mosquito, Tindale, Domingo and the Gilmott. The last-named being by far the hest, and that for copper will not amount to anythiug. The copper at fifty-five feet deep had all given out, and there was nothing but lively white quartz, which will lead to silver and gold. As for copper, I would pronounce the camp a failure, hut have every faith in ite silver and gold. It is all copper on the surface, although of a very low grade, averaging ahout twelve per cent. Another drawhack to the camp is, that the expense of working the mines is too great. Tbere is no timber within twenty-five or thirty miles, but there is water enough to warrant hoisting works, pump and engine at the depth of sixty feet. Another heavy item is tbe cost of shipping ore. At present it costs at least twenty dollare per ton to deliver it at the railroad, and in copper ore, with these drawhacks, it would require at least twenty-five per cent. ore to pay expenses; so take it all in all, I should think the miners would rejoice at tbe favorahle indications of the copper giving out and of silver and gold coming in. I expect to make another visit there ahout tbe last of thie month, and shall again communicate anything of intertest concerning the miners generally.

Railroads in South America. — The New York *Herald* says tbat among tbe important railroad improvements in progress, and which largely concern the commercial relations existing between New York and San Francisco, is one now being organized in London, on the basis of extraordinary grants from the Hondnras Government, tbe object of which ie to insure witbout delay the completion of an interoceanic railroad from Porto Caballos, on the Atlantic Coast, to the Bay of Fauzco, on the Pacific Ocean. The length of the entire line is 2,200 miles, 70 miles of which have been completed and are now in operation. By this ronte, it is said, tbe distance from New York to San Francisco will be shortened nearly 1,200 miles, as compared with the Panama route. It is also stated that an agent of the English capitalists interested in the nndertaking will arrive in New York in a few daye, for the purpose of conferring with the Pacific Mail Steamship Company, with a view of offering inducements to the eame to land tbeir steamere at Porto Cahallos and Cape Franzca on tbe completion of the road. Should the arrangement he effected, it will make a difference of four days in the time required for the transportation of freight hetween New York and San Francisco, as compared with tbe Panama route.

How Carson River is Fed.

But for the water now flowing into Carson River from the basin, or water-shed of Lake Bigler, few of tbe water-mills would be able to turn a wheel. The water tbue fed into tbe river constitutes nearly tho whole volume of that now used hy the mills. This water is taken from the streams which naturally flow from the east down into Lake Bigler, which streams are situated beyond the ridge lying betweeu us and Tahoe. In order to obtain the water of these streams, a large dam was huilt, and an artificial lake formed, called Marlette Lake, and from the lake the water is brougbt through the dividing ridge hy meane of a tunnel, 2,100 ft. in length, and so comes out on our side of the mountains, instead of flowing into Lake Tahoe, as it formerly did. The ridge thus tunnelled through is known as tbe Spooner Divide. After flowing through the tunnel in tbis dividing ridge, the water is carried away in the direction of Carson, where it is nsed in two large flumes (the Summit Flume and tbe Elliott Flume) for floating wood and timher from the mountains to the valley, and after having performed tbis service it flowe on down into Carson River and helps to run the mills. When we say that timbers sixteen inches square may be floated down the flumes mentioned, it will readily be eeen that the quantity of water flowing in each is hy no means emall. In order to bring thie water from Marlette Lake to the end of the large pipe which has just heen laid across Washoe Valley, and through whicb is to come the supply for this city, it will he necessary to build about nineteen miles of flume. The whole length of pipe and flume, when the new water worke have been completed from thie city to Marlette Lake, will be hetween fifty-two and fifty-four miles. To huild the nineteen miles of new flume required will cost about $26,000. The tunnel alone through the Spooner Divide cost ahout $30,000. Pending the thorough completion of the great work to Marlette Lake, there can be drawn from creeks tbie side of tbe dividing ridge (where it is nowheing obtained) a plentiful supply for all uees.—*Enterprise.*

Charcoal at Eureka.—The consnmption of carbon, in the allotropic state of charcoal, with the number of smelting furnacee at preeent in operation, must aggregate a great number of bushels monthly. To supply this demand requires the service of a large force of men and teams. The cutting and hauling of the timber from the localities where it is found, to the coal pits, the operation of hurning or partial comoustion, and, finally, the transportation of the coal to town, completes tbe labor immediately connected with its production. The farthest point from wbich the coal is shipped ie about twenty-five miles, but considerable is made at one-third of that distance from town; the mean distance wonld perhaps be fourteen miles. Mr. I. Whisler is extensively engaged in the business of its manufacture, and employs one hundred and eighty-six men and forty-six teams, tbe teams averaging eight animals to eacb. From this gentleman we learn that the wbole number of men employed in this branch of industry is in tbe neighborhood of one thousand, with a correspondingly large number of teams.

It wonld be very difficnlt to give accurate numbers in this estimate, since so many parties are engaged in the enterprise, and at divers distancee and localities from Eureka. Tbe above, however, is a careful estimate hy one who has an opportunity of knowing, and shows the business to be on a larger scale than we had imagined. The Richmond Company alone are receiviug at the rate of 150,000 bnshels per month.

Among others extensively engaged in tbe husiness of making charcoal are A. E. Davie, Reilly & Lockwood, Denio & Bro., and McBurry & Co.

Another item which forms no small part of the business of the district is the getting ont of timbers for tbe mines. This is done in the vicinity of the cbarcoal fields, and also engagee a large force of men and teams.—*Eureka Sentinel.*

Washoe Coal.—Speaking of Washoe coal, the *Territorial Enterprise* saye: Some partiee in this city, who are mining for coal in El Dorado Cañon, Lyon county, cigbt or ten milee beyond Dayton, are meeting with very flattering snccess. At no great depth, they have found a very promising vein of coal, several feet thick, which burns well and freely, and which contains no eulphur. The coal appeare to be lignite, and in appearance does not differ materially from other deposits of that mineral that have at various times heen opened in this scction of the State. Ahout two tons of the coal have heen brought to this city. We yesterday saw some of it tested in a small coal stove, and it eeemed to hurn about as well as any other coal could have done. A fire made of it at nine o'clock in the morning wae still burning when we saw it at half past one P. M. It leaves a considerahle quantity of ashes, whicb appears to he due to a kind of sediment composed of calcareous matter mixed with the coal at the time of its formation. At a greater depth on the vein this will doubtlese dieappear. We hope the mine may prove to he all that its owners helieve it promises to become.

Slage are said not to answer well for road-mending, ae tbey are too brittle. Bnt by allowing tbe blocks of slag to cool very slowly nnder pressure a very tough material is obtained.

Cheek.

That onr article of last week on the above subject was appreciated in the mining districts, the following from the White Pine *News* will show:

The MINING AND SCIENTIFIC PRESS, of San Francisco, has an article on "Cheek," which we cannot but admire for its truthfulness and applicability. The number of mining experts, M. E.'s, rock sharps and scientists which we have in this country is simply amazing, and their extravagant efforts to impress untutered residents with their superior knowledge of mining matters certainly ridiculous. We have seen them, in fact, see them every day, seated in barrooms and other popular places of resort, dilating upon the excellence of such a location and deriding some other, using all the time the most metalliferous expressions imaginable, and swelling up at the importance which they consider is attached to their opinions. As truly said by the MINING AND SCIENTIFIC PRESS, "the title of mining engineer is like those of M. D., Ph. B., LL. B., etc.," and must be obtained by means of a regular and strict course of study, accompanied with a final examination and diploma from some regular college empowered to grant such.

Where one student succeeds in passing a creditable examination, one hundred fail utterly, consequently we have but few amongst us who can rightly lay claim to the title of M. E. In mining countries we have suffered to a great extent from the effrontery of these so-called experts, and men who could be induced to invest in mines, are deterred from doing so through the numberless failures caused by recommendations from these itinerant gentry. The opinion of a practical, hard-fisted miner, whose occupation is to strike a drill, is of more benefit to us than a dozen high flown, illiterate, ungrammatical and senseless "reports" made by a majority of "mining engineers." In our mind's eye we very distinctly remember one gentleman who was induced to make an assay of a piece of grindstone, and pronounced it "highly metalliferous in its character," at least so the story goes. He wrote his name with the M. E. attached.

COMMERCE.—An unrestrained intercourse between the States themselves will advance the trade of each, by an interchange of their respective productions, not only for the supply of reciprocal wants at home, but for the exportation to foreign markets. The veins of commerce in every part will be replenished, and will require additional motion and vigor, from a free circulation of the commodities of every part. Commercial enterprise will have much greater scope from the diversity in the productions of different States. When the staple of one fails, from a bad harvest or unproductive crop, it can call to its aid the staple of another. The variety, not less than the value of products for exportation, contributes to the activity of foreign commerce.—*Hamilton.*

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We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and size. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.
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JUST PUBLISHED.
Froiseth's New Sectional, Topographical and Mineral
MAP OF UTAH.
SIZE, 40 BY 56 INCHES; SCALE, 8 MILES TO AN INCH.
Handsomely engraved on stone, colored in counties, and mounted on cloth, showing the Counties, Towns, Rivers, Lakes, Railroads, Mines and Mining Districts throughout the Territory, and all GOVERNMENT SURVEYS made to date. Price, mounted, $8; Pocket form, $5. Mailed to any part of the United States, on receipt of price, by A. L. BANCROFT & CO., 721 Market street, San Francisco, Cal., or by B. A. M. FROISETH, Publisher, Salt Lake City, Utah. 10v25-tf

OAKEY & SON'S EMERY AND BLACK LEAD MILLS, Blackfriar's Road, London, England.
OAKEY'S WELLINGTON KNIFE POLISH. Packets, 3d. each; tins, 6d., 1s. 2s. 6d., and 4s. each.
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OAKEY'S SILVERSMITHS' SOAP (NON MERCURIAL), for Cleansing and Polishing Silver, Electro-plate, Plate-glass, Marble, etc. Tablets, 6d. each
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OAKEY'S GOODS SOLD EVERYWHERE by Ironmongers, Grocers, Oilmen, Brushmakers, Druggists, etc. 21v25-1y

PURCHASERS please say advertised in Scientific Press.

THE Golden Chariot mine, in Banner district San Diego county, cleaned up $12,000 on the 11th inst. This mine is the representative one of the county, and in one ot the regular mining counties of the State could be sold for a magnificent sum. The owners, however, have a good thing of it, as it is, and evince no desire to sell. One of the first crushings made yielded $230 per ton, or $23,000. One run of 50 tons milled them $160 per ton, or $8,100.52 tone crushed at another time yielded $13,621, or $257 per ton. When the mine was first opened they packed the ore on mules to the mill, hnt they have a mill of their own now, and a good wagon road to the mine. One of the owners sold his interest last January for $25,000. The mine has paid all ite expenses from the etart, the owners being all poor men and unable to put capital into it. Several other mines in this district are now doing pretty well.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's Office, San Francisco:

PACIFIC JUTE MANUFACTURING CO., Aug 14.—Object: To manufacture all kinds and descriptions of jute fabrics, to purchase suitable machinery, buildings and sites to carry on the business. Directors: Leopold Cahn, Abraham Block, Joseph Brandenstein, William Scholle and M. Morganthau. Capital stock, $1,000,000. The certificate states that $205,000 has been subscribed by the Directors.

DERBY M. Co., Aug. 16.—Location: Utah Territory. Directors: Daniel Bruce, C. J. Collins, C. L. Teitrean, J. Schreiber and J. S. Allen. Capital stock: $3,000,000, in shares of $100 each, of which $500,000 have been subscribed.

CAPITAL STOCK INCREASED—OVERMAN S. M. Co., Aug. 16.—The Capital stock was increased from $1,280,000 to 3,800,000, in shares of $100 each. The amount of capital stock paid in is $1,196,930.38, and there are no debts or liabilities except the ordinary floating accounts which are paid as fast as presented.

Meetings and Elections.

BALTIC CONS. M. Co., Aug 18.—The following gentlemeu were elected officers of this company for the ensuing year: Geo. W. Britton, President; R. H. Goodwin, Secretary; John Lsnders, Tressurer.

CALIFORNIA SILE MANUFACTURING CO., Office 569 Market St., Aug. 18.—Directors: J. T. Dean, (President,) P. B. Cornwall, A. P. Brayton, J. E. Peabody, E. C. Brown. Brown aud Peabody are agents for the company and D. M. Bokee is Secretary.

PACIFIC WIRE MANUFACTURING CO., Aug. 18.—Trustees: James B. Stetson, (President,) Robt. Watt, A. S. Hallidie, Thos. Nelson, E. Robte, Chas. Holbrook and Joshua Gray. The Trustees elected the Swiss American Bank Treasurer; A. S. Hallidie, Commercial Agent; and John P. Bering, Secretsry.

San Francisco Metal Market.

WEDNESDAY, Aug. 20, 1873.

There has been no change in the Metal Market during the week. Rates remain the same, a trifle firmer if anything. Sales bave been moderate, and since the movement in Iron, resulting from the opening of Montgomery Avenue, have but slightly varied.

IRON.—			
Scotch Pig Iron, ₰ ton	$52 50	@	— —
White Pig, ₰ ton	52 50	@	— —
Refined Bar, bad assortment, ₰ lb	— —	@	— 4
Refined Bar, good assortment, ₰ lb	— —	@	— 4½
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 5	@	— —
Other Irons for Blacksmithe, Miners, etc.	— 5	@	— —
COPPER.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O.Nie'e Pat	— 55	@	— —
Sheathing, ₰ lb	— —	@	— 25
Sheathing, Yellow	— 18	@	— 25
Sheathing, Old Yellow	— 18	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ₰ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₰ lb	— 40	@	— 42½
STEEL.—English Cast, ₰ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
ZINC	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5	@	— 7

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

There has been a considerable improvement in business for finders since last month. Prices do not change much, but are firm. But while times are better for the jobbers, the tanners of the State have probably never experienced such dullness as has been the rule for the past few months. But now prospects for all interested in Leather appear to be brightening, and this department of trade, in common with all otbers, will no doubt be soon greatly strengthened.

Oity Tanned Leather, ₰ lb	26@29
Santa Crnz Leather, ₰ lb	26@29
Country Leather, ₰ lb	25@28
Stockton Leather, ₰ lb	26@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 13 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 15 Kil. ₰ doz	55 00@ 70 00
Cornellian, 12 to 18 Ko	57 00@ 57 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumerville, 15 Kil	60 00@ — —
Simon, 18 Kil., ₰ doz	60 00@ 62 00
Simon, 20 Kil. ₰ doz	65 00@ 67 00
Simon, 24 Kil. ₰ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₰ lb	1 00@ 1 30
California Kip, ₰ doz	40 00 to 50 00
French Sheep, all colors, ₰ doz	8 00@ 15 00
Eastern Calf for Backs, ₰ lb	1 00@ 1 25
Sheep Roane for Topping, all colors, ₰ doz	9 00@ 13 00
Sheep Roane for Linings, ₰ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 4 50
Best Jodot Calf Boot Legs, ₰ pair	5 00@ 5 25
Good French Calf Boot Legs, ₰ pair	4 00@ 4 75
French Calf Boot Legs, ₰ pair	4 00@ — —
Harness Leather, ₰ lb	30@ 37½
Fair Bridle Leather, ₰ doz	48 00@ 72 00
Skirting Leather, ₰ lb	34@ 37½
Welt Leather, ₰ doz	30 00@ 50 00
Buff Leather, ₰ foot	19@ 22
Wax Side Leather, ₰ foot	17@ 19
Eastern Wax Leather	—@— —

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B. Roberts, 315 California Street, San Francisco, is general agent for thie Coast. Send to him for circulare and information of this reliable, first-class company.

CORNUCOPIA.—This new district, which has created so much excitement of late from the reported richness of its ores, already begins to share the fate of similar "excitements." Conflicting reports are in circulation in relation to the district, some of which are by no meane flattering. The Reese River *Reveille* publishes extracts of letters from partics therc of which the following is a sample:

"We have looked after the big thing, hut failed to find it as represented. I consider the thing a bilk. There are some two or three locations that show a little horn silver in the seams, but as for there being 200 tons of float that would work $200 per ton, it is not so. There are not two tons of thousand-dollar ore in the entire camp. Everything is located in the vicinity for two miles, and the ground is literally covered with monuments. Sam Grove ie leaving in disgust, as are many others. Tell all the boys who have the Cornucopia fever to stick to their chloride-holes on Lander Hill."

On the other hand people are said to be flocking to the district in numbers. Some one has ehown the Gold Hill *News* pieces of rock from the Chloride mine in Cornucopia which was assayed by Conrad Wiegand and went $17,000 per ton. These figures remind us of the time of the White Pine excitement, when ore that didn't assay over $1,000 per ton was of no value. The place must, however, work out its own salvation and a few months trial will prove ite richness or worthlessness. Of course disgusted prospectors always wreak vengance on an unlucky camp hy "running it down," while on the other hand lucky men who have good locations, will laud it to the skies. Either extreme is to he avoided, and time only proves which story is correct.

CARSON MINT.—The following is the official exhibit of the husineee of the United States Branch Mint, Carson City, Nevada, for the month of July, 1873:

Deposits.	Ounces.	Value.
Gold	10,828,078	$191,406 11
Silver	220,161,053	256,573 64
Totsl	230,419,136	$447,979 75
Coinage and bars executed		$421,085 10

Mining and Other Companies.

Alpine Gold Mill and Mining Company—

Location of principal place of business, San Francieco California. Location of works, Tuckervilla Mining District, Amador County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 21st day of July, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at tha office of the Company, No. 438 California street, San Francieco, California.

Any stock upon which this assee-ment shall remain nnpaid on tha 25th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expense of sale. By order of the Board of Directors.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. ju26

Cincinnati Gold and Silver Mining Company.

Location of Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon tbe following described stock, on account of assessment levied on the 7th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Sbares.	Amount.
Clapp, R W	30	50	2 50
Curtiss, Jesse	21	100	5 00
Curtiss, Jesse	22	100	5 00
Curtiss, Jesse	23	50	2 50
Hinckley, G E	36	25	1 25
Hinckley, G E, (not issued)		500	25 00
Woods, A	44	1000	50 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, room 14, No. 331 Kearny street, San Francisco, California, on the 1st day of September, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office, room 14, No. 331 Kearny street, San Francisco, California. au23

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of Scptember, 1873, at the same hour and place. By order of the Board of Directors. WM. SMALL, Secretary.

Office Rising Star Mining Company—Location of works, Nevada County, California.

Notice is hereby given, that the annual meeting of the stockholders of the Rising Star Mining Company, for the election of Directors and transaction of such business as may be presented, will be held on Thursday, the 4th day of September, 1873, at 3 o'clock P M., at the office of the company, room 37, New Merchants' Exchange, California street, San Francisco, California.

ag22 sad-2w J. M. BUFFINGTON, Secretary.

Notice—The Annual Meeting of the Stockholders of the Cerbat Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held on Monday the eleventh day of August, 1873, at the office of the company, 507 Montgomery street, San Francisco, California, at 1 o'clock, P M.

jy25td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Manhattan Marble Company of California

—principal place of business, San Francisco, California. Location of works, Oakland, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of one dollar per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francieco, California.

Any stock upon whioh thie assesement ehall remain unpaid on the 22d day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office—319 Pine street, San Francisco, California. au23

Commercial Coal Mining Company of San

Francisco. Location of principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 9th day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alexander, J	52	50	$25 00
Crocker, A E	135	25	12 50
Crocker, A E	137	25	12 50
Crocker, A E	138	25	12 50
Crocker, A E	139	25	12 50
Crocker, A E	140	10	5 00
Crocker, A E	141	10	5 00
Crocker, A E	142	5	2 50
Crocker, A E	143	100	50 00
Crocker, A E	144	50	25 00
Forrester, James	4	100	50 00
Forrester, B	132	5	2 50
Forrester, B	147	25	12 50
Hanson, S B	128	10	5 00
Harrop, S	133	20	10 00
Lindsey, Catbarine	135	33	16 50
Thompson, D H	90	55	27 50
Thompson, D H	91	20	10 00
Thompson, D H	92	25	12 50
Thompson, D H	93	100	50 00

And in accordance with law and an order of the Board of Directors, made on the 9th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 402 Montgomery St., San Francisco, room No. 23, on the 8th day of September 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office—No. 402 Montgomery street, San Francisco, room No. 23. ag23

Excelsior Silver Mining Company—Principal

place of business, 640 Washington street, San Francisco, Cal. Location of works, Yellow Pine District, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on tbe 18th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ashley, S J	174	50	$22 50
Bulletti, C	21	100	45 00
Bulletti, C	84	50	22 50
Bulletti, C	111	100	45 00
Bulletti, C	110	100	45 00
Bsldwin, M M	175	50	22 50
Burke, E	176	50	22 50
Boden, John H	178	50	22 50
Catanich, Peter	179	100	45 00
Cadenasso, G	83	50	22 50
Cadenasso, G	not issued	230	103 50
Docato, Joseph	193	25	11 25
Ferrette, G	163	50	22 50
Ferrette, G	198	50	22 50
Ferrette, G	199	180	81 00
Grosette, John	46	100	45 00
Gorman, John	not issued	280	126 00
Gabrielle, A	185	50	22 50
Henderson, James	14	25	11 25
Henderson, James	43	20	9 00
Henderson, James	107	20	9 00
Henderson, James	127	100	45 00
Henderson, James	not issued	115	51 75
Henderson, Edward	15	25	11 25
Henderson, Edward	30	20	9 00
Henderson, Edward	106	20	9 00
Henderson, Edward	128	100	45 00
Henderson, Edward	not issued	115	51 75
Hicks, Thomas	209	280	126 00
Jury, Louis	not issued	280	126 00
Lauricelle, Raffelle	121	300	135 00
Larkin, Frederick	183	25	11 25
Larkin, Frederick	207	75	33 75
Larkin, Frederick	208	180	81 00
Linari, G	194	25	11 25
Linari, S	195	25	11 25
Marchella, D S	197	50	22 50
Macey, Albert	22	25	11 25
Macey, Albert	not issued	255	114 75
Murray, N	28	10	4 50
Magueral, S	161	25	11 25
Magueral, S	205	75	33 75
Magueral, S	206	180	81 00
Malatesta, N	196	50	22 50
Maggio, F	192	25	11 25
Onesti, G	188	125	56 25
Onesti, G	not issued	155	69 75
Pardini, N	182	50	22 50
Pardini, N	not issued	230	103 50
Penella	85	100	45 00
Reade, William	167	50	22 50
Reade, William	168	50	22 50
Reade, William	203	180	81 00
Robinson, T B	172	50	22 50
Robinson, T B	173	50	22 50
Rittori, A	181	50	22 50
Rittori, A	not issued	230	103 50
Silvestri, A	191	25	11 25
Silvestri, A	not issued	255	114 75
Volker, C J	185	100	45 00
Whiting, Henry H	190	100	45 00
Whiting, Henry H	not issued	180	81 00
Smith, A	16	25	11 25
Smith, A	177	50	22 50
Smith, A	not issued	205	92 25

And in accordance with law, and an order of the Board of Directors, made on the 18th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 640 Washington street, San Francisco, California, on the 20th day of September, 1873, at the hour of 8 o'clock P. M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.

Office—640 Washington street, San Francisco, California. ag21

Stanislaus Water Company—Location of

principal place of business, 526 Kearny street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
M A Wheaton	10	56,250	$1000 00
M A Wheaton	72	10,000	200 00
John Burcham	17	25	50
John Burcbam	18	50	1 00
John Burcham	19	75	1 50
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2 00
E Tripp, Trustee	25	100	2 00
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
E Tripp, Trustee	51	100,805	1009 25
S W Newbsll	35	57	1 14
A E McGregor	38	32	1 54
E A Richardson, Trustee	55	56,250	1125 00
D E Hayes, Trustee	56	25,500	510 00
Charles Elliot	63	10,000	200 00
Charles Elliot	64	10,000	200 00
Charles Elliot	65	9,998	81 40
Charles Elliot	66	20,000	400 00
S C Field, Trustee	58	12,000	240 00
S C Field, Trustee	59	6,000	120 00
S C Field, Trustee	60	7,886	3 97

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 526 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the honr of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON O. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

Confidence Mining Company—Location of

principal place of business, San Francisco, Cal. Location of works, Tpolumne county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fourth day of Auguei, 1873, an assesement (No. 1) of one dollar and eevanty-five cents ($1.75) per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sanoome street, San Francisco, California. Any stock upon which this assesement shall remain unpaid on the fourth day of September, 1873, will be delinquent, and advertised for sale at public auction, and nnless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with coste of advertising and expenses of sale. By order of the Board of Directors. H. HAMPTON, Secretary.

Office, 217 Sansome street, San Francisco, Cal. an5

Day Spring Gold Mining Company—Location of works, Kelsey Quartz Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees, held on the fourth day of August, A. D. 1873, an assesement of five cents per ehare was levied upon the assessable stock of said company, payable immediately in U. S. gold coin, to the Secretary, at the office of the company, No. 302 Sansome street, San Francisco, Cal.

Any stock upon which this assessment shall remain nnpaid on the tenth day of September, A. D. 1873, shall ha deemed delinquent, and will be duly advertieed for sale at public auction, and unless payment shall ba made before, will be sold on Wednesday, the first day of October, to pay delinquent assessment, together with coets of advertising and expenses of sale.

C. F. BROWN, Secretary.

Office—302 Sansome street, San Francisco, Cal. au8

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the eighth day of August, 1873, an assessment (No. 3) of ten cants per share was levied upon the capital stock of tha corporation, payable immadiately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assesement shall remain unpaid on the twelfth day of September, 1873, will be delinquent, and advertised for eala at public auction, and unless payment is made before, will be sold on Monday, the twanty-ninth day of September, 1873, to pay the delinquent assesment, together with costs of advertising and expenses of sale. CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. au9

Greenhorn Gold Mining Company—Location of principal place of business, San Francisco, California. Location of works, Grass Valley Mining District, Nevada County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 11th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Gasbwiler, J W	23	50	$75 00
Gasbwiler, J W	24	50	75 00
Gasbwiler, J W	35	100	150 00
Richardson, E A, Trustee	60	1000	1500 00
Mackintosh, W, Trustee	46	500	750 00
Mackintosh, W, Trustee	47	500	750 00
Mackintosh, W, Trustee	48	500	750 00
Mackintosh, W, Trustee	49	500	750 00
Mackintosh, W, Trustee	50	500	750 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of July, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, California, on Wednesday, the 10th day of September, 1873, at the hour of 1 o'clock P. M. of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the same.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. au20

Globe Mining Company. — Location of Works: Gold Hill Mining District, Storey Co., Nevada.

NOTICE.—There is delinquent upon the following described Stock, on account of Assessment (No. 3) levied on the 2d day of July, 1873, the several amounts set opposite the names of the respective Shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cope, Geo W, Trustee	381	50	$ 37 50
Cope, Geo W, Trustee	527	20	15 00
Charles, H A, Trustee	391	25	18 75
Cantin & Everett, Trustees	443	20	15 00
Cahill, E & Co., Trustees	942	5	3 75
Cook, J E, Trustee	1,104	50	37 50
Cahill & Fox, Trustees	168	20	15 00
Cahill & Fox, Trustees	169	10	7 50
Cahill & Fox, Trustees	250	10	7 50
Cahill & Fox, Trustees	254	10	7 50
Cahill & Fox, Trustees	255	10	7 50
Cahill & Fox, Trustees	258	5	3 75
Cahill & Fox, Trustees	404	25	18 75
Cahill & Fox, Trustees	411	10	7 50
Cahill & Fox, Trustees	421	10	7 50
Cahill & Fox, Trustees	452	10	7 50
Cahill & Fox, Trustees	457	10	7 50
Cahill & Fox, Trustees	459	10	7 50
Cahill & Fox, Trustees	460	10	7 50
Cahill & Fox, Trustees	463	5	3 75
Cahill & Fox, Trustees	464	5	3 75
Cahill & Fox, Trustees	465	5	3 75
Cahill & Fox, Trustees	580	20	15 00
Cahill & Fox, Trustees	626	10	7 50
Cahill & Fox, Trustees	553	10	7 50
Cahill & Fox, Trustees	671	5	3 75
Cahill & Fox, Trustees	572	5	3 75
Cahill & Fox, Trustees	573	5	3 75
Cahill & Fox, Trustees	574	5	3 75
Cahill & Fox, Trustees	675	5	3 75
Cahill & Fox, Trustees	581	30	22 50
Cahill & Fox, Trustees	705	5	3 75
Cahill & Fox, Trustees	714	50	37 50
Cahill & Fox, Trustees	716	20	15 00
Cahill & Fox, Trustees	785	25	18 75
Cahill & Fox, Trustees	736	10	7 50
Duncan, W L, Trustee	702	10	7 50
Duncan, W L, Trustee	974	40	30 00
Drexler, L P & Co, Trustees	730	50	37 50
Drexler, L P & Co, Trustees	731	50	37 50

Names.	No. Certificate.	No. Shares.	Amount.
Drexler,L P&Co,Trustees	732	40	80 00
Drexler,L P&Co,Trustees	1,118	50	37 50
Drexler,L P&Co,Trustees	1,119	50	37 50
Duncan, J M, Trustee	706	10	7 50
Fenn, T W, Trustee	409	10	7 50
Franks, Fred, Trustee	1,061	30	22 50
Franks, Fred, Trustee	1,062	50	37 50
Golly, Leon, Trustee	106	25	18 75
Golly, Leon, Trustee	138	30	22 50
Golly, Leon, Trustee	192	20	15 00
Golly, Leon, Trustee	194	20	15 00
Golly, Leon, Trustee	535	10	7 50
Golly, Leon, Trustee	576	10	7 50
Golly, Leon, Trustee	577	20	15 00
Golly, Leon, Trustee	579	10	7 50
Golly, Leon, Trustee	599	10	7 50
Golly, Leon, Trustee	600	10	7 50
Golly, Leon, Trustee	602	5	3 75
Golly, Leon, Trustee	699	10	7 50
Golly, Leon, Trustee	701	5	3 75
Golly, Leon, Trustee	747	25	18 75
Golly, Leon, Trustee	761	30	22 50
Gordon, C P, Trustee	495	25	18 75
Gordon, C P, Trustee	518	25	18 75
Gollin, W W, Trustee	497	25	18 75
Glover & Stark, Trustees	1,097	50	37 50
Glover & Stark, Trustees	1,098	40	30 00
Herr, J J, Trustee	379	25	18 75
Herr, J J, Trustee	1,064	50	37 50
Higgins & Greene, Trus.	489	5	3 75
Hunt, G H, Trustee	556	50	37 50
Hunt, G H, Trustee	1,066	100	75 00
Hunt, G H, Trustee	1,067	100	75 00
Hunt, G H, Trustee	1,068	100	75 00
Hunt, G H, Trustee	1,070	50	37 50
Hunt, G H, Trustee	1,071	50	37 50
Hunt, G H, Trustee	1,072	50	37 50
Hawkins, J J, Trustee	1,053	50	37 50
Kent, M F, Trustee	163	10	7 50
King, J L, Trustee	1,088	50	37 50
Lazure, L T, Trustee	653	100	75 00
Lazure, L T, Trustee	1,073	50	37 00
Lazure, L T, Trustee	1,074	50	37 50
Lazure, L T, Trustee	1,075	50	37 50
Lazure, L T, Trustee	1,076	50	37 50
Lazure, L T, Trustee	1,077	50	37 50
Lazure, L T, Trustee	1,078	50	37 50
Lazure, L T, Trustee	1,079	50	37 50
Lazure, L T, Trustee	1,080	50	37 50
Lazure, L T, Trustee	1,082	50	37 50
Lazure, L T, Trustee	1,083	50	37 50
Lazure, L T, Trustee	1,084	50	37 50
Lazure, L T, Trustee	1,085	50	37 50
Lazure, L T, Trustee	1,092	50	37 50
Lazure, L T, Trustee	1,093	50	37 50
Lazure, L T, Trustee	1,094	50	37 50
Lisak, L S, Trustee	1,057	50	37 50
Marine,E J deSta,Trustee	139	100	75 00
Marina,E J deSta,Trustee	219	50	37 50
Marina,E J deSta,Trustee	223	100	75 00
Marina,E J deSta,Trustee	384	50	37 50
Marina,E J deSta,Trustee	440	50	37 50
Marina,E J deSta,Trustee	682	50	37 50
Marina,E J deSta,Trustee	777	100	75 00
Martin, Camilio, Trustee.	781	10	7 50
Martin, Camilo, Trustee.	782	10	7 50
Martin, Camilo, Trustee.	797	25	18 75
Martin & Lane, Trustees	130	50	37 50
Mitchell, J S, Trustee	160	50	37 50
Mansfield, M, Trustee	536	50	37 50
Masten, E B, Trustee	959	20	15 00
Noble, H H, Trustee	750	10	7 50
Noble, H H, Trustee	849	100	75 50
Noble, H H, Trustee	862	25	18 75
Noble, H H, Trustee	863	5	3 75
Norwood, W W, Trustee.	438	10	7 50
Norwood, W E, Trustee.	856	20	15 00
Rose, L S, Trustee	1,103	50	37 50
Richardson, E A, Trustee	11	100	75 00
Richardson, E A, Trustee	16	100	75 50
Richardson, E A, Trustee	17	100	75 50
Richardson, E A, Trustee	53	100	75 50
Richardson, E A, Trustee	159	50	37 50
Richardson, E A, Trustee	160	50	37 50
Richardson, E A, Trustee	202	100	75 00
Richardson, E A, Trustee	242	50	37 50
Richardson, E A, Trustee	299	40	30 00
Richardson, E A, Trustee	308	10	7 50
Richardson, E A, Trustee	309	150	112 50
Richardson, E A, Trustee	329	50	37 50
Richardson, E A, Trustee	345	50	37 50
Richardson, E A, Trustee	362	65	48 75
Richardson, E A, Trustee	364	50	37 50
Richardson, E A, Trustee	480	50	37 50
Richardson, E A, Trustee	501	50	37 50
Richardson, E A, Trustee	560	50	37 50
Richardson, E A, Trustee	698	6	3 75
Richardson, E A, Trustee	616	10	7 50
Richardson, E A, Trustee	678	20	15 00
Richardson, E A, Trustee	694	100	75 00
Richardson, E A, Trustee	833	50	37 50
Richardson, E A, Trustee	847	25	18 75
Richardson, E A, Trustee	848	25	18 75
Richardson, E A, Tsustee	852	50	37 50
Richardson, E A, Trustee	860	25	18 75
Richardson, E A, Trustee	964	50	37 50
Richardson, E A, Trustee	960	25	18 75
Richardson, E A, Trustee	970	25	18 75
Richardson, E A, Trustee	972	200	150 00
Richardson, E A, Trustee	1045	30	22 50
Richardson, E A, Trustee	1090	75	56 25
Sleeper, George, Trustee	949	50	37 50
Sleeper, George, Trustee	950	50	37 50
Sleeper, George, Trustee	1,056	50	37 50
Sherwood, B F & Co, Trus	847	20	15 00
Sherwood, B F & Co, Trus	390	10	7 50
Schmiedell, Henry, Trus	300	10	7 50
Schmiedell, Henry, Trus	642	75	56 25
Stark, John, Trustee	784	20	15 00
Smiley, G W, Trustee	330	30	22 50
Smith, E L, Trustee	332	100	75 00
Tilbey, E S, Trustee	177	50	37 50
Turnhull, Walter & Co, Trustees	1,055	50	37 50
Townsend, M D, Trustee	801	50	37 50
Uhler, J Clem, Trustee	206	40	30 00
Uhler, J Clem, Trustee	493	10	7 50
Uhler, J Clem, Trustee	794	50	37 50
Uhler, J Clem, Trustee	795	30	22 50
Uhler, J Clem, Trustee	799	20	15 00
Uhler, J Clem, Trustee	819	50	37 50
Uhler, J Clem, Trustee	824	50	37 50
Uhler, J Clem, Trustee	827	50	37 50
Uhler, S Clem, Trustee	831	20	15 00
Uhler, J Clem, Trustee	864	100	75 00
Uhler, J Clem, Trustee	865	100	75 00
Uhler, J Clem, Trustee	866	100	75 00
Uhler, J Clem, Trustee	870	100	75 00
Uhler, J Clem, Trustee	871	100	75 00
Uhler, J Clem, Trustee	875	50	37 50
Uhler, J Clem, Trustee	879	50	37 50
Uhler, J Clem, Trustee	880	50	37 50
Uhler, J Clem, Trustee	883	50	37 50
Uhler, J Clem, Trustee	885	50	37 50
Uhler, J Clem, Trustee	886	50	37 50
Uhler, J Clem, Trustee	887	50	37 50
Uhler, J Clem, Trustee	890	50	37 50
Uhler, J Clem, Trustee	891	50	37 50
Uhler, J Clem, Trustee	893	50	37 50
Uhler, J Clem, Trustee	894	50	37 50
Uhler, J Clem, Trustee	895	50	37 50
Uhler, J Clem, Trustee	896	50	37 50
Uhler, J Clem, Trustee	897	50	37 50
Uhler, J Clem, Trustee	899	50	37 50
Uhler, J Clem, Trustee	904	25	18 75
Uhler, J Clem, Trustee	911	25	18 75
Uhler, J Clem, Trustee	912	25	18 75
Uhler, J Clem, Trustee	913	25	18 75
Uhler, J Clem, Trustee	914	25	18 75
Uhler, J Clem, Trustee	915	25	18 75
Uhler, J Clem, Trustee	916	10	7 50
Uhler, J Clem, Trustee	923	10	7 50

Name.	No. Certificate.	No. Shares.	Amount.
Uhler, J Clem, Trustee	926	10	7 50
Uhler, J Clem, Trustee	928	10	7 50
Uhler, J Clem, Trustee	953	5	3 75
Uhler, J Clem, Trustee	939	5	3 75
Uhler, J Clem, Trustee	955	100	75 00
Uhler, J Clem, Trustee	956	10	7 50
Uhler, J Clem, Trustee	961	5	3 75
Uhler, J Clem, Trustee	978	200	150 00
Uhler, J Clem, Trustee	981	200	150 00
Uhler, J Clem, Trustee	982	200	150 00
Uhler, J Clem, Trustee	984	200	150 00
Uhler, J Clem, Trustee	985	200	150 00
Uhler, J Clem, Trustee	991	100	75 00
Uhler, J Clem, Trustee	992	100	75 00
Uhler, J Clem, Trustee	994	100	75 00
Uhler, J Clem, Trustee	996	100	75 00
Uhler, J Clem, Trustee	1,000	100	75 00
Uhler, J Clem, Trustee	1,006	100	37 50
Uhler, J Clem, Trustee	1,015	100	37 50
Uhler, J Clem, Trustee	1,016	100	37 50
Uhler, J Clem, Trustee	1,017	50	37 50
Uhler, J Clem, Trustee	1,020	50	37 50
Uhler, J Clem, Trustee	1,024	20	15 00
Uhler, J Clem, Trustee	1,025	100	75 00
Uhler, J Clem, Trustee	1,027	100	75 00
Uhler, J Clem, Trustee	1,029	100	75 00
Uhler, J Clem, Trustee	1,031	100	75 00
Uhler, J Clem, Trustee	1,032	100	75 00
Uhler, J Clem, Trustee	1,034	100	75 00
Uhler, J Clem, Trustee	1,035	50	37 50
Uhler, J Clem, Trustee	1,037	50	37 50
Uhler, J Clem, Trustee	1039	50	37 50
Uhler, J Clem, Trustee	1040	50	37 50
Uhler, J Clem, Trustee	1041	50	37 50
Uhler, J Clem, Trustee	1051	50	37 50
Vinzent, Charles, Trustee	1086	50	37 50
Wade, A P, Trustee	63	50	37 50
Woods & Freeborn	151	50	37 50
Woods & Freeborn	165	5	3 75
Woods & Freeborn	199	50	37 50
Woods & Freeborn	282	10	7 50
Woods & Freeborn	283	10	7 50
Woods & Freeborn	389	15	11 25
Woods & Freeborn	386	5	3 75
Woods & Freeborn	659	5	3 75
Webster & Soule, Trustees	957	15	11 25
White, U H, Trustee	473	10	7 50
White, U H, Trustee	479	10	7 50

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of such stock as may be necessary will be sold at public auction, at the office of the Company, No. 26 Hayward's Building, No. 419 California street, San Francisco, Cal., on Monday, the 25th day of August, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

JOSEPH MAGUIRE, Secretary.

Office, Room 26, Hayward's Building, No. 419 California street, San Francisco, Cal. au7

Heckerdorn Gold and Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Blue Mountain District, Calaveras County, Cal.

NOTICE.—There are delinquent upon the following discribed stock, on account of assessment levied on the 9th day of June, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Louis Reiff	174	400	$100 00
Frank Lyon	156	40	10 00
Isidore Lyon	168	20	5 00
Berson	161	100	25 00
Mouin	157	100	25 00
A Mayer	161	00	25 00
Hanson	119	60	15 00
Savyeyur	93, 107, 156, 840		210 00
Louis Ny	157	400	100 00
Louis Ny	158	400	100 00
Louis Ny	201	800	200 00
Louis Ny	207	400	100 00
Louis Ny	208	200	50 00
Louis Ny	209	100	25 00
Sain Sot	169	20	5 00
Sain Sot	94	20	5 00
Sain Sot	95	20	5 00
Sain Sot	96	20	5 00
Sain Sot	97	20	5 00
Caterine Ny	136	100	25 00
E Gauthier	169	200	50 00
E Gauthier	190	200	50 00
E Gauthier	193	260	65 00

And in accordance with law, and an order of the Board of Directors, made on the 9th day of June 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, No. 734 Montgomery street, San Francisco, California, on the 28th day of July, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

LOUIS TERME, Secretary.

Office, 734 Montgomery street, San Francisco California. jy12

POSTPONEMENT.—At a meeting of the Board of Directors, held this day, the above sale was postponed to the 28th day of August, 1873, at the same place and hour.

LOUIS TERME, Secretary.

San Francisco, July 24, 1873. jy26

Hardy Coal Mining Company—Location of

principal place of business, San Francisco, California

NOTICE—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
D M Weston	36	887½	$1,775 00
D M Weston	53	147	294 00
I Bartlett	26	12½	25 00
I Bartlett	32 (old)	66	1,650 00
Bartlett Willcox	33 (old)	50	1,250 00
R B Bartlett	17 (old)	10	250 00
R B Bartlett	46	25	50 00
R B Bartlett	47	25	50 00
R B Bartlett	48	25	50 00
R B Bartlett	49	25	50 00
R B Bartlett	50	22	44 00
Edward McLean	1	36	72 00
Edward McLean	2	52	104 00
Edward McLean	6	41	82 00
Edward McLean	16	100	200 00
Edward McLean	22	50	100 00
Edward McLean	23	50	100 00
Edward McLean	24	150	300 00
Edward McLean	33	2	4 00
Edward McLean	35	4	8 00
Edward McLean	37	46	92 00
Jacob Hardy	10	100	200 00
Jacob Hardy	38	15	30 00
Jacob Hardy	40	2	4 00
Jacob Hardy	51	2	4 00
Jacob Hardy	25 (old)	1	25 00
Jacob Hardy	39 (old)	1	25 00
M H Eastman	28	45	90 00
M H Eastman	29	55	110 00
M H Eastman	30	50	100 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company's office, Room 5, No. 338 Montgomery street, San Francisco, California, on the 30th day of August, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JACOB HARDY, Secretary pro tem.

Office, Room 5, No. 338 Montgomery street, San Francisco, California. jy28

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 633 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D., 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

Hasloe Mill and Mining Company—Location

of works, Genirry's Gulch, Mariposa County, California. Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, held on the 13th day of August, 1873, an assessment (No. 2) of Seventy-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, room 14, No. 408 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of September, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on the 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. W. TRIPP, Secretary.

Office, Room 14, No. 408 California street, San Francisco, California. au19

Kincaid Flat Mining Company—Principal

place of business, San Francisco, Cal. Location of works, Kincaid Flat, Tuolumne county, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on tha 6th day of August, 1873, an assessment of Four Dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 8th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. H. CORNELL, Secretary.

Offio 217 Sansome street, San Francisco, Cal. au13

Lady Esten Tunnel and Mining Company

—Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the eighth day of August, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin to the Secretary, No 35 New Merchants' Exchange, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 12th day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873 to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 Now Merchants' Exchange, San Francisco, California. au9

Lemon Mill and Mining Company---Location

of Principal place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka county, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of August, 1873, an assessment of three dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Corporation, No. 608 Merchant street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the seventeenth (17), day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 8th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, No. 608 Merchant street, San Francisco, California. au16-4w

Notice---the Annual Meeting of the

Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and this transaction of such other business as may properly coms before the meeting will be held at the office of the company, 507 Montgomery street, San Francisco, on Saturday the 9th day of August, 1873, at 1 o'clock, P. M.

jy26td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Rising Star Mining Company.---Location

of works: Nevada County, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
J M Buffington, Trustee	401	395	$22 50
J M Buffington, Trustee	431	100	6 00
J M Buffington, Trustee	434	31	1 86
J M Buffington, Trustee	435	662	39 72
H B Berryman	186	100	6 00
H B Berryman	188	100	6 00
H B Berryman	189	31	1 86
H B Berrymad	355	50	3 00
E B Barnes	358	25	1 50
Jacob Bryan	416	25	1 50
L Englandsr	99	100	6 00
W Frederick	392	25	1 50
S T Kennedy	158	100	6 00
S T Kcunedy	158	100	6 00
S T Kennedy	343	85 5-7	5 20
Samuel Marks	27	50	3 00
S Nathan, Trustee	424	331	19 86
P Newman	194	50	3 00
P Newman	195	50	3 00
P Newman	196	50	3 00
John Wilkes	179	331	19 86
C A Wakeman	418	25	1 50

And in accordance with law and an order of the Board of Dirsctors, made on the 11th day of July, 1873, so many sharss of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, 37 New Merchants' Exchange, California street, San Francisco, Cal., on Saturday, the 30th day of August, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California Street, San Francisco, California au16

Table Mountain Alpha Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Table Mountain District, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 8th day of August, 1873, an assessment (No. 1) of 12½ cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 438 California street, up stairs, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 7th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. F. CRONISE, Secretary.

Office, No. 438 California st., San Francisco, Cal. au13

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 6th day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&s

POSTPONEMENT.—The day for deeming Stock delinquent on the above Assessment is hereby postponed until Thursday, the twenty-first day of August, and the day of sale of delinquent Stock until Friday, September 5th, 1873. By order of the Board of Trustees.

au9 CHAS. S. HEALY, Sec'y.

POSTPONEMENT.—The day for deeming Stock delinquent on the above assessment is hereby postponed until Friday, September 5th, 1873, and the day of sale of delinquent Stock until Saturday, September 20th, 1873. By order of the Board of Directors.

au23 CHAS. S. HEALY, Secretary.

Placer Gold Mining and Canal Company.

Location of principal place of business, San Francisco, California. Location of works, Placer County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the eighth (8th) day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Apel, J M, Trustee	8	20	$2 00
Blanckaert, V J, Trustee	28	10	1 00
Blanckaert, V J, Trustee	31	10	1 00
Blanckaert, V J, Trustee	33	5	50
Blanckaert, V J, Trustee	297	5	50
Blanckaert, V J, Trustee	298	5	50
Blanckaert, V J, Trustee	299	5	50
Blanckeart, V J, Trustee	303	5	50
Blanckeart, V J, Trustee	304	5	50
Blanckeart, V J, Trustee	305	5	50
Blake, Wm L	42	15	1 50
Brsnger, Jean	271	10	1 00
Cummings, E J	311	30	3 00
De Lorme, G V	194	50	5 00
Gerber, J B	191	10	1 00
Gerber, J B	332	50	5 00
Gilmore, Walter	239	10	1 00
Hancock, C H	195	500	50 00
Hancock, C H	196	100	10 00
Hancock, O H	197	50	5 00
Hancock, C H	198	25	2 50
Hancock, C H	323	325	32 50
Hall, Wm D L	251	10	1 00
Hall, Wm D L	252	10	1 00
Hall, Wm D L	254	10	1 00
Hall, Wm D L	265	10	1 00
Hoffman, G	325	5	50
Hoffman, G	326	10	1 00
Haas, S, Trustee	329	805	80 50
Kalb, J A	187	2	20
Kalb, J A	188	3	30
Kalb, J A	189	5	50
Kalh, Fred	301	10	1 00
Marina, J de Sta, Trustee	107	100	10 00
Marina, J de Sta, Trustee	108	100	10 00
Marina, J de Sta, Trustee	201	200	20 00
Muller, Henry	200	50	5 00
O'Hara, J D	60	50	5 00
O'Hara, J D	61	50	5 00
O'Hara, J D	64	60	5 00
O'Hara, J D	100	25	2 50
Parker, Henry, Trustee	324	35	3 50
Rosenfield, A, Trustee	204	500	50 00
Tromar, M	306	50	5 00
Wrede, Wm	327	5	50
Wrede, Wm	328	10	1 00

And in accordance with law, and an order of the Board of Directors, made on the eighth (8th) day of July, 1874, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 411 California street, San Francisco, Cal., on Saturday the thirtieth (30th) day of August, A. D. 1873, at the hour of twelve (12) o'clock, M., of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of the sale.

GEO. W. R. KING, Secretary.

Office, No. 411 California street, San Francisco, California. au13

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said company, held on the 4th day of August, 1873, an assessment (No. 6) of fifteen (15) cents per share was levied upon the capital stock of the company, payable immediately in United States gold and silver coin, to the Secretary of said company, at his office, 113 Leidesdorff street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of September, 1873, shall be delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office—113 Leidesdorff street, San Francisco, Cal. au9

Umpire Tunnel and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., or to W. A. Beal, President. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

Union Gold Mining Company—Location of

principal place of business, San Francisco, California. Location of works, Howland Flat, Sierra County, Cal.

Notice is hereby given, that at a meeting of the Directors held on the 12th day of August, 1873, an assessment (No. 7) of Five Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Room No. 22, Merchants' Exchange Building, California street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 15th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

ALFRED K. DURBROW, Secretary.

Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal au6

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LEWIS R. MEAD.....Secretary
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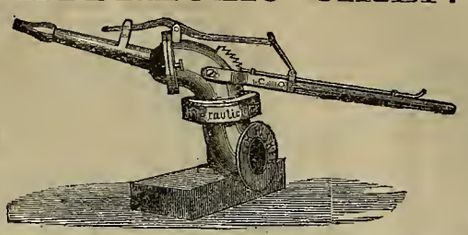

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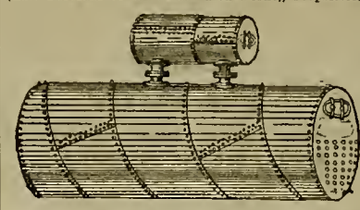


High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTORERS OF THE CELEBRATED

SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

Oregon street, below Front, San Francisco.

All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.

MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

18 and 15 Fremont street, near Market, San Francisco 10v14or

JOS. THORNHILL, 1612 Mason Street, near Green. C. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom,

SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

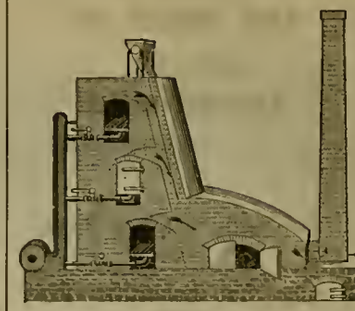
Ore Sacks

Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. 5v27-3m GEO. D. WYMAN, Superintendent.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

OAKLAND

SMELTING AND REFINING CO.

Is now ready to receive Lead Bullion and separate the Silver and Gold therefrom, and Refine the lead on reasonable terms, and have the same ready for delivery within thirty days from its receipt.

Their works are situated at Melrose, on the line of the Railroad, three and a half miles easterly from Oakland.

The Bullion will be received at the works, directly from the cars, free of expense.

OFFICE:

Northwest Gorner Broadway and Twelfth Street,

OAKLAND, CAL.

SEXTUS SHEARER,

President.

July 18th, 1873. 4v27-tf

Richardson & Co., Copper Ore Wharves,

SWANSEA.

RICHARDSON & CO. have been for thirty years established in Swansea as Agents for the preparation Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 25v26-1y

NICKEL PLATING.

The San Francisco Nickel Plating Company

Are prepared to plate articles of all descriptions, of any metal. Cutlery, Liquor Flasks, Pistols, Guns, Swords, Bridle Bitts, Pole Crabs, Hub Bands, Dash Rails, and all articles of household hardware plated at short notice, and warranted. Nickel Plate never tarnishes or corrodes, always retaining its polish until the article is worn out. Office at the KIMBALL MANUFACTORY WORKS, Cor. Fourth and Bryant Streets. 12v26-3m

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,

San Francisco.

GREAT REDUCTION IN THE PRICE OF MINING ADVERTISING.

Hereafter the following rates only will he charged for advertising Corporation Notices in hoth

The Daily Mining Press

—AND THE—

Mining and Scientific Press,

GIVING

A Larger Circulation

Among Stockholders and Miniug Men than can be obtained through any other advertising medium, and at less thau

HALF THE PRICE

Of any other Daily Pnblication.

Rates of Advertising Corporation Notices in the Daily and Weekly Mining Press.

Assessments, 4 weeks	$7 00
Per square, 1 week	1.50
Per square, 2 weeks	2.50
Per square, 3 weeks	3.50

TWENTY-FIVE PER CENT. DISCOUNT allowed on all Mining Advertising paid for in advance.

A Large Proportion of the Active Mining Companies now Advertise in Our Columns.

We hope and helieve that our efforts for the true mining interests of this coast, and the ahove liberal terms for valuable and faithful service will give us many new advertising patrons, especially among new companies, and all who desire to practice true economy.

DEWEY & CO., Pnblishers.

Office, No. 338 Montgomery St., S. F.

N. B. Information regarding the legal puhlication of mining notices, and blanks for assessments and sale notices, will be furnished free on application.

PROPOSALS FOR MATERIAL and WORK

FOR A PORTION OF THE

NEW CITY HALL

AND

HALL OF RECORDS.

OFFICE OF THE BOARD OF CITY HALL COMmissionere, corner Leavenworth and McAllister streets, San Francisco, Auguet 14, 1873.

SEALED PROPOSALS.

For Furnishing certain Material and for doing certain Work for a portion of tbe New City Hall and Hall of Records, will he received at tbe office of the Board until 12 o'clock noon of **Friday**, the **19th day of September**, A. D. 1873, ae follows:

1—BRICK-WORK—Bricke laid in the wall, with Facework extra, and Setting Blocks, Keystones, Capitals, Springing Blocks, Iron Plates, etc., and providing and setting Iron Bonding and Arcb and Chimney Bars, etc.

2—STONE AND STONE WORK—Granite Blocks, Keyetonee, Capitals, Springing Blocke, Stone Creasing, Internal Granite Columne of Hall of Records, etc., provided and worked.

3 IRON WORK—Wrought Iron Girders for Third Floor, provided and ect.

4—IRON WORK—Oast Iron Columne, Girdere, Lintels, Brackets, etc., for Hall of Records, provided and set.

5—IRON WORK—Dome of Hall of Recorde, complete.

All according to specifications, plans and drawings to he furnished by tbe Board.

The exponscs of advertising will be charged pro rata to the euccoseful hidders.

P. H. CANAVAN,
JOS. G. EASTLAND,
CHAS. E. McLANE,
Board of City Hall Commissioners.

ROBERT GEORGE, Secretary. au23-4t

TO RENT LOW.

A Room—large or small—suitable for Printing, Bookhinding, or other bnsiness, at No. 414 Clay street, near Sansome. Enquire at this office or on the premisee.

ORE BAGS FOR SALE

IN QUANTITIES TO SOIT.

Apply to

CROSS & CO.,

0.d&etf 316 Californ ia street, San Francisco.

GIANT POWDER.

Patented May 26, 1868.

THE ONLY SAFE BLASTING POWDER IN USE.

GIANT POWDER, NO. 1,

For bard and wet Rock, Iron, Copper, etc., and Submarine Blasting.

GIANT POWDER, NO. 2,

For medium aud seamy Rock, Lime, Marhle, Sulpbur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, etc.

Its EXCLUSIVE uee saves from 30 to 60 per cent. in expenses, hesides doing the work in half the time required for black powder.

☞ The only Blasting Powder used in Europe and tbe Eastern States.

BANDMANN, NIELSEN & CO.,
General Agents, No. 210 Front Street.

20v22-3ml6p

Political Notices.

Republican Nominee

—FOR—

THE SENATE,

IRVING M. SCOTT.

Republican Nominee

—FOR—

SENATOR,

W. H. SEARS.

Democratic and Liberal Reformers' Nominee

—FOR—

COUNTY SURVEYOR,

WM. P. HUMPHREYS.

FOR TREASURER,

CHARLES HUBERT,

Democratic Nominee.

Regular Democratic Candidate

—FOR—

DISTRICT ATTORNEY,

THOMAS P. RYAN.

Tax-payers' Nominee

—FOR—

MAYOR,

JAMES OTIS.

Tax-payers' Nominee

—FOR—

SUPERVISOR, FIFTH WARD,

JOHN R. SIMS.

Tax-payers' and People's Union Nominee

—FOR—

SHERIFF,

WILLIAM McKIBBIN.

Tax-payers' and People's Union Candidate

—FOR—

SUPERVISOR, TWELFTH WARD,

D. A. MACDONALD,
Of Enterprise Planing Mill.

Tax-Payers' and Liberal Reform Candidate

—FOR—

TREASURER,

J. A. BAUER,
Present Incumbent.

Tax-payers' and Liberal Reformers' Nominee

—FOR—

CHIEF OF POLICE,

P. CROWLEY.

Tax-payers' and People's Candidate for

CORONER,

DR. BENJAMIN R. SWAN.

People's Union Indepenpent Anti-Monopoly Ticket.

For State Senator.

A. S. HALLIDIE,
WASHINGTON BARTLETT,

For Assemblymen.

M. M. ESTEE,
DANIEL ROGERS,
J. C. WILMERDING,
JOHN HAMILL,
W. A. ALDRICH,
C. C. TERRILL,
JAMES PATTERSON,
B. O. VANDALL,
W. D. DELANEY,
GEORGE C. WIOKWARE,
D. FRIEDENRIOH,
J. F. COWDERY.

Valuable Mill and Mining Property IN NEVADA,

To be Sold or Leased,

EITHER TOGETHER OR IN PARCELS.

Tbe whole of tbe magnificent propertiee lately held hy "The Nevada Land and Mining Company, Limited," conaisting of:

THE AUBURN QUARTZ MILL, near Reno, Nevada, on the O. P. R. R., run by water power, containing twenty stampe and a Stetefeldt Furnace, free of royalty; also, tbe neceseary ctorebouses, stahlee, and manager's and workingmene' bouees.

Tbe first right to the water of tbe Truckee River, more than sufficient to run 100 stampa, and forming the most valuable mill eite in tbe State of Nevada. The canal is about four milee in length, and ie used also for irrigation of land and the supply of water to the town of Reno and vicinity.

800 ACRES (about) of FERTILE LAND adjoining the town of Reno, partly laid out in town lots, and a conaiderable part of which has been under cultivation.

THE ALPHA MINE, at Rye Patch. This mine adjoins the well-known "RYE PATCH MINE," has been well developed, has produced large quantitiee of ricb ore; and is considered, in every respect, equal to tbo Rye Patch Mine.

THE WHITMORE and NORTH SHEBA MINES, which adjoin the De Soto Mine, near Star City, Nevada, and controlling interests in three mines in the Pinto District. Ore of considerable value has been obtained from theee last named minee, and they ehow fine indications, but they have not as yet been fully developed.

The exclusive right to grant licenses for tbe uee of the STETEFELDT FURNACE for tbe county of Humboldt, Nevada, and one-half of tbe royalties payable in respect tbereof.

The above propertiee constitute one of the most valuable mining aud milling invectmente ever offered to the public.

The Mill is in good running order, and has tbe well-earned reputation of working ores (especially tbose of refractory character) to a higher percentage than any other mill on the coast.

Tenders for the purchase or lease of the above properties, or any part or parte thereof, may he addressed to

MR. WILLIAM A. STORRY,
Occidental Hotel, San Francieco.
W. S. GODBE, Eeq., Salt Lake City.
MR. R. BOOH, Reno. ag23

Rope! Rope!

PACIFIC CORDAGE COMPANY,

This Factory, now in full operation, ie prepared to fill all orders for

Manila Cordage and Hay Rope,

Of all lengths and varieties—tarred or untarred—of Superior Quality to any ever offered in this market.

The Works of this Company are eo located that ordera can be shipped direct, by rail or water, to any part of the State, when so desired hy purchaeers.

PACIFIC CORDAGE COMPANY,
J. D. FARWELL, Agent,
ag24 116 Front street, San Francisco.

MAGAZINES.	P. An.
Harper's	$4 00
Atlantic	
Godey	
New York Ledger	
Blackwood	
Hours at Home	
Good Words	
Peterson's	3 00
Arthur	
Lady's Friend	
Harper's Weekly	5 00
Chimney Corner	
Literary Album	
London Society	6 00
All the Year Round	
London Ill. News.	15 00

W. E. LOOMIS,

News Dealer

AND STATIONER,

S. E. corner of Sansome and Washington streets,

SUPPLIES ALL

Eastern Perodicals,

BY THE

Year, Month, or Number.

PURCHASERS please say advertised in Scientific Press.

W. T. GARRATT & CO.

CITY

Brass and Bell Founder,

Corner Natoma and Fremont Streets,

MANUFACTURERS OF

Brass, Zinc and Anti-Friction or Babbet Meta

CASTINGS,

Church and Steamboat Bells,

TAVERN AND AND BELLS, GONGS,

FIRE ENGINES, FORCE AND LIFT PUMPS.

Steam, Liquor, Soda, Oil, Water and Flange Cocke, and Valvee of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder and Copper Rivets, etc. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles. HYDRAULIC PIPES AND NOZZLES for mining purposes. Iron Steam Pipe furnished witb Fittings, etc. Coupling Jointe of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

☞ Highest Market Price paid for OLD BELLS, COPPER and BRASS. 6-tf

W. T. GARRATT, JAMES HILLMAN, W. T. LITTLE.

N. W. SPAULDING,

Saw Smithing and Repairing

ESTABLISHMENT.

Nos. 17 and 19 Fremont Street, near Market.

MANUFACTURER OF

SPAULDING'S

Patent Tooth Circular Saws.

They have proved to be tbe most du able and economical Sawa in the Wor.d.

Each Saw is Warranted in every respect;

Particular attention paid to construction of

Portable & Stationary Saw Mills.

MILLS FURNISHED AT SHORT NOTICE

At the lowest Market Prices.

HALLIDIE'S

Patent Endless Wire Ropeway.

Covered by Numerous U. S. Patents.

IMPORTANT TO

Mining Companies, Civil Engineers, Contractors, Etc.

Tbe system of transporting material, sucb ae Ores, from the mine to the mill, Earthe for embankments, Rock from quarriee, etc., hy meane of eteel wire rope, bae been well tested and found **more economical, advantageous and reliable** than any other method of transportation; and to the annexed certificates in connection therewith I heg to call the attention of thoee interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear eir: On your leaving for San Francieco, it givee me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up hy you upon our mine in Freihurg.

It is a perfect success, discharging ten tone of ore per hour with two men's labor. It is perfectly simple in construction, and, as far ae I can judge, there is nothing about it to ever get ont of order—nothing to wear out. While oure requiree but about two thousand five hundred feet of wire ropo, I can ece no reason why the line could not be extended almost indefinitely with equally happy reeults. Again, the carrying capacity might be doubled or quadrupled if desired. After eeveral weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utan., Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may he on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one t n and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

Wire of all kinds and descriptions, furnished at lowest rates. A. S. HALLIDIE, 113 and 115 Pine St.

MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, AUGUST 30, 1873.

VOLUME XXVII. Number 9.

Reported Ascent of Mount Whitney.

The *Visalia Delta* says: "Captain J. H. Adams and party report an ascent of Mount Whitney, the highest dome in America. They say that horses went to the top. If so, it is certain that ere long our exalted neighbor will be visited by thousands every summer. It is not often that so elevated a peak is thus easily accessible."

This same feat has been before accomplished by Mr. W. A. Goodycar, of the Geological Survey, and Mr. Belshaw, of Lone Pine; that is, they went up the mountain *supposed* to be Mount Whitney, and so described by Clarence King in his "Mountaineering in the Sierras," but since Mr. Goodyear's ascent he has arrived at the conclusion that the mountain referred to was not the real Mount Whitney. We published Mr. Goodyear's observations in our issue of the 16th inst. He arrives at the conclusion that the peak which, for over three years, has borne the name, has done so only by mistake, and that a new name must be found for it; while the name of Whitney must now go back to the peak to which it was originally given in 1864, and which is in reality the highest and grandest of this culminating cluster of the Sierra Nevada. Mr. Goodyear thinks there is no doubt of the reputed Mount Whitney being identical with the one Mr. King measured in 1871, as the half dollar Mr. King left on the summit has been found. The real Mount Whitney not only retains its claim to being the highest point of land in the United States of America, but its claim to over 1500 feet of absolute attitude above the sea, is also still indisputable. It also retains the *prestige* of the fact that in all probability no human foot has ever trod its summit, Mr. Adams and party, notwithstanding. As the name is applied to a peak which has a false claim to it, the probability is that the party ascended the same mountain ascended by Mr. King and Mr. Goodyear, and erroneously located as Mount Whitney, by the former. Mr. Goodyear thinks that it can be climbed, but it will certainly involve a great deal of hard and, very possibly, dangerous work for those attempting it.

It is stated that work will shortly be resumed on the Constantia lode, Yuma Co., Arizona. New machinery is now on the way to the mine.

Value of Foreign Patents.

The saying has passed into tradition that a Yankee (American) never lacks the means of accomplishing whatever he may wish to make, contrive or do. We have only to make our wants known and a legion of Yankee inventors confront us with the means of supplying them. The records of our Patent office show that we are a people full of originality, and the nations of the earth give us the credit of being first and foremost in inventions. In Europe the American origin of an invention is looked upon as a sort of guarantee that it is a good one, and those inventors who have in addition to their American patents, secured patents in Europe, have generally realized a larger profit from them than from those obtained at home. The reason of this is obvious when we consider the large amount of capital invested in the manufacturing branches of industry in England, France, and the other European countries, and the competition which is naturally created thereby. Under this state of affairs it will be readily seen that the monopoly or control of any special branch of industry, will, in a measure, free the manufacturer from the incubus of competition, and enable him to make a larger per cent. upon his invested capital.

Cheap manufactures beget cheap labor and competition begets cheap manufactures. Therefore it is policy for the manufacturer to secure a monopoly of some branch of industry which he can manage and control, independent of his neighbor and competitor. In the United States, our manufacturing business has not yet resolved itself entirely into the hands of large manufacturers, but is divided up amongst a large number of small manufacturers who are not able to control more than a limited patronage. It would not, therefore, always justify them to invest in patent rights, and being small manufacturers, there is no inducement to get up such a close competition in business as would reduce their profits. The inventor depends mostly upon supplying the wants of the manufacturers, and it therefore behooves him to secure his inventions where the largest manufacturers and the closest competition is found, and it is there he will realize the largest profits from his invention.

The Vienna Awards.—The following Associated Press dispatch comes from Vienna, dated August 25th: Of 30,000 medals awarded to exhibitors at the Exposition, 400 go to America. There is much dissatisfaction with the results of the Exposition. It is charged that a number of articles which were never entered for competition received medals, and that several firms that had none of their goods on exhibition were awarded diplomas through manipulations of the juries. The quantity of goods and specimens which will be returned home from the American department is very small. The exhibitors have been leaving in crowds as fast as they could get away, since the close of the Exposition.

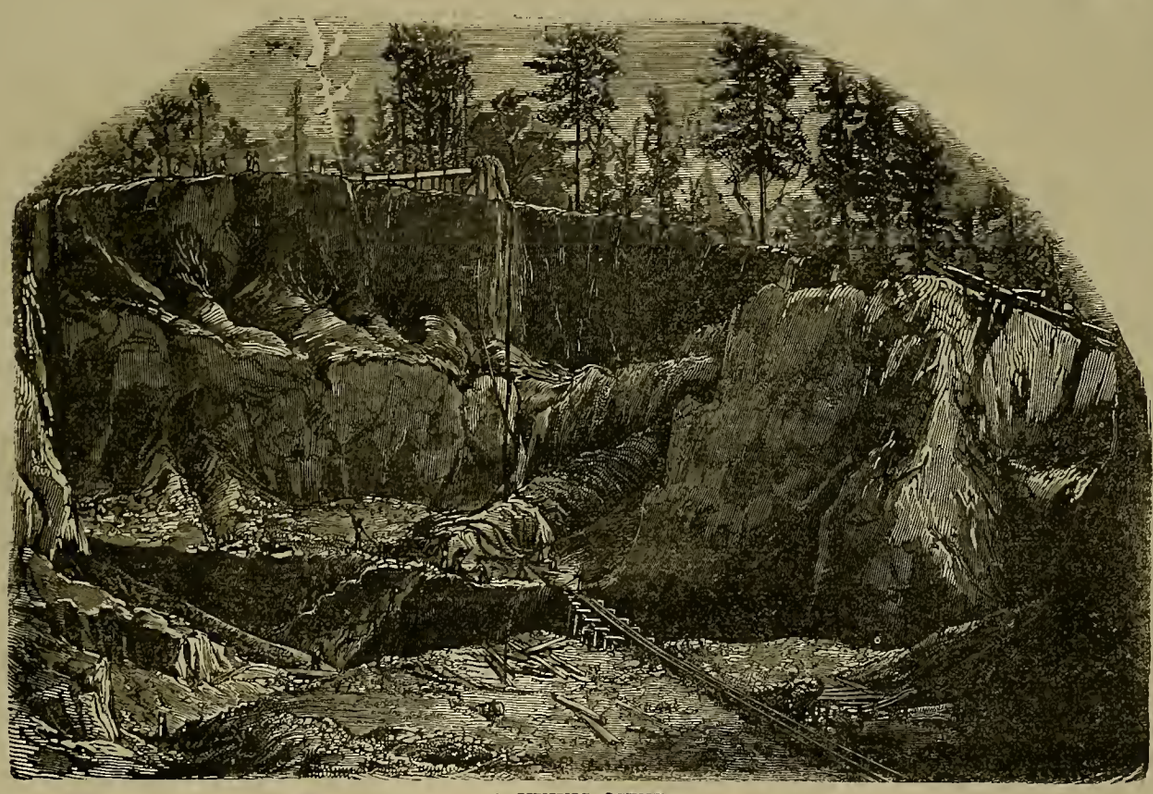
Eberhardt, White Pine, is said to be more lively than it has been for months, in consequence of the work being done by the Eberhardt and Anrora Mining Co.

An attorney has begun suit on attachment against the Emma Hill Consolidated Mining Co. for his fees—$6,000.

A Mining Scene.

The interests of the farmer and the miner go hand in hand. They are emphatically *the* producers of this coast. The more mines there are and new districts, the more chance is there for the farmer to dispose of his produce at home, and save cost of transportation to distant markets. The miners furnish the money which pays for the grain and serves as the oil in the great machinery of Commerce. Both classes want cheap transportation—one for his ores, the other for his grain—and their interests are identical in many respects.

The miners who are tearing down and washing away acres upon acres of ground with their hydraulic pipes, and immense streams of water are lifting that ground over taking out the rocks and stumps and putting it in good condition for future generations of farmers. They tear away steep sided hills, covered with boulders and rocks and unfit for agricultural purposes, and make level valleys of clean soil, which in a few years will be as rich in vegetable as it has been in mineral productions. Both miner and farmer take from the soil its treasures, though the crops are of a different nature and differently harvested.



A MINING SCENE.

The accompanying illustration shows a company of miners harvesting their crop with the simple but effective aid of a heavy stream of water and a string of sluices. They are doing it in the old fashioned way with several streams and hand nozzles. While working on the same principle now, the details are somewhat modified and immense bodies of water are used and thrown from one pipe with great pressure, the water washing away tons upon tons a day. By this process of mining, the miners, without intending it, level off large extents of country and put the hills in such a shape as will fit them for the needs of the farmers of future generations.

The "Snowy Range" mining district, eight miles north of Cariboo and one thousand feet higher, is attracting the attention of prospectors, rich silver veins having recently been discovered there.

Shipments of gold dust from Placerville, Idaho Territory, by Wells Fargo & Co., since the 1st of January amount to $144,567; this amount probably does not embrace one-half that has been taken out.

CORRESPONDENCE.

Vienna Exposition.

[By our Traveling Correspondent.]

The Exposition of Mining and Metallurgy,

Although exceedingly rich, is strictly considered only for that reasou so extensive, because combined with the metal industry, snd inasmuch quite proper, as the fiuished articles are produced in succession in tbe same establishment from tho raw ores. Of mining machinery proper, however, there is comparatively only slight representation. A variety of splendid, powerful hoisting machiuery is exhibited in a separate building, by Danck & Co., of Prague, and this is the only prominent exposition in this line. Modsls of hoisting in shafts and on inclined tracks of different construction are found here and there, scattered in the various Montan depsrtments; also, models of self-dischsrging percussion tables, jiggers aud rotating tables; but there is only one self-discharging jigger of natural size exposed in the huilding of the Austrian "Ackerbau Ministerium."

Plans of the great concentrating works at Clausthal, drawings of lead smelting furnaces of the Oberhartz, of Prachett furnaces of circular tuyeres and of Frieberg smelting furnace, are shown iu the "Montan Industry" of Germany. There is also a model of the Mansfield copper smelting furnsce tuyeres, and another of a cupelling furnace with a square hearth, from Pozibram. Miniug maps and plans of underground miuing are abundantly exhibited, some of a very lsrge size; several shafts over three thousand feet deep. Very ineteuctive are the models of coal, sslt-rock and ore mines in which shafts, inclines, drifts, levels, and worked out places are shown by iron wire or flat iron, in correct proportion of depth, length, etc. Some of the old mines show so many levels and drifts, that the model looks like s confused uetwork. Of ores, minerals and smelting products are nnmherless collections, very interestiug, but so exceedingly scattered, that it is quite tiresome to hunt them up. Boulders of malachite, pyramids of transparent salt-rock, heautiful Hungarian precious opals, rough diamonds from Africa, goldsand from the Rhine, huge petrefactions, ore collections with very large, middle sized and small specimens are profusely exhihited, but hardly one of a thousand visitors has seen them all.

The Montan Metal Industry,

Excels in iron and steel articles. There sre rsils and edge, or flsnge iron up to ninety feet in length; those of first shape 15 iuches high with 4 to 5 inch flauges; reservoir plates of 2,130 pouuds, ⅛ inch thick; bridge plates of 2,100 pounds, 50 feet by 3.28; locomotive plates of 2,300 pounds, 13¼ feet by 6.23; large sheet-iron tinned, galvanized and leaded; cast steel plates 17 feet by 5.57; iron ropes, steel and iron rsils broken to see the the texture of the broken fibrons face. In Krupp's Pavillion is a block of cast steel 5,787 tons in weight; 12 guns, the lsrgest weighing 40 tous, the gun alone is 21.97 feet long, has a calibre 0.572 feet, takes a charge of 132 pounds of prismatic powder, and a loaded shell of 652½ pounds. This gun is made of cast steel. Krupp's works produced in 1872 over 125,000 tons of cast steel.

Besides the Montan industrial expositiou, occupying five large huildiugs, there is the metal industry of all nations in their respective departments, largely exhibited, but of such a multifarious character and extent that it would tske volumes to describe. The English artillery and Pancer pavillon show two enormous pancer plates of wrought irou, made in the Cyclops works at Sheffield. One of them is a masterpiece, 10 inches thick, the whole so homogeneous that not a needle point could find a place in the mass. It weighs 26 tons, has two openings for the guns, and is msde for the German monitor "Borussia." The other plate is 8 inches thick, weighing 12 tous, for some part of the Austrian casemate ship "Custozza." The curve of the plates was effected by hydraulic pressure. Several guns are also exhihited there; one of the largest breech-loading guns is of 9.27 inches calibre, weighing 14½ tons. It is of Armstrong construction, with Krupp Broadwell breech-loading arrangement. The charge is 42 pouuds of prismatic poweder, the projectile 300 pounds. Two mitrailleuses are also shown, of 0.65 inch calibre, as manufactured for the English naval department, with self-acting and variable horizontal movement tor spreading the fire.

Paper.

In the Rotunda of the industrial palace there is in a large drum a sheet of paper, 17,177 meters or 56,440 feet long—equal to two and a qnarter German miles—and 7 feet wide, from Schlogol's mill, Austria. Dr. Rudel states that there are 3,000 paper factories in Europe of which only five per cent. in average were represented iu the London, Paris and Vienna Expositions. From Russia, with 112 paper factories, producing 37,478 tons, at present are only 8 exhibitors. From England, with 369 factories, producing 198,414 tons of paper, are five exhibitors. From France, with 634 factories, producing 165,345 tous, are five; from Holland, Norway, Sweedeu, Switzerland and Spain is ono oxhibitor of each. The other States, oven the United States of America, with 570 factories aud a productiou of 184,879 tons of paper, are not represeuted at all, in this highly important branch of progressive industry. Germany, with 600 factories, producing 198,414 tons, has 37; and Austro-Hungary, with 214 factories and a production of only 8,818 tons, shows 37 exhibitors.

The German Exhibitors have displayed all sorts of psper in use, from the ordinary straw packiug-paper to the finest letter paper, even cigarette paper is not forgotten. The fiue paper made out of pure, chemically prepared wood fibre is new, and the middle sorts of printing and writing paper show that the addition of rsg stuff decreases more and more.

The Austrian paper exhibition is very perfect aud stands in respect to fineness aud elegance, equal to the best sorts of other countries. Although there is plenty of rag stuff ss yet in the Empire, the factories are usiug advantageously the wood fibre of a kind of cotton tree and some sorts of white pine, besides the straw, in the fabrication of paper; lately also, the bark of the mulberry tree, of which, without sny other admixture, an excellent sort of cigarette paper is made. Also potato stems are used for the fabricstion of emballage and packing paper.

The French paper excels iu neatness snd elegsnce. Splendid drawing paper is exhibited here and a great many other choice sorts. The English papers show the same degree of perfection.

The westher continues dry and agreeahle, but it is a little too warm, and the ice machines in the exhibition are in full blast every day. The largest, producing 500 lbs of ice per hour, is from Kropf's factory at Nordhausen, constructed ou the principle of evaporation of ammonia by heat. This machine weighs 260 centals and cost $4,320. The largest machines of Kropf's fsctory make 1,000 lbs of ice au hour. An English machine also produces ice, by evaporation of ether.

Vienna, July 26. G. K.

Notes of Travel in White Pine County, Nevada.---Continued.

[By Our Traveling Correspondent.]

Minnie-Minora Mine,

They have 75 tons of very fine ore that wil average $80 per ton, some of it runniug as high as $120. A year ago, and once or twice since, the company attempted to smelt their ores, but after a very short run had to close up. They have a very fine furnace and are about to start it again on smeltiug ores, about 2,000 tons of which they have ou the dump at the furuace. Most of the ore is free milling. Mr. Ogden has advised the company to erect a 20 etamp mill, and the probability is that his request will soou be granted. There are besides some

Prominent Mines.

The property of S. Brannau of Calistoga, Cal., and G. W. Lamh, of Mineral City, Nev. The Calistoga is developed by a vertical shaft 60 fset deep; 100 tons of free milling ore on the dump. The Mineral City is developed by sn incline down 50 feet; milling ore, 20 tons ou dumps. The Lamb has a vertical shaft down 35 feet; smelting ore, 50 tous on the dump. The Badlam mine has a vertical shaft down 45 feet; smelting ore, 50 tous on the dump. Next in order, going west, aud also west of Mineral City, is the Cliff mine; shaft is sunk on this miue 20 feet; it is smelting ore, 100 tons on the dump. Next is the Hick; shaft down ou this location 20 feet; 30 tous of smeltiug ore on the dump. Next adjoining, still going west, is the Manhattan mine; an incline is suuk on this mine 35 feet deep, and there are 15 tons of smelting ore on the dump.

The ssme gentlemen own some twenty other locations, more or less developed, but in the absence of facts, I must pass them at this time. The metals contained in the ores of the above mentioned mines, are free milling gold and silver, the gold predominating, with a trace of iron, copper and lead, and those marked smelting ores contain about $60 in gold and silver per ton, run 30 per cent. lead, and 15 per cent. iron with a trace of copper. Assays run as high as $400 per ton in gold and silver from the above locations, hut will average $60 for all the ore at present on the dumps,

Hayes G. and S. M. Co.

This is a San Francisco incorporation. Thos. Cahill, Esq., is the Superintendent. Through his politeness I was shown through this company's mine, which is located 1½ miles west of Mineral City. The location of 1,000 feet is covered by U. S. pateut. It ruus east and west and pitches to the south at au angle of about 72°, between regularly defined walls, lined with a seam of clay. The country rock of the foot wall is quartzite and that of the hauging wall, porphyry.

The ore is free milling, containing about equal proportions of gold and silver, a little iron, with a trace of copper. The present development in this mine consists of one main shaft, sunk near the center of their location, to a depth of 137 feet. Following the dip of the ledge, at a point 109 feet down this incline, a level is run east ahout 195 feet, and west 80 feet. A winze is sunk in thie east drift, at a poiut 118 feet from the main shaft, to a depth of 19 feet, at the bottom of which the ledge is 5 feet thick. The ore takeu out at this point will mill $80 per tou; the vertical distance from this point to the surface is 160 feet. At the end of the west drift an air shaft is eunk to the depth of 84 feet. Thie west drift is not run exactly on the ore body, hut a cross drift run to the north fiuds the same ore body at a distance of 20 feet, the width of which from the surface to the depth developed, varies from 5 to 8 feet. This ore will sverage $70 per ton. About 400 tons are now on the company's dumps. They are now employing 8 men. The general prospect of this mine for extent and permanency is excellent, snd has been pronounced hy prominent experts, second to none iu Eastern Nevsda.

The Mitten Mine.

The south extension of the Katie ledge is located about 4 miles southwest from the Hayes mine. This location runs north and south and dips to the west; the ore is free milling, carrying silver and gold in about equal quantities, with a trsce of lesd; assays show it to contain $30 in gold, $44 in silver. This property belongs to D. S. O'Brien and B. Mitten. It is only slightly developed, but sufficiently to prove it to he of value. A shsft 10 feet deep and an open cut 20 feet long, constitute the present workings. These gentlemen own some six other locstions in the district, all of more or less value and somewhat developed. About two miles southeast of the Mitten, on another entirely different ore belt, is located the

Miami Copper and Silver Mine.

The company own 1500 feet in their location, which runs north and south, snd dips to the west; the foot wall is porphyry, covered with a black gangue; the hsnging wall is ss yet imperfectly defined. At a depth of 65 feet they have a ledge 5 feet thick of the black oxide of copper. There are about 65 tons of this ore now on the company's dumps, that assay from 40 to 60 per cent. copper. In sinking their shaft, near the surface they took out a red oxide, 10 tons of which were sent to your city for reduction. It netted the proprietors 60 per cent. Messrs. Fred. Woods, H. M. Cox and Joseph Crank are the lucky owners. Passing to the uorth ou this ssme ore helt, the first extension is the

Burnside Copper Mine,

Owned by Messrs. Wagner, Degroff & Ellmore, containiug 1500 feet similar in character to the others, and developed to a depth of 60 feet, by an incline shaft following the dip of the ledge. They have a body of ore, about 4 feet thick, that will average 40 per cent., runuing from 22 to 60 per ceut. About 20 tons of ore are on their dump. Another location still north, known as the Copper Miue, is worthy of mention, aud considerably developed.

The Defiance Mine,

Owued hy John Ragsdale & Co., is located one-half mile southwest of the Hayes mine, but on a different ore hody, from that on either of the above mentioned miues. There are 15,000 feet in this location, developed by a shaft, about 50 feet deep, which shows a ledge 8 feet thick; they hsve now on their dump 125 tons, smeltiug ore. The Canton M. Co., paid $12 per tou for this ore on the dump at the mine. South of the Defiance, is a location of 800 feet, cslled the Ashland; it is owned by the same parties, and prospects well.

Watson Mining Co.,

Incorporated in San Francisco last May. Mr. D. T. Ellmore is Superintendent. The company own two mines, one the extension of the Hayes mine, and known as the Watson; the other is called the Katie, located about three miles west of the Hayes, and on an entirely different ledge, which runs northeast aud southwest, snd dips to the northwest, at an angle of ahout 65° This location contains 1,500 feet on the ore hody. The rock is free milling from the top, down. By way of side note I would state that this district has been and is now kuown as a hase metal range. While there is plenty of hsse metal to run a hslf dozen furnaces here, nearly all the miues of this district that were originally considered base, proved to be of free milling ores, after going down from 40 to 60 feet; aud a number of them have proved to be such from the surface. The development of the

Katie Mine

Consists of two incline shafts, suuk to depths of 14 feet and 75 feet. The last mentioned is located uear the center of the mine. Iu this shaft the ledge shows 20 feet between the walls, of which the hanging wall is porphyry, and the foot wall quartzite. The ore from this mine will mill $50 per ton on an average; some taken from their main shaft runs into the thousands. There are about 100 tons of ore now ou this company's dumps. They are now working six men at their mine, aud some 16 others are engaged in putting up a 10-stamp mill, located just below Mineral City; this mill will have power for 20 stamps, and is expected to be completed in Augus:. It will have the capacity to reduce 20 tons of ore daily. All the usual appliances around a quartz mill will he brought into requisitiou here. This company, hy its enterprise, has so stimulated this district that it is likely to rival any in Eastern Nevada. L. P. Mc.

COLORADO SCHOOL OF MINES.—Three years ago the Colorado Legislature appropriated nearly $4,000 for the erection of a brick building to be used for a School of Mines. This sum proved ineuffieient, and Bishop Randall, feeliug the necessity aud importanco of such a school, began tho work of fitting up the iustitution, finishing the interior, and funishing the necessary apparatus. The scrvicoe of Prof. Mallet have been secured, aud be has already entered upon his duties; other teachers and lecturers have been engaged, and on the first Wednesday in September the Department of Physics will he opeued and fnlly organized for work.

How are the Deep Placer Mines of Plumas County to be Rendered Productive?

The above question is one of importance and demands the serious consideratiou of every prscticsl miner in this county, and not only of every miner, but also of every farmer and mechanic, for it is a fact patent to every ordinary observer that to a certain extent the latter are dependent upon the former. In what respect dependent? They, the miners, are the consumers of the product of the farmer, and should the mines not yield so well ss formerly, or cease to be worked on so large a scale, the results would most disastrous to the agricultursl interests of this county. One more point remains to be noticed, and thst is that nearly all the shsllow placers, ravines snd flats on which water could be conveyed, are worked out. The consequences are obvious. Miners must turn their attention to the deep placers of this couuty, in the opening and working of which capital must be employed. At the present time many old miners believe thst the "Blue Lead," celebrated for its richness, extonds through this county, south of Clermont Hill. In fact, a mining expert asserts that he can trace the channel through from Moore's Flat, Minnesota, Clipp's Flat, Alleghany, Forest City, Goodyear's Bar, Monte Christo, Port Wine, St. Louis, Howland Flat, Gibsonville, Whiskey Diggiugs, Onion Valley and Sawpit Flat to Feather river. And have we lost all traces of it at this point? By no means, and we are becoming more convinced than ever that tlhis same channel continues through this country south of Clermont Hill. Judging from the topography of the couutry and the natural indications presented, the character of the surface formation, and nature of the bsd-rock wherever found, we may he warranted in the asscrtion that this same chsnnel (if it be one) was formed during the pliocene or sub-cretaceous era. We are fully aware of the fact that the same characteristics exist in the bed rock reached by Myers & Siler on Clermont Hill as exist in the Blue Lead at Forest City, Sierra county. The bed-rock is a soft, friahle shale or slate, either white or blue, and in the crevices and pot-holes of which remsins of plants and animals are sometimes found in a fair state of preservation. Again, the out-croppings of the rim-rock are plainly visihle and easily tracod all along this rich chsnnel, and here we may observe in passing, that the indications presented on the ridge east of Quincy point to the existence of auriferous dsposits in that direction. Aud why? Simply because all the gulches and rsvines in this ridge have paid well for working in former years. From this we may conclude that a basin or channel exists in this direction, extending from Argentine by way of Squirre Creek, through above Mill Creek, and falling or emptying into the Blue Lead channel, at or near Clermont Hill.

And now how are these mines to be rendered productive? Is it necesssry thst the attention of capitalists should be drawn in this direction? Or must we wait for some Crœsus from Sau Francisco to prospect and open up this ground? We will try and answer these questions in one sentence—let the miners of this county organize companies of say twenty members, and let them incorporate, levy an assessment of say $20 per interest to start with, and then sink a shaft to bed-rock; should they strike pay they can then run a tnnnel on au easy grade to the shaft, and by this means supply the mine with good air. From this point the mine will be easily opened and prospected. Thus while the expenses will be scarcely felt, by any iudividual member of the company, claims can be opened and rendered productive which otherwise must remain forever nudiscovered and unopened. In Sierra county, this system is adopted aud carried out with good results—witness the Bald Mountain mine at Forcst City. The lucks shareholders to-day are worth probably $30,000 each, who three years ago were working for wages in the mines. Here is an incentive to exertiou. Let us not hear the miners of Plumas Co. complaining of hard times, when all that is necessary to render this county the "Banner mining county of the State" is a little energy, exertion perseverence and capital. That such mines exist we do not for a moment doubt, and that those auriferous deposits will ere long be opened up and rendered productive, is equally certain. It remains to he seen whether the miners of this county will sit with folded hands and let foreign capitalists come in and reap the golden harvest.—*Cor. Plumas National.*

THE SALT LAKE *Tribune* states that the Camp Floyd mill is about to start up. The custom ore already on hand and being hauled amonnts to about 800 tons. Half of this quantity is supplied by the Sunuyside, on Lion Hill. The Lion mine and several others furnish the balance. Mr. E. N. Riotte has heen inspecting most of the mines in the vicinity and contracting for ores for the mill. Last week Mr. Riotte visited Butterfield Cañon, and the coming week he will he in Tintic. On his return to Salt Lake and before his departure for San Francisco, Mr. Riotte will spend a few days inspecting several mines on the Wahsatch rango and in Parley's Park. In this latter camp ho hae beon requested to report for some San Francisco capitalists, and, if satisfactory, some sales will be effected.

Scientific Progress.

Chloral Hydrate.

Such widely varying opinions have been promulgated concerning the effects of chloral, that nny definite information, resulting from critical and experimental investigation, becomes highly interesting. From the report of the Academy of Sciences in Paris are gleaned the following facts in regard to the prize essay of M. Personne on chloral—a therapeutical agent recently introduced into medical practice, and likely to prove of great service in the healing art, as it has the precious property of producing sleep when taken into the system, and thus, for a time, alleviating pain. Chloral has been known since 1832, when M. Liebig discovered it, in studying the action of chlorine on alcohol. But till lately it had not been turned to any practical use. It was the remarkable physiological action of chloroform, and its similarity of composition to chloral, that called the attention of chemists and physiologists anew to the latter compound.

M. Dumas showed, some time ago, that hydrate of chloral, when brought into contact with alkalies and alkaline carbonates, was transformed into chloroform and formic acid. The question then arose, might not a similar change take place in it when introduced into the animal system, through action of alkalies in the blood, and thus chloroform be produced in the organs into which it entered? Guided by such theory, M. Oscar Liebreich admiuistered hydrate of chloral to some of the lower animals and to man. The physiological effects, similar, in some measure, to those produced by chloroform, seemed to favor the theory; still, the result obtained in these earlier experiments (which were repeated by other observers) did not always conform to expectation. Certain experiments, differing from M. Liebreich's view, asserted that the action of chloral was one proper to itself, and quite independent of chloroform. To reach a satisfactory conclusion, it was necessary, first of all, to be assured of the purity and identity of composition of the products employed in separate experiments; and M. Personne was not long in convincing himself that the products employed, under the name of chloral, varied much in degree of purity and composition. He formulated a process of preparation, which furnished a hydrate of chloral always the same. Thus equipped, he was in a position to attack the problem in question—Is hydrate of chloral really transformed in the system, so as to produce chloroform conformably to chemical theory?

Now, there were some very legitimate doubts as to such action. Some experimenters, as we have said, denied that the effects observed were due to chloroform. Animal blood, submitted to the action of hydrate of chloral, did not give any odor of chloroform; whereas this odor may be easily recognized where chloroform has been used in the same way. More than that, if hydrate of chloral be added to blood which is newly taken from a vein, and kept in circumstances the most favorable, according to theory, for production of chloroform, still no odor of chloroform is observed. A decisive experiment was, therefore, necessary. Was it demonstrable that, notwithstanding the contrary appearances, chloroform was actually formed in the system after ingestion of chloral? M. Personne proceeded as follows: He gave a dog (which was in good condition) eight grammes of chloral. When the state of anæsthesia was nearly complete, he took from the jugular vein of the animal a quantity of blood, in which to search for the presence of chloroform. The process he then adopted, and which we cannot here give in detail, consisted in passing a current of air through the blood (which was kept at a temperature of about 40° C.), and then through a red-hot tube, the further extremity of which was immersed in a solution of nitrate of silver. By this means chloroform contained in the blood would be withdrawn, and then decomposed by the heat, and the products of this decomposition, passing into the nitrate of silver, would cause a precipitate of chloride of silver (through chlorine from the decomposed chloroform).

This experiment, repeated under varying conditions, always gave a positive result, proving the presence of chloroform in the blood of dogs submitted to the action of chloral. Operating similarly with blood to which hydrate of chloral has been directly added, M. Personne proved that chloroform was produced in it also. If the odor of the chloroform in these cases did not become perceptible, the reason was that, being feeble, it was masked by the odor proper to blood itself.

Ingenious Engineering.—During the construction of the bridge at Kuilenborg, Holland, says the *Chronique de l' Industrie*, one of the principal traverses, some 465 feet in length, was placed about one inch too far on the piles. This error was rectified in a very ingenious manner. The expansion of the mass of metal was exactly ·0394 inches per Fahrenheit degree. At the locality of the work the difference between the temperature of the atmosphere by day and by night was 25° F. In the morning the too far advanced end of the traverse was securely bolted down, when during the day the heat of the sun expanded the metal so that the free extremity advanced ·985 of an inch. Then at night the latter end was fastened, and the contraction caused a like movement of the opposite free extremity. This operation, twice repeated, brought the traverse into its proper position.

How the Duration of a Flash of Lightning is Measured.

Scientific men assert that a flash of lightning does not endure for more than the millionth part of a second. How did they find this out? Obviously, not by any ordinary means, for such small portions of time are utterly beyond the cognizance of our senses, and even of our thoughts. Watches which mark quarter seconds are not uncommon. We have seen men try to count the beats of such a watch, and it is but rarely that we have met any one who could succeed. Not only could they not count them aloud, but they could not even *think* of the number so as to keep a record of them in their minds. How, then, was it possible to measure a portion of time so much less in quantity?

Almost every boy has whirled a fiery brand in the air so as to make a "round robin." How does it happen that such a moving *point* seems to make a fiery circle in the air? In this way: an impression made upon our sense of sight can not be instantaneously removed. It lasts for about one-eighth of a second. Hence, if the moving point completes the circuit in less than the eighth of a second, it will make a new impression before the old one has expired; the path which it describes will be constantly visible, and the circle will appear complete. In the same way, if a wheel with many spokes be caused to revolve rapidly, the spokes become invisible and the wheel appears solid. But if the wheel were illuminated by a flash which did not last long enough for one spoke to take the place of another, the spoke would be visible, and the wheel would appear at rest.

A few years ago we saw such an experiment tried in Rochester, N. Y. The lecturer had a wheel, which was painted white, and on the white ground was painted a number of red rays. When whirled with a very moderate velocity, the wheel appeared of a dim, pinkish hue. If, while thus revolving, it were illuminated by a flash from burning gunpowder, the spokes would not be visible, the flash of even the best gunpowder lasting longer than the time required for one spoke to take the place of another. But when, instead of gunpowder, fulminating mercury was used, the spokes were visible and the wheel appeared to stand still, so much more rapidly than gunpowder does fulminating mercury explode.

By driving the wheel a little faster, the flash from the fulminate failed to show the individual spokes; showing that even the flash from fulminating mercury lasted long enough to allow each spoke to move into the place of its predecessor before the impression made by the latter had faded from the retina.

A Leyden jar was now charged and discharged before the revolving wheel, and then the latter could not be driven so fast that the spokes would not be visible and the wheel appear to stand still. Now, if we knew the velocity of the wheel and the number of the spokes, it would be easy to tell the time required for one spoke to take the place of another. Suppose the wheel had 100 spokes, and moved at the rate of 1,000 revolutions per second; it is obvious that if the individual spokes be seen, the duration of the flash must be less than the one hundred thousandth part of a second.

Such is a rude outline of the method by which the duration of a flash of lightning is measured. Of course, the apparatus used in determining this duration is much more delicate than that which we have described, and which was used merely for illustration before a large audience. But the general principle is the same, and in this way it was determined that the duration of a flash of lightning is less than a millionth part of a second. Hence a carriage wheel in rapid motion, seen at night by means of a flash of lightning, appears at rest. The swiftest race-horse would not have time to make a perceptible movement of a muscle, but would appear as if carved in some inanimate material; and even the swiftest locomotive and its train would appear as if some icy hand had been laid on its energies.

That a flash of lightning endures for a certain period there can be no doubt, but this period, when compared with the duration of any mechanical operation, is infinitely small. Stand beside a target at which the bullets are being fired from a distance of say 200 yards, and first you will see the flash, after a short interval you will hear the *thud* of the bullet, and finally you will hear the report of the gun. In this case, you might see the flash, and afterwards be shot by the bullet. Indeed, so much time elapses between the flash and the arrival of the bullet, from a distance of 250 yards, that it would be impossible to hit an active man, at that distance, if there was a cover to which he could spring when he saw the gun discharged.

How different with lightning! There the flash and the stroke are simultaneous. If we see the flash we are safe. He that is killed by lightning never hears the thunder.—*Technologist.*

Oxygen as a Commercial Product.—A company has been formed at Buffalo to supply oxygen and hydrogen to consumers. It is founded on Tessie du Mothay's process, which has already been described in a former issue of this journal. The material employed by the company is styled manganate of soda, though whether its composition is chemically identical with that body is questionable. The so-called manganate is crushed to a coarse powder, and is then placed in elliptical retorts, seven feet long, one foot wide and two feet deep. These are placed horizontally, the ellipse being vertical. A current of superheated steam is then passed through the mass, at first slowly, afterward more rapidly; when the heat has become sufficiently high, part of the oxygen is eliminated, and passes off with the steam, which latter, being condensed oxygen, remains in a state of tolerable purity. The condensers used are similar to those employed in gas works to separate the less volatile constituents from the coal gas. They are simply a system of upright cast iron U pipes inverted. The water thus formed is sufficient in quantity to wash all soluble impurities from the gas. Farther impurities are removed in a scrubber, whence the oxygen passes, fit for use, into the glass holder. After the manganate of soda has been subject to the action of the steam for about ten minutes, the current is shut off and atmospheric air blown in its place, the effect of which is to reoxidise so much of the soda-salt as has parted with its oxygen. The nitrogen of the air escapes. After ten minutes the air is cut off and steam re-introduced, which, as before, carries with it oxygen into the condensers. Many difficulties have been found in working this process. Theoretically the manganate should continue to yield oxygen *ad infinitum;* but in practice it is found that after being some time in use it loses its porosity, and, consequently, does not permit the steam to act through its whole mass. It becomes, therefore, necessary to recharge the retorts after not very long intervals. It is believed that, if the steam could be kept perfectly dry throughout the process, a result much more nearly approaching that predicted by theory would be attained. —*Iron Age.*

Mechanical Progress.

Krupp's Guns.

Every one has heard of the famous Krupp rifled steel cannon, which caused such a sensation at the Paris Exposition, and so much more when directed against perhaps the same admiring crowds a short time afterwards. But few, if any, have an adequate conception of the immensity of the works where come these terrible monsters. The cast steel works at Essen, on the Rhine, have been in operation since the year 1810. They cover 988 acres, of which 185 acres are roofed over. 12,000 workmen are constantly employed, engaged directly in working the steel. Besides there are some 2,000 men employed in building and repairing, 5,000 in the mines and furnaces connected with the works, and 739 clerks and other employés. The total is thus brought up to nearly 18,000 men. In 1872, the amount of cast steel produced was 123,315 tons, consisting of axles, tires, wheels, rails and railcrossings, springs, cranked axles for marine engines, boiler-plate rolls, spring steel, tool steel, guns, gun carriages, shells, etc. There are 1,090 furnaces of different kinds, smelting, reheating, heating, puddling, cupola, etc., 264 forges, 275 coke ovens, and 310 steam boilers. There are 71 steam hammers and 286 engines in the works; the total horse-power of the engines being about 10,000. There are 1,056 machine tools.

During the year 1872, 491,535 tons of coal and 123,315 tons of coke were consumed. Water for the boilers, etc., was used to the amount of 7,700,000,000 gallons; and the gas, made on the spot, reached a total of 176,000,000 cubic feet. Between the shops are twenty-three miles of broad, and nine and three-quarter miles of narrow road, railway racks, with full appointments of rolling stocks. Besides these means of communication, 272 carts are employed. But to go further into this maze of overwhelming figures would be to no purpose. Suffice it to say, that the establishment is in reality a small city. It has its own stores, dwellings, educational buildings and hospital. Whether we consider the vast amount of crude materials, ores, metal, fuels, etc., entering its gates, or the ponderous castings and the varied manufactures leaving the works, the effect on the mind is completely overpowering. And the quality and beauty of the finished products are commensurate with their quantitative importance. Altogether the Essen steel works of Friedrich Krupp present a sublime spectacle of vastness combined with perfect engineering economy.

Among recently invented military arms is the Hotchkiss revolver cannon. Tests made on it at Satory, France, show that a gun with a caliber of four centimeters is capable of being fired at the rate of sixty shots a minute, which gives seventy pounds of cast iron thrown during that time. The projectile intended to be used is a percussion shell. If the published reports are at all accurate, this new weapon bids fair to exercise an important influence on the art of war.

Testing the Quality of Iron.

Mr. Von Ruth, an inspector of mines in Holland, has discovered a method of taking an impression of iron so as to show accurately the fiber of the iron, and thus afford a means of comparing and distinguishing different qualities of iron. The piece of iron to be tested is smoothly polished, and the surface thus prepared is then acted upon by muriatic acid, until all the particles of slag have been dissolved out. The time required for this varies from six to twenty-four hours, according to the strength and temperature. Since, according to this inventor, the slag is more rapidly attacked than the iron, the fibers are left in relief, and from the etched plate thus prepared, a print can be made, with printing ink or India ink, so as to exhibit clearly and distinctly the very fiber of the iron. When bundles or piles are made for rails, or different sorts of iron are rolled together, this furnishes a quick and simple method for ascertaining the direction of these fibers. As a means of investigating the changes in the sinewy texture of iron near where it has been welded, this method is claimed to be valuable.—*Am. Artisan.*

Granulated Iron for the Danks Puddler. The granulation of the metal was effected by the same machine employed in granulating slag, and illustrated in *The Iron Age* of May 1. The object and advantages are these: One of the greatest drawbacks to the success of the Danks puddler has been the cost of melting the iron when the charge consists of pigs. The pigs are charged on, say 1 ton at a time, and lay like a dead mass upon the bottom, impenetrable to the heat. These cannot without difficulty be turned over without damaging the lining of the furnace, and also containing a large quantity of silica, the damage to the fettling and puddling process is very great. To overcome this, cupolas have been erected for supplying the Danks with *molten* iron; but this is expensive, in addition to the inconvenience of having molten iron moving about the works. This granulated iron, made by running the iron direct from the blast furnace by Mr. Wood's system will, it is hoped, overcome all the difficulties, and also supply a better quality of iron, free from silica, and enable the puddling machine to rotate as soon as charged, and thus expose the whole surface of the iron to heat, while the metal, being in such small pieces, will melt in a very short time. Mr. Danks, who has seen the iron produced, quite approves of the system, and believes it will effect a saving of six to eight shillings per ton.

A Dresden engineer proposes a method for increasing the durability of railroad ties, by which, he considers, they may be made to last four times as long as at present. The sleepers, of whatever kind of wood, are first allowed to dry for some time in air, then artificially dried in a hot chamber. They are next introduced, while hot, into an impregnation apparatus containing heated coal tar, where they are impregnated thoroughly under pressure. Then they are coated with sifted sand or coal ashes and allowed to dry. Every fissure is carefully filled; the nails used in fixing the sleepers are first dipped into hot coal tar, and any part of the work which may be exposed is carefully coated. The inventor further states that wood thus prepared has been also used for house building purposes, and with excellent results.

Canals in Egypt.—The annual volume, "Statistique de l'Egypte," which has just been issued by the Minister of the Interior, shows that there are in Egypt one hundred and thirteen navigable canals and seven hundred and fifty-six smaller ones for purposes of irrigation, and, in addition to 107,000 sakiehs, shadouts and other ancient modes of raising water, there are at work in Upper and Lower Egypt nearly five hundred steam pumps. Ten years ago the value of the exports was under three millions sterling; they now amount to twelve millions sterling. Important results are anticipated from the projected Soudan Railway. The Soudan is described as capable of producing in large quantities grain, sugar and cotton.

Tidal Power Machine.—A practical trial recently took place in Brooklyn of Edward W. Morton's machine, worked by the rise and fall of the tide, the power thus derived to be utilized for mechanical purposes. The contrivance was tried at the foot of South Tenth Street, East River, before a large number of persons interested. The machine works by means of a "float," which, as it rises and falls with the waves of the tide, propels the machinery to which it may be attached. At the trial it was geared to a saw, and worked with the full rapidity of a circular-saw run by steam-power, although, perhaps, not quite so uniformly.—*Ex.*

Turkish Ironclads.—The Turkish government has four ironclad frigates of 900 horse-power and 16 guns each; one frigate of 750 horse-power and eight guns; seven corvettes carrying four or five guns each, and two monitors of four 150-pounders each. Several other ironclad war vessels are in course of construction.

Peat charcoal has been used in marine engines with satisfactory results. This form of fuel is quite as compact and much more cleanly than coal, and for many purposes will no doubt supersede it.

Weekly Variations in Stocks.

[Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Aug. 27, 1873.

NAME OF COMPANY.	IN FEET.	SHARES IN MIN.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co						
Alpha Consolidated	300	6000	20	19		3
Alta	3600					
American Flat		30000	4½	4		½
Arizona & Utah	1900	18000	1¼	1¼		
Bacon Mill & Mining Co.	65	24000				
Baltimore Consolidated		54000	7⅞	7⅜		⅛
Belcher	1040	104000	69	64½	2½	
Bell Belcher	224	22400	4	4		½
Bowers	20	5000				
Buckeye		16000	1	1		
Bullion	2500	25000				¼
Caledonia Silver M. Co.	5000	20000	19¼	16½		¾
Cenci	150	10800				
Central No. Two	100	20000	4½	4½		
Chollar-Potosi	2800	28000	37	35		3
Confidence Silver M. Co	130	24950	6¼	5⅞		½
Cons. Gold Hill Quartz	3145	29000	1⅛	1⅛		⅛
Consolidated Virginia	1160	23650	96	90	4	
Cook & Geyer	1600	24000				
Crown Point G. & S. M. Co	600	60000	85	80		
Daney	2000	24000	1¼	1		
Dardanelles	1200	24000				
Eclipse	70	25000	5	5		⅛
Empire Mill & M. Co	75	50000	3⅝	3½		¼
Exchequer	400	8000	7	7		½
Flowery	3000	12000				
Franklin			1	1		
Globe		20000	1	1		
Gould & Curry S. M. Co	1200	30000	10⅛	9¾		⅜
Hale & Norcross	400	16000	23⅜	22		1⅜
Imperial	184	100000	4⅛	4		⅛
Indus						
Insurance	2000	30000				
Jacob Little						
Julia Gold and S. M. Co	2000	30000	1½	1		½
Justice	3000	21000	5⅜	5¼		⅛
Kentuck	85	30000	7⅛	7		⅛
Knickerbocker	1200	24000	3	2		¼
Lady Bryan						
McMahon	3600	36000				
Mint Gold & S. M. Co	1600	50000	50c	45c		
Nevada	3000	30000				
New York Consolidated	3600	36000	62½c	59c		⅛
Occidental	800	10000				
Ophir Silver Mining Co	1400	16800	22½	19½	2	
Overman Silver M. Co	1200	12800	7⅞	6⅜		1⅜
Phil. Sheridan	1200	24000				
Pioton	2000	30000	25c	25c		5c
Rock Island		30000	50c	50c		10c
Savage	800	16000	41⅜	35		2½
Segregated Belcher	160	6400	33	30½		½
Segregated Caledonia		10000				
Senator Silver M. Co		24000	60c	60c		15c
Sierra Nevada		20000	8¼	8¼		¼
Silver Hill		54000	14¼	13⅞		⅜
South Overman		24000	16c	16c		
Sncor Mill and M. Co	1600	22800	1½	15c		
Sutro	800	24000	3	3		
Trench	20	50 0				
Tyler	2200	33000	50c	35c	5c	
Union Consolidated	803	20000	75c	75c		
Utah	400	20000				¼
Woodville G. & S. M. Co	1400	28000	1¼	1		¼
Yellow Jacket	1200	24000	48	44		1½
NEVADA.						
Adams Hill		50000				
Alps Silver Mining Co	800	30000	1	75c		½
Amador Tunnel & M. Co			2¼	2		¼
American Flag M. & M.		30000	5⅜	5		⅛
Arkansas	300	30000				
Belmont			1⅜	1¼		2½
Bowery		30000	60c	60c		2½c
Chapman Mill & M. Co		30000				
Charter Oak S. M. Co	1000	30000				
Chief of the Hill		30000	1½	1		½
Chief East Extension		36000	25c	25c		5c
Columbus M. & M. Co	10000	50000				
Condor		25000	25c	20c		
El Dorado South			2¾	2		⅜
Eureka Consolidated		50000	12⅜	11½		1⅜
Excelsior		12000				
Harper Silver Mining Co		30000				
Hermes	1000	30000	3½	3		½
Home Ticket						
Hubn & Hunt S. M. Co	3600	30000	1¼	1¼		
Ingomar Silver M. Co	1000	40000	50c	30c		10c
Ivanhoe		30000				
Jackson		50000	11½c	10c		2½c
Juniata Consolidated	5000	50000	7	6½c		
K. K. Consolidated			5	5		⅜
Kentucky Gold & S. Co	1000	30000				
Kinston	1000	30000				
Lehigh	1000	30000				
Lillian Hall	1000	15000				
Louise	2400	30000				
McMahon	1000	30000				
Marion		30000				
Meadow Valley	24023	60000	18	16¼		2½
Mocking-Bird	1200	30000				
Monitor Belmont			2	2		
Murphy	2000	60000				
Newark Silver M. Co	800	32000	4¼	3⅝		⅛
Pacific Tunnel & M. Co						
Page & Panaca S. M. Co	2400	40000	75c	50c		¼
Peavine	1000	30000				
Phoenix		50000	11½c	10c		1½c
Pioche Silver Mining Co	1000	20000	5½	4½		1¼
Pioche West Extension		35000	1	1		
Pioche-Phoenix		40000	1½	1¼		¼
Portland						
Raymond & Ely	5000	30000	74	69		
Silver Peak		30000	1¾	1⅝		⅛
SilverWest Consolidated						
Standard Mill and M. Co						
Star Consolidated	1800	50000				
Starlight	6900	25000				
Sterling		30000				
Spring Mount		35000				
Spring Mountain Tunnel		20000				
Ward Beecher						
Washington and Creole	200	30000	2⅜	2		⅛
Yellowstone						
CALIFORNIA.						
Alpine	1200	12000				
Bellevue	8000	20000				
Calaveras Gold M. Co	3200	20000				
Cedarberg Gold M. Co		24000				
Consolidated Amador						
Cottonwood Creek		20000				
Dunderberg M. & M. Co						
El Dorado Ind. Quartz M.						
Eureka Gold Mining Co	1680	20000	20	18	½	
Gillis		24000				
Independent Gold M. Co	1800	25000	1½	1⅜		⅛
Keystone Quartz		10000				
Mt. Jefferson	1560	25000				
Oakville Quartz M Co						
Rye Patch			7	6½		½
St. Lawrence M. & M. Co						
St. Patrick	1800	20000				
Tecumseh	3000	30000				
Yule Gravel	400	10000				
IDAHO.						
Empire		25000	6⅛	4⅝	1⅝	
Golden Chariot	750	10000	27½	24	2½	
Ida Elmore	1300	10000	8	6¼		1
Mahogany G. & S. M. Co	720	10000	9	8½		1
Minnesota Gold & Silver	1070	20000	20½	18½		½
Red Jacket			2	1¾		¼
South Chariot	680	20000	3	2½		½
War Eagle	1000	10000	62½c	50c		⅛
WHITE PINE.						
General Lee	1000	20000				
Mammoth Silver M. Co	1800	36000	10c	10c		2½c
Noonday	1000	20000				
Orig. Hidden Treasure	800	21333	3	2		1
Silver Wave						
Ward Beecher		24000				
UTAH.						
Deseret Consolidated	2400	30000				
Wellington		50000				
OREGON.						
Virtue	2300	20000				

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent datea given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Deling'nt.	Sale.	Secretary.	Place of Business.
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 23	C. F. Balcom,	426 Montg'y st
American Flat M. Co.	Washoe		50	July 22	Aug 26	Sept 16	G. W. R. King,	411 California ts
Buckeye G. & S. M. Co.	Washoe.	8	1 00	July 14	Aug 19	Sept 8	J. Mayne,	419 California st
Belmont M. Co.	Nevada	1	1 00	Aug 15	Sept 20	Oct 13	O. H. Bogart,	411½ California st
Chapman M. & M. Co.	Ely District	4	25	July 28	Sept 2	Sept 26	Frank Swift,	415 Montg'y et
Confidence M. Co.	Cal.	1	1 75	Aug 4	Sept 4	Sept 22	H. Hampton,	217 Sansom st
Cons. Gold Hill Quartz M. Co.	Nev.	1	75	Aug 4	Sept 3	Sept 29	R. Wogener,	414 California st
Charter Oak S. M. Co.	Ely District.		25	July 16	Aug 25	Sept 15	G. W. R. King,	411 California st
Caledonia S. M. Co	Nevada.	5	2 00	July 11	Aug 21	Sept 11	R. Wegener,	414 California st
Empire M. Co.	Idaho	4	3 00	July 16	Aug 26	Sept 22	C. F. Balcom,	426 Montg'y st
El Dorado South Cons. M. Co.	Nev.	1	1 50	Aug. 6	Sept. 12	Oct. 2	Wm. Willis.	419 California st
El Dorado Quartz M. Co.	Cal.		10	July 2	Aug 11	Aug 29	G. W. R. King,	411 California st
Eureka M. & S. Co.	Nev		20	Aug. 21	Sept. 22	Oct. 13	T. P. Beach.	217 Sansome st
" 420 " M. Co.	Nevada.	8	12½	July 25	Aug 28	Sept 16	H. O. Howard,	523 Montgomery st
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	C. S. Neal,	419 California st
Ida Elmore M. C.	Idaho.	10	1 50	July 25	Aug. 26.	Sept. 15	Wm. Willis.	419 California st
Julia G. & S. M. Co.	Washoe	15	75	Aug 5	Sept 8	Sept 27	A. Noel,	419 California st
Knickerbocker M. Co.	Am. Flat.	6	1 00	July 24	Aug. 26.	Sept. 15	Henry Boyle.	Stevenson's Bld'g
Lady Franklin G. & S. M. Co	Cal.		50	July 1	Aug 15	Sept 15	J. S. Luty,	507 Montgomery st
Mint G. & S. M. Co.	Washoe		10	Aug 20	Sept 24	Oct 16	D. A. Jennings,	401 California st
Mammoth S. M. Co.	White Pine.		10	July 26	Sept. 1	Sept. 22	J. L. King,	411 California st
New York Cons M. Co.	Nevada	5	25	Aug 4	Sept 6	Sept 25	H. C. Kibbie,	419 California st
O. H. Treasaure M. Co.	White Pine.		1 00	July 31	Sept 8	Sept 30	D. A. Jennings,	401 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 13	Sept 26	Oct 23	C. E. Elliott,	419 California st
Phoenix S. M. Co.	Eureka, Nevada		25	Aug 5	Sept 11	Oct 8	J. Maguire,	419 California st
Page & Panaca S. M. Co.	Ely District	4	50	Aug 12	Sept 16	Oct 6	L. Kaplan,	Merchants' Ex
Rose Creek M. Co.	Nev.	1	10	Aug. 5	Sept. 9	Sept. 30	S. Phillips.	408 California st
Savage M. Co.	Washoe.		5 00	July 24	Aug. 27	Sept. 15	E. B. Mondon,	Cr. Cal.& Sansome st
South Chariot M. Co.	Idaho.		50	July 29	Sept 8	Sept 29	J. L. King,	411 California st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A. Jennings,	401 California st
Succor M. & M. Co.	Washoe	6	75	July 31	Aug 30	Sept 22	W. H. Watson,	302 Montg'y. st
St. Lawrence M. Co.	Cal.	2	1 00	July 25	Aug. 23.	Sept. 16	R. B. Noyes.	411½ California st
Tecumseh G. S. & C. M. Co.	Cal		25	Aug 1	Sept 5	Sept 30	J. F. Hermann,	418 Kearny st
Tyler M. Co.	Washoe.	2	25	July 25	Aug 23	Sept 13	A. K. Durbrow,	Merchants' Ex
Yellow Jacket M. Co.	Washoe.	16	5 00	July 10	Aug 15	Sept 15	G. W. Hopkins,	Gold Hill
Woodville G. & S. M. Co.	Washoe.	2	75	July 16	Aug 19	Sept 6	A Noel,	419 California st
War Eagle M. Co.	Idaho	2	2 50	Aug 13	Sept 22	Oct 13	C. F. Balcom,	426 Montg'y st

Other Companies (not on the Lists of the Boards.)

Auburn G. M. Co.	Placer Co., Cal.	6	1 00	Aug 9	Sept 15	Oct 6	R. Wedgener,	414 California st
Alpine G. M. & M. Co.	Cal.		50	July 21	Aug 25	Sept 17	J. F. Lightner,	438 California st
Buena Vista Vinecultural Society.	Cal		5 00	Aug 5	Sept 8	Oct 1	N. Selmer,	409 Battery st
Beekwith M. Co.	Ely District.		15	July 7	Aug 11	Sept 2	W. H. Watson,	302 Montgomery st
Cedarberg G. & S. M. Co. Ext. M. Co.	Cal.	4	6	July 31	Aug 30	Sept 19	J. N. Webster,	506 Montg'y st
Caledonia M. Co.	Nevada	1	10	July 28	Aug 30	Sept 22	A. D. Carpenter.	605 Clay st
Caroline M. Co.	Ely District.	1	20	June 30	Aug 8	Sept 4	C. E. Elliot,	419 California st
Clear Lake Water Co.	S. F.		3 40	July 30	Sept 4	Sept 22	S. J. C. Swezey,	3 & 5 Front et
Cherokee Flat Bonanza Gravel Co.	Cal.	30	5	July 23	Aug. 26.	Sept. 15	H. Pichoir.	603 Washington st
Cincinnati G. & S. Co.	Cal		5	July 7	Aug 18	Sept 1	Wm. Small,	313 Kearny st
Commercial Coal M. Co.	Cal.		50	July 9	Aug. 16	Sept. 3	S. B. Hanson.	402 Montg'ry st
Day Spring G. M. Co.	Cal.		5	Aug. 4	Sept. 10	Oct. 1	C. F. Brown.	302 Sansome st
Excelsior S. M. Co.	Nevada		45	July 18	Aug 18	Sept 20	W. A. Kellmyer,	610 Washington st
Equitable M. Co.	Utah	3	10	Aug 8	Sept 12	Sept 29	C. S. Healy.	Merchants' Ex
Empire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakins,	230 Kearny et
Golden Eagle M. Co.	Cal.	1	10	July 15	Aug 18	Sept 8	R. Stevenson,	305 Montgomery st
Greenhorn G. M. Co.	Cal.		1 50	July 11	Aug 18	Sept 10	Joel F. Lightner,	438 California st
Hasloe M. & M. Co.	Cal	2	75	Aug 12	Sept 13	Oct 6	J. W. Tripp,	408 California st
Homeguera M. Co.	Lower Cal.	7	3 00	July 29	Sept 5	Oct 27	J. H. Applegate,	729 Montg'y. et
Kincaid Flat M. Co.	Cal		4 00	Aug 6	Sept 8	Sept 29	R. H. Cornell,	217 Sansome st
La Paz M. Co.	Ely District.		50	June 16	July 21	Sept 1	W. W. Hopkins.	411½ California st
Lady Emma M. Co.	Cal	4	15	Aug 20	Sept 20	Oct 13	A. D. Carpenter,	605 Clay st
Lady Eseen M. Co.	Utah	4	10	Aug 8	Sept 12	Sept 29	C. S. Healy.	Merchants' Ex
Lucky G. M. Co.	Cal.	1	10	Aug. 6	Sept. 6	Sept. 29	R. B. Noyes	411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 13	G. R. Spinney.	320 California st
Mazeppa S. M. Co.	Ely District	2	50	Aug 15	Sept 10	Oct 8	M. F. Game,	320 Sansome st
North Bloomfield Gravel M. Co.	Cal	27	1 00	Aug. 22	Sept 26	Oct 14	Thos. Derby,	329 Sansome st
North Star G. M. Co.	Cal		4 00	Aug 13	Sept 17	Oct 8	D. A. Jenninge,	401 California st
National M. Co.	Nevada		50	July 31	Sept 5	Sept 29	B. B Minor,	411½ California st
Placer G. M. & Canal Co.	Cal.		10	July 8	Aug 11	Aug 30	Geo. W. R. king,	411 California st
Phenix Tunnel & M. Co.	Utah.		10	July 2	Aug. 21	Sept 5	C. S. Healy.	Merchants' Ex
Pacific Coast Wrecking Co.	S. F.		5 00	Aug 5	Sept 12	Oct 6	G. S. Pratt,	204 Montg'y. st
Prine of the Mountain M. Co.	Nevada.		10	Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Rising Star M. Co.	Cal.	5	6	July 11	Aug 13	Aug 30	J. M. Buffington.	37 Merchants' Ex
Red Branch G. & S. M. Co.	Cal.	1	5	Aug 16	Sept 26	Oct 20	F. D. Cleary,	Merchans's Ex
Santa Cruz Coal M. Co.	Cal	3	5	Aug 19	Sept 23	Oct 11	L. Kaplan,	Merchants' Ex
Sandrson G. M. Co.	Cal.	6	15	Aug. 4	Sept.	Sept. 17	Wm. Barnard.	113 Leidesdorff st
Santa Cruz Coal & Trans'n. Co.	Oregon		2 01	Aug 4	Sept 5	Sept 25	H. L. Hutchinson,	537 Market st
San Jose M. Co.	Nev.	3	5 00	July 24	Aug. 25	Sept. 25	A Carrigan.	407 Front et
Stanislaus Water Co.	Cal.	2	2	July 2	Aug. 10	Aug 26	C. O. Tripp,	526 Kearny st
Summit M. Co.	Cal.	4	25	July 21	Aug 26	Sept 15	Geo. Davidson,	734 Montgomery st
Stickle Quartz M. Co.	Cal.		50	June 11	July 17	Aug. 30	E. Wheaton,	401 Montgomery st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 31	L. Franconi,	314 California st
San Marcial S. M. Co.	Mexico		1 50	Aug 22	Sept 26	Oct 16	C. F. Schulze,	426 Montg'y st
Umpire Tunnel & M. Co.	Utah		2	July 22	Aug 30	Sept 22	P. A. Eakin,	230 Kearney st
Union G. M. Co.	Cal	7	50	Aug 12	Sept 15	Oct 6	A. K. Durbrow,	Merchants' Ex
Washington M. Co.	Cal		2 00	Aug 11	Sept 16	Oct 10	T. B. Wingard.	318 California st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings,	401 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Cosala S. M. Co.	Mexico	Chas. Baum,	510 Battery st	Annual	Sept 15
Cerbat Cons. G. & S. M. Co.	Cal	T. E. Jewell,	507 Montgomery st	Annual	Sept 10
Ida Elmore M. Co.	Idaho	Called by Trustees,	419 California st	Special	Sept 9
Mohave Cons. M. Co.		T. E. Jewell,	507 Montg'y. st	Annual	Sept 8
Meadow Valley M. Co.	Ely District	T. W. Colburn,	419 California st	Annual	Aug 28
Noonday S. M. Co	Nevada	J. Maguire.	419 California st	Special	Aug 30
Pacific Mining Tunnel Co.		Wm. H. Knight,	331 Montg'y st	Annual	Aug 28
Rising Star M. Co.	Cal	J. M. Buffington.	Merchants' Ex	Annual	Sept 8
South Eureka M. Co.	Nevada	Called by a Stockholder,	409 Cal. st	Special	Aug 30
Segregated Caledonia M Co.	Nevada	A. C. Ryoe,	308 California st	Annual	Aug 2
Succor M & Co.	Nevada	W. H Watson,	302 Montgomery st	Annual	Sept 2
Virtue M. Co.	Oregon	C. F. Balcom,	426 Montg'y st	Annual	Sept 1
Victoria & Imperial T. & M. Co.	Utah	W. H. Watson,	302 Montg'y et	Annual	Sept 1

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	F. B. Cornwall.	Cor. Harrison& Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	7 00	Aug 9
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California st.	4 00	Aug 12
Cedarberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery st	1 00	Apr. 1
Diana M. Co.		N. C. Fasset.	220 Clay St	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Aug 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor,	419 California st.	1 00	Aug 20
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Aug 9
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Aug 14
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Aug 7
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 1
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	5 00	Feb. 1

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Raleston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May 7
First National Gold Bank of S. F.		N. K. Mastick, Ch'r,	M't. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	Pichoir,	Cor. Mont'g. & Wash. sts	1½ per cent.	Aug 15
German Savings & LoanSociety,	S. F.	Geo. Lette,	526 California st.	9 6-10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st.	9 6-10, 8 & 4 per cent	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No 8 Post st	9,75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r,	421 Cal. st.	1 per cent.	May 7
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April 1
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
Spring Valley Water Works.	S. F.	E. N. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r,	532 California st.	9 6-10 & 8 percent	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

Our Weekly Stock Review.

THURSDAY EVE., Aug 28, 1873.

The Mining Share Market, during the past week, has shown no more animation than it has for a month or so past. Everything is down to hed-rock prices; hut that seems no inducement to huyers to come into the market. There is no discouraging news from the mines to create the depression, and hoth dividend and non-dividend paying mines share the same fate in the market. So large a proportion of the community is interested in politics, just now, that there is little hope of much attention being paid to stocks until after Election-day has gone by. Our "Mining Summary" will give a good idea of the state of the prominent mines on the Coast, the information being carefully collated from journals publised in proximity to the mines mentioned.

Dividends paid this month by mining companies called on the Stock Board, amount to $1,270,000. They were paid hy the Belcher, Crown Point, Eureka, Eureka Consolidated, Golden Chariot, K. K. Consolidated and Minnesota. The following assessments were delinquent this month, amounting in the aggregate to $580,850:

Name.	Per Share.	Amount.
American Flat	$ 50	$15,000
Buckeye	1 00	16,000
Caledonia	2 00	40,000
Caroline	20	6,000
Carson Consolidated	10	5,000
Charter Oak	25	7,500
Cherokee Flat B Gravel	5	2,500
Empire (Idaho)	3 00	75,000
Globe	76	16,000
Golden Eagle	10	3,000
Hale & Norcross	5 00	80,000
Ida Elmore	1 50	16,000
Knickerbocker	1 00	24,000
Old Providence	10	3,000
Savage	5 00	80,000
St. Lawreuce Mill	I 00	20,000
Succor Mill	75	17,100
Summit	26	7,600
Tyler	25	8,250
Woodville	75	21,000
Yellow Jacket	5 00	120,000

The following ie a statement of the assessments and dividends thus far this year.

	—Assessments.—		—Dividends—	
	No.	Amount.	No.	Amount.
January	24	$650,050	7	$573,181
February	30	686,000	7	849,000
March	36	681,960	5	811,000
April	18	388,860	4	1,090,000
May	20	616,900	3	1,872,000
June	22	430,600	8	2,232,000
July	35	742,700	7	1,389,500
August	21	680,850	7	1,270,500
	206	$4,677,810	48	$10,087,181

This showing is a good one, as it proves stockholders to be $6,400,000 ahead. Still the mistake should not he made of supposing that these mines are the only ones paying dividends, for they are only those called on the Stock Board. Many and many a good mine is being worked in this State, which pays handsome dividends to its owners and which is never heard of, except by those directly interested.

MINING SUMMARY.

THE following ie mostly condensed from journals published in the interior, in proximity to the mines mentioned:

California.

ALPINE COUNTY.

MILL RUNNING.—Alpine *Chronicle*, August 16: The quariz mill of the Exchequer Company commenced active operations on Monday last. As all the machinery le new it does not do ae well as it probably will after it has heen running a couple of weeks. The bullion of the ore now being worked is of extraordinary fineness—965. Last week we menioned that the Exchequer Company had struck their ledge. They are now drifting on it, expecting to find a hody of good ore.

DEL NORTE COUNTY.

HAPPY CAMP.—Crescent City *Courier*.—The mine consists of 300 acres of good mineral land, running from the working point toward the town of Happy Camp; it is supplied with an abundance of matter from the South Fork of Indian Creek. This Co. are using a 4-in. hydraulic nozzle pipe, with a pressure of 180 ft. and working their extensive mines with a force of 9 men, exclusive of the Superintendent, J. R. Brett, and are taking out at lesst $100 per day. Owing to the dry season and the seepage in the Co.'s ditch, the Superintendent intends to suspend operations for a few monthe.

Lane. Rowland & Co. have located some new ground, situatcd on or near Clear Creek, in close proximity to the Klamath River. This new ground prospects rich in gold, and all that is needed is a few thousand dollare to open it for profitable working, the water being about 3 miles from this ground.

MARIPOSA COUNTY.

DOZIER MINE.—Mariposa *Gazette*: The location of the supposed mine is near the head of Drunken Gulch, about four miles from Bear valley—between the Mt. Bulliou Ridge and junction of Sherlock's creek and the Merced river. The formation is favorable for silver—so say those who know something of this kind of mining. The discovery was made by Dr. Dozier and W. L. Campbell. But little work has been done as yet. The vein, at the depth of 6 ft., is about 18 in. in thickness.

NEVADA COUNTY.

EUREKA MINE.—Grass Valley *Union*, Aug. 21: The Superintendent of the Eureka (Grass Valley) mine under date of August 16th, writes to the Trustees at San Francisco, as follows: "Owing to the scarcity of water, our running time for this week has been only four and a half days run with fifteen stamps. Our clean-up for the time is 1,110 ounces of amalgam. The bottom level esst cross-cut ie in 41 ft. We are still driving through the horse. No ledge or well in sight yet. The sixth level stopes look about the eame as last Saturday. We have commenced to sink a winze from the hottom of the sixth level, about 60 ft. west of the Idaho line. We have a good ledge to commence with. No other changes."

SUTTER COUNTY.

PHŒNIX MINE.—Sutter *Independent*, August 20: Workmen are now engaged on the 700-ft. level in this mine and have a body of ore nearly 60 ft. wide, with every indication of increaeing as they descend upon it. The foot and hanging walls are well defined and the rock is very easily managed.

THE ALPINE MINE.—Work on this mine, which is located at Plymouth, is progessing finely. A fine body of ore is being extracted and worked. The future of the Alpine looks very flattering, and we shall be glad to record a rich return from the mighty batteries that crush out the precious gold.

LINCOLN MINE.—A spleudid body of ore has been

struck in this mine, and the present Superintendent is sanguine that it will last for years to come. The clean-up made last week went far above the figures of the previous one. We hear it stated that the company intend to effect a fine 60 or 80-stamp mill on the site of the present one, this fall.

NEW SHAFT.—The Superintendent of the Kennedy mine, near Jackson, is about to tear down and remove the old hoisting works above the road to a new location, and prepare to sink a new shaft. The Kennedy is fast becoming one of the paying mines of the county.

Nevada.

BRISTOL DISTRICT.

SULTAN.—The vein in the bottom of the shaft is all ore, and is evidently improving in quality, as recent assays show. Two or three days ago some very beautiful specimens were extracted from this mine. We were shown one by Mr. Sultan yesterday. It resembled a bowl of chalcedony, perhaps 10 inches across, and filled with glittering ore.

CAVE.—Nothing new to note this week. The winze is being steadily sunk, and the tunnel run toward the point of intersection. Taking out the usual amount of ore, and working the same number of hands as at date of our last report.

CORNUCOPIA DISTRICT.

PLENTY IN A HORN.—Eureka *Sentinel*, Aug. 19: A private letter from A. McDonald, a mining expert, contains the following:

"I have examined the district and do not like it. They have a little ore on top of the ground, which, if assorted close, might mill $150 per ton. The section in which the quartz is found is very limited, and if there are ledges at all they run in all conceivable directions. If I owned the whole district I might think it worth while to prospect a little. The newspaper reports are all humbugs. I shall stay here two or three days longer, but do not expect to see anything to cause me to change my mind. People are coming in from all directions in great numbers, but I have not yet met a single mining man who does not entertain views similar to mine. The country around about has been well run over and nothing found yet of any value.

The district lies near the Oyhee River, and is at least thirty miles further from the railroad than represented. No wood nearer than twelve miles, and not even sagebrush for fuel."

PIOCHE DISTRICT.

AMERICAN FLAG.—Pioche *Record*, August 16.—Sinking the shaft rapidly on the vein, which is the full width of the shaft, and showing a fine streak of ore on the foot-wall, with bunches of good ore scattered through the whole of the vein matter. Working three shifts. Also drifting east and west from the seventh station, on the vein, which shows excellently on both drifts, the ore being fully equal in quantity and quality to that in the shaft. Shipped on the 5th inst., by Pritchard's fast freight, 18 bars of bullion, valued at $9,183.65, and yesterday, by Wells, Fargo & Co.'s express, $4,000, making $13,183.65 for the past week. The Company's mill is still running on Newark ore, and working it to a high percentage, as usual, but will shortly be put to work on their ores, when the bullion product will be increased proportionately.

PAGE AND PANCA.—The winze is now 102 ft. deep, below the 360-ft. level, having been sunk 12 ft. during the week. The water continues to prove a great source of annoyance, causing the sides of the winze to cave in many places, and necessitating very thorough timbering as fast as the ground is opened. More ore is showing itself, and the indications altogether are of a favorable character.

INDOMAR.—The face of drift on the 575-ft. level shows a marked improvement over our last report. The vein is larger and the ore of a higher grade. Have taken out more ore last week than for a long time previously. Employing the usual number of men.

CHIEF OF THE HILL.—The main shaft is now down 810 ft. below the level of the Burke tunnel, and sinking goes on night and day. A progress of 25 ft. has been made during the past week in the west drift on the 210-ft. level, with two shifts working. The slopes are looking as well as usual. There are now on the dump 84 tons of ore, and a small quantity is being taken out daily.

HAVANA.—There are now on the dump 40 tons of first-class chloride ore, mixed with a small quantity of base ore, on the dump. The ore at the bottom of the shaft is now the best that has yet been found.

MONTANA.—Have not cut the vein yet on the 173-ft. level. We learn that a new contract has been let this week, which must certainly reach it.

BROOKLYN.—Commenced drifting Friday on the ledge from the bottom of the winze, at the depth of 60 ft. The ledge is 2 ft. wide, of excellent ore — better than they have ever before taken on. We look for something good in the Brooklyn this week.

SILVER PEAK.—A little more ore was taken out last week than the week before. The mine is looking well generally. The workmen are sinking the shaft as fast as possible. The hauling of ore from the mine began on Friday last.

PIOCHE.—No change in the appearance of the mine. The usual number of men are employed, and about the same quantity of ore is being taken out. The ore is now accumulating rapidly on the dump.

MEADOW VALLEY.—The repairing in No. 5 is nearly finished. No. 7 is at work as usual. No developments of importance last week. The new hoisting works of the company will be put to work about the 20th of this month.

RAYMOND & ELY.—Between 60 and 80 tons of ore are taken out and shipped daily. No note of interest to make.

SIERRA DISTRICT.

HUMBOLDT.—*Silver State*, August 21: A quantity of ore from this ledge was recently run through the Krom Concentrator, at Star. A sample of the course concentration showed it to contain $529 87—330 75 in gold and $19,912 in silver. These tests were made by D. Van Lennep, of this place, and are correct. The mine is located near Dun Glen, and is one of the oldest in Sierra District.

ESSEX MILL.—The old Essex mill, formerly located at Dun Glen, has been moved to Unionville, and is now in the hands of mechanics for re-erection. It will be run on Arizona ore.

LOW WATER.—Buena Vista creek is lower than it has been at any time for years, and all the mills are at times obliged to shut down in consequence of the scarcity of water.

SALE.—Ex-Mineralogist White, of this State, went down to Indian District to look at the Eagle mine, Friday last, on which he is to report to a San Francisco company, now negotiating for its purchase for the sum of $10,000. We understand that his report will be favorable, and that the sale is a foregone conclusion.

STAR NEWS.—A two-foot ledge was struck in the American Basin in the early part of the week, and contains a goodly quality and quantity of ore.

Dick Nash is still at work on the Mammoth. The mine is looking well.

The Sheba and De Soto mines, as usual, are sending out daily a number of tons of first-quality ore. The mill is running on ore from the Sheba.

SILVANIA DISTRICT.

THE NEW MINING DISTRICT.—BORAX *Miner*, August 12: We learn from a gentleman just returned from this new mining district, Silvania, that the miners are at work on several ledges containing argentiferous galena, which works on an average about $200 per ton. Silvania is a promising camp, situated 15 miles south Alida Valley, and 4 miles southwest of the old Palmetto mill, and is well supplied with wood and water. The district has only been organized within the last two months. Mr. F. Mausing was elected Recorder, and has since recorded over a dozen rich surface mines. The miners are somewhat retarded in their work, on account of the Alida mill being closed at present. Nevertheless, some of them did not hesitate to bring their rock to Columbus for working, it being packed on a mule train. These parties are well satisfied with returns from the mill.

WHITE PINE DISTRICT.

MONTE CRISTO MILL.—*News*, Aug. 2: Now lying idle. Possesses 20 stamps, 6 pans and 4 settlers, with a newly constructed Stedefelt furnace attached. The water supply is ample, and timber in abundance in close proximity.

TRENCH MINE.—The 200 tons on the dump is about the richest average rock we have ever seen in this or any other district, having worked $300 and $500 to the ton.

The Abchardt & Aurora Company are busily at work on their new mill. The Stanford mill is steadily running and producing most satisfactory results.

Arizona.

CINNABAR.—Arizona *Miner*, Aug. 9: Col. Cauy has discovered a huge deposit of ore, which he, and others, pronounce good cinnabar ore. Specimens of it may be seen at this office.

TIGER DISTRICT.—Mr. Henry M. Herbert, Under-Sheriff of this county, arrived here last week from Tiger and Pine Grove districts, in Bradshaw mountains, with the good news that Messrs. Goodwin & McKinnon had just crushed and cleaned up six tons of War Eagle ore, and that the clean up netted them 35 ounces of gold, worth, at least, $16 per ounce. All of which is decidedly good and cheering.

A shaft was sinking on the California lode.

Jackson & Co's force were taking out ore. Their crushing works were idle. Cause—no water.

The ledge recently found near Prescott by D. Hatz, assays well in gold and silver.

This week has witnessed the departure of several placer miners for the Black Canon country, thirty miles southeast of Prescott, where report says, new and rich diggings have just been found by a party of Lynx creek men.

About the usual number of men—between forty and fifty—are at work on Lynx and Hassayampa creeks. Another rain, such as the recent one, would start several sluices.

The Governor visited Smith's mill, below Wickenburg, and reports the mill most admirably arranged and successfully reducing ores from the Vulture lode. The mill has been in operation about two months, and at the rate the ore has paid, in two months more the net earnings of the mill will pay the whole expense of erecting the mill, bringing water to it and building a road from the mill to the mine. No ore has yet been crushed from the richest part of the lode, but the ore crushed has averaged $30 per ton, and every pound of the ledge, 27 ft. in width, has been crushed. Water has been brought in a flume down the Hassayampa, a distance of 7 miles, at a cost of $7,000, and an abundant supply is assured. The ore is hauled a distance of 11 miles at a cost of $5 per ton. There is a gradual down-grade from the mine to the mill, and 8 tons are drawn with 1 team. Wood is abundant, and is delivered at the mill at $3 per cord. There is a little daily profit made at this mill, after paying all expenses, of about $360 per day, and it is estimated that there is ore enough in sight to keep the mill running for the next 10 years.

FROM MOHAVE Co. we have no news of importance. There is a great deal of energy displayed by claimowners in sinking upon and developing their claims, in order that their value may be determined upon, and, in most instances, a general feeling of confidence has been the result. There are many experienced men from California and Nevada in the districts of that county, at present, acting in the interest of capitalists, and it is probable that, before long, we will hear of transactions of considerable magnitude.

BIG BUD DISTRICT.—Arizona *Miner*, Aug. 16: In the Silver Stag mine there are two men working; we found it a very well defined ore, with regular walls of Tsicose slate. Upon stripping it, between 18 and 24 inches of rich silver ore lay together in one solid vein. A cut shows the west face of the vein to good advantage.

Taking pieces of ore from every stratum, leaves, bunches and specks of almost pure silver were seen in every piece, in whittling down which, with our knives, two or three dollars worth of silver must have been wasted. Besides the assays of from $200 to $1,000 gotten out by Mr. Jewell, of this place, a piece of poor quality of the ore recently taken to Cerhat, Mohave Co., by Governor Safford, was there assayed by a very competent assayer, whose certificate gives $400 per ton in silver, with traces of gold.

Mr. Hellings has let a contract for sinking a 20-ft. shaft, which is now being driven into the mine.

MONUMENT.—In the Monument 4,500 ft. has been located. The discovery location, upon which excavating is going on, is claimed by Messrs. Rees, Hellings & Shultz.

BOWERS' MILL.—Are working an arastra, in which ore from a very large ledge, out on the Verde road, is undergoing a working process. The ore is paying pretty well. They will not make a regular clean-up until some 30 tons are worked. To give an idea of the size of their lode, all that is necessary to say is that in less than two days the two gentlemen in question loaded a large freight train with the ore, which is mostly of a dark, reddish cast, containing numerous particles of free gold. The hauling of the ore cost them $5 per ton.

There is, at all seasons of the year, at the point they are working, a sufficiently large stream of water to run a 20-stamp mill. Below their place are several good mill sites, and here will Messrs. Barney & Hellings erect works, should their prospecting be crowned with success. Besides water, timber, grass and good roads are found in the locality of which we speak, so that a very short time may see it the liveliest mining district in the Territory.

MOHAVE COUNTY.

There is news that the Hibernia mine, in Cedar Valley District, has been sold to San Francisco capitalists for a large sum of money.

TIGER AND PINE GROVE DISTRICTS.

WAR EAGLE.—Three tons of ore produced $200. A week ago 35 oz. of gold was got from 6 tons. Abundance in sight of the same kind.

Jesse Jackson informed us that his claim on the same lode, was looking well. He has abundance of rich rock, and a recent thunder shower afforded sufficient water to enable him to go to crushing.

Wm. Cole and other miners have sunk 60 feet on another claim in the same ledge, and are happy in the enjoyment of a big pile of rich rock.

Various other individuals talk of building arastras, and we hope they will do so, as in such working lies our only salvation for the present, for, talk as we may, mining is our best, most reliable and trusty resource.

WICKENBURG.—Smith's mill in Wickenburg district, is crushing away, filling batteries and plates with the pure stuff. Everything works to a charm, and proprietor and employees are happy as clams.

Our placer miners are taking out the usual quantity of gold dust. The recent rains have been a God-send to them and the country.

YUMA COUNTY.

Mr. A. Frank, of Ehrenberg, on the Colorado river, who is now here, has been pleased to inform us that work will soon again be renewed on the Constantia lode. New machinery is coming from San Francisco, and the owners have great confidence in the richness of the mine, especially since tailings, worked in San Francisco, have paid over $30 per ton.

Now, that the heated term is about over, active operations will soon commence at Castle Dome and other points on the lower Colorado.

Mineralogical Notes on Utah, California and Nevada.

The following mineralogical notes of Pacific Coast interest are published by Professor Silliman in the *American Journal of Science and Arts:*

Enargite, $3Cu\,S + As^2Sb^3$.

This hitherto rare mineral exists in two or three localities in a district of Southern Utah, known as the Tintic District, about eighty miles south of Salt Lake City. The localities are (1) the Shoebridge Mine, (2) the Mammoth vein, Eureka Hill, East Tintic, and, (3) the Dragon Mine, East Tintic. All these localities occur in metamorphic crystalline rocks of the granitic family.

The Shoebridge locality furnishes finely crystallized specimens, associated with octahedral pyrite. The vein in which it is found fills a fissure about four feet wide in granitic rocks. This vertical fissure is filled to the depth of about 80 feet from surface with enargite mixed with pyrite. The whole mass is regarded as a silver ore. A sample of the ore made up from such stock as I had in hand yielded to fire assay 269·25 oz. troy of silver, or $347.34 to the ton of 2,000 lbs.; this is equal to 0 841 per cent. of silver, which is considerably above the average value of the vein. Below the depth of 80 feet, the character of the vein changes, as I am informed by one of the owners, Mr. Samuel T. Hatch, of Salt Lake City, to a vein of argentiferous galena, carrying some antimony. In examining many hundred pounds of the ore taken from above the galena zone, I found only enargite and pyrite with quartz and some heavy spar as a gangue—and not a trace of galena, as the analysis proves.

The enargite from Shochridge mine cannot be distinguished by the eye from that which was first mentioned by the late Prof. Root, from the "Morning Star Mine" in Alpine County, California (this Journal, II, xlvi, 201.)* It occurs both massive of a brilliant lustre and fractnre, resembling in color gray copper; and also in brilliant orthorhombic crystals striated on the terminal plane parallel to the longer diagonal. The crystals are sometimes 5 or 6mm. long, but more commonly are not over 2mm. in length. The forms are more simple than the crystals figured from Peru. Dr. Gideon E. Moore, who has studied those from the Morning Star Mine, informs me that their form is identical with the the Shoebridge mineral, and is expressed by the crystallographic formula $\infty P.\ 0P.\ \infty\breve{P}\ \infty.\ \infty\breve{P}\ \infty$.

Its pyrognostic characters conform to those of the Peruvian mineral, but it contains much less antimony than the California variety. Its specific gravity is 4·861 in fragments to 5·111 solid—almost that of pyrite, and somewhat higher than the Peruvian variety. Mr. E. S. Dana kindly furnished me some time ago the following approximate analysis of the Shoebridge mineral made by the chlorine method upon carefully selected crystals. He obtained,

Sulphur	34·35
Antimony	·95
Arsenic	17·20
Copper	46 94
Iron	1·06
Zinc	*trace*
Residue, (undissolved,)	*trace*
	100·50

The silver was not determined. The iron is probably due to the pyrite, with which the species enargite is intimately associated; this occasions also the excess of sulphur, in the analysis, which corresponds, however, sufficiently well with the formula given above.

At the "Mammoth Vein," in Eureka Hill, the enargite occurs in broad laminated masses somewhat resembling black hornblende, and stained green in the joints by the oxidation of a portion of the copper. It is associated with calcite and is quite free from pyrite. The blowpipe shows it to be free, or nearly so, from antimony. This locality has not furnished the enargite otherwise than in columnar and cleavable masses.

The mineral from Dragon Mine resembles the last named variety, but is more massive. Neither of the two latter varieties have been analyzed.

Bismuthinite, B^2S^3.

This species is found rather abundantly in three associated mineral veins in Granite Mining District, Beaver County, Utah, about ten miles west of Beaver City. The main vein, which is said to be about six feet in thickness, contains also bismuth ochre or *bismite*, Bi, staining the surface greenish yellow (a sign by which the vein has been traced at intervals, it is said, for about 2,000 feet,) and *bismutite* (hydrous carbonate of bismuth,) $Bi^4C^3H^4$, in yellowish-gray masses inclining to siskin-green. These last two species are due, no doubt, to the oxidation of the bismuthinite.

These three species sometimes form masses of considerable size, but more commonly the sulphid occure alone in a gangue of almandin garnet of a hair-brown color, with black hornblende, heavy spar and quartz. Yellow pyrite exists in small quantity in the gangue, and by its oxidation has furnished masses of iron oxides. No arsenical ores could be detected in the samples which have fallen under my observation, nor does the blowpipe detect either lead, antimony or copper.

Hitherto bismuthinite has been a rare species in N. America, and I do not know that it has before been found in quantity likely to give it a commercial value.† In the Beaver vein, the metal is said to form about five per cent. of the mass.]

When this locality is properly opened for mining we may hope to obtain an abundance of good mineralogical specimens of these several species. I am indebted to Mr. J. B. Meader, of Salt Lake, and to Col. Head of San Francisco, for the specimens from Beaver, which I have examined.

Wulfenite.

In a former communication (this Journ., III, iii, 195) I pointed out the absence, as far as observed, of phosphates among the mineral species found in the Wahsatch Range, and the existence of molybdic acid as wulfenite in its place. Further observation has confirmed this statement. In a subsequent visit to that region, and more recently, I have received from Major Wilkes, of Salt Lake City, wulfenite from the Empire mine, Lincin District, Box-Elder County, Utah, in the Wahsatch Range, which for beauty is rarely equalled by the same species from any known locality. The crystals are thin tablee 20 to 30mm. broad, of a pure yellow color set on a deep brown iron ochre, and making splendid cabinet specimens.

Orpiment and Realgar.

These two species are found with galenite in a vein known as the "Lucky Boy Mine," in Butterfield Cañon, which is in the Oquirrh Range on the west side of Jordan Valley, Utah.

Pricite.

This borate of lime, which I received from Mr. Thomas Price, in San Francisco, in March, 1872, has been noticed by Mr. Chase, and its mode of occurrence and probable origin described by him in this Journal (III, v, 287,) accompanied by two analyses. A recent examination of this mineral—of the soft chalky variety—affords the following results: Its specific gravity is 2·262 to 2·298. It resembles chalk, but is even softer than that mineral. Its powder under a half inch magnifying power is seen to consist exclusively of minute rhombic crystals. It is insoluble in water which removes only a very minute quantity of common salt, not a constituent of the mineral. It dissolves completely in dilute hydrochloric acid, and this solution promptly deposite abundant crystals of boric acid. Its filtrate is completely free of sulphates, and reacts only for lime, with a trace of iron and alumina. In the close tube it evolves abundant neutral water, and at a red heat fuses to a white enamel. The spectroscope discloses from its solution in hydrochloric acid only the double spectrum of horic acid, with the lines of calcium and sodium. It contains no carbonate of lime, which might very naturally be looked for. Five grams of the air-dried mineral afforded me by the volumetric method only 0·7 c.c. of CO_2, equivalent to 1-25,000 of calcium carbonate in the weight taken—hardly a trace.

Its water of constitution is very constant—and it is almost non-hygroscopic. Two determinations of the water in the air-dried mineral gave 18·395 and 18·40 per cent. of water, while two of the same dried at 212° gave each 18·29 per cent.

Dried at 212°, three analyses made by hydrofluoric acid—which leavee the boric acid to be determined by the loes—gave as follows:

	1.	2.	3.	Mean.	Ox'g'n ratio.
Water	18·28	18·29	18·29	18·29	1·8
Lime	32·38	31·37	31·73	31·83	1
Ns Cl. Fe Al	·93	1·00	·97	·96	
Boric acid	48·50	49·34	50·01	49·00	3·7

The oxygen ratio gives approximately 4B, 3Ca, 6H; the lime is a little too high. The probable formula of the mineral is $Ca_3B_4 6H$, which makes the mineral to differ from hydroboracite by containing one-third less water and no magnesia. This formula requires: water 19·43, lime 30·21, horic acid 50·36 = 100.

This mineral is certainly different from the cryptomorphite of How, to which it has been provisionally referred by Price and others. It has the microscopic crystallization described by Dr. Robb as belonging to the Nova Scotia species; but the absence of soda and the greater ratio of the protoxide base carries it much nearer to hydroboracite, from which it is separated by containing no magnesia and less water. It is certainly not a mechanical mixture, as its finely divided condition might seem to indicate. The microscope completely ensitains the constant results of analysis on this point. As it appears therefore to be a new species, I would propose for it the name *pricite*, in honor of Mr. Thomas Price, the well known metallurgist of San Francisco. Mammillary and radiate masses of aragonite, some of great size, but more frequently as crusts, occur with the pricite, and were at first mistaken by the miners for a variety of this borate of lime.

*Wrongly quoted in Dana (5th ed.,) p. 797, as in vol. xlv.

†I have observed it in minute prismatic crystals in the well-known chrysoberyl locality at Haddam, Conn.

[To be continued.]

SEVENTEEN years have passed since H. Deville first produced aluminum on a commercial scale; but the expectations regarding this very interesting and meritorious invention of the distinguished French chemist have not as yet been fulfilled. Although many of those expectations were somewhat exaggerated, they were not and are not so unreasonable as many people believed them to be; for a metal with so many valuable properties would be useful in many of the technical arts. Among these properties are a beautiful color that does not change in the air, nor yet in sulphurous exhalations, and further, remarkable lightness, an agreeable resonance, and a capability of being worked into any shape. Moreover, in the use or manipulation of aluminum, there have not hitherto been observed any deleterious effects.

Gum Plants.

In previous numbere of the PRESS we have given engravings of some of the most ueeful oil plauts, spice plants and fruits, indigeuons too, or successfully introduced into the United Stetee. We now pass to the consideration of certain gum plants, which, though nsually clessed among exotics, are yet susceptible to a certain degree of successfnl cnltivatiou in Californie.

Gamboge.

This gum resin is yielded hy severel plants. That known as Ceylon Gamboge is obtained from *Garcinia Morella*, a fiue tree with glossy foliage, somewbat like that of the evergreen magnolia, and repreeented in miniature hy Fig. 1 of onr engrevings. This plant is supposed to he a native of Siam, bnt hee beeu introduced extensively into other tropical countries. The gum is ohtaiued by making incisions in the bark, or hy breaking the branchee and collecting the juice as it drops. It is ueed as a pigment in the arts, aud medicinally as a purgative.

American Gamhoge is obtained from *Vismia Guianensis*, a shrubby plant found in Surinam and Mexico, which ahounds in a yellow, resinons juice, resembling in its appearance, as well as other properties, the gamboge of Ceylon. There ere other epecies found in Brazil and Guiana that yield similer resins.

Benzoin.

Sometimes called Gum Beujamin, is obteined from the stems of *Styrax Benzoin*, Fig. 2, a native of Borneo, and other Indiau ielends. Incieions are mede in the hark from which the jnice exudes, hut edheres. When dry it ie removed with a chisel or blunt knife. The gum which exudes from the uatural fissnres is considered the most valnable, having a stronger perfume than that produced from wounds in the tree. It is ueed medicinelly, hy perfume makers, and as a compound in the mixtures used ae incense.

Caoutchouc or India-rubber.

Oue of the principal plents furniehiug this suhstance ie *Siphonia Brasiliensis*, Fig. 4., a common tree in the forests of Para, Brazil. This gum exists in the tree in the form of a thin, white milk, and is obtained by making incisions in the trunk, from which it exudee, and is collected in vessels, and afterwarde converted into the homogeueous, elastic mase, familiar to ns ae India-rnhher, hy pouring the milk npon molds, and immediately holding them over a dense smoke. As it solidifies, another coating is formed over it, and the proces ie repeated until the required thicknese is secured. *Siphonia elastica*, *Siphonia lutea*, aud *Siphonia brevifolia* also furnish India-rubber of good qnality. Others of this genus yield an inferior, hrittle gum.

Gutta Percha.

This is the dried juice of *Isonandra gutta* Fig 4. a large forest tree, reaching a height of 60 or 70 feet, with a trnnk two or three feet in diameter. It ie a native of the islauds of Southern India, eepecially of Borneo and Snmetra.

Balata gum is an elastic gum ohtained from *Mimusops balata*, a netive of British Guiana, where it forms a tree of large dimensione. The milky juice is obtained by incision of the trunk. It dries very qnickly on expoeure to the air, if the air is dry, and can be molded into shape by heing firet softened in water. Thie gum seems to be of a character intermediate between India-rubber and gutta percha, posseesing the elasticity of the one and the ductility of the other, without the intractahility of Iudia-rnbber or the brittleness of pure guttta percha. It is successfully employed as an insulatiug medinm for telegraphic purpoees.

ONE'S HAND.—It is a profound study. No instrument devised hy man compares with it for complication. It is a hammer, a vice, a forceps, a hook, a spring, a weight; it puehes, draws in, and the fingers alone coutain elements of chisels, gouges, and all the tools a sculptor requires in modeling. From the elbow to the digital extremitiee ite movements are prodnced by nearly fifty muscles. So complicated ie the cordage of a hnman haud, expert anatomists can hardly keep in remembrance ite intricate mechanism. With it all the emotione of the mind may be hoth manifested aud intensified. How could a Frenchman talk with his hands tied? The hand is the prime minister of the hraiu. It ie the soul's agent in the accomplishment of its designs. It is a wonder of wonders.

THE Pensylvania R. R. Co. have at Philadelphia the largest rounde house in the United Statee. It has 44 tracks, aud accommodation for as many locomotivee.

How Salt is Made.

The Bay City *Tribune* gives the following interesting facts conceruing the mannfacture of salt by the varions procesece in the Saginaw Valley:

Of course the first etep in the mauufacture of salt is to get the brine. In sinking welle for this purpose the first etratum reached after passing through the alluvial depoeit on the eurface, is the coal field, covering iu this State an area of ahout thirteen couuties. Beneath this is the Parma sendstone, where the first brine is found, but it is so week that wells rarely stop here, but are pushed down through the carboniferous limeetone, and the gypseous group to the Napoleon eendstone, whence comes all the hrine. The depth of wells varies from 760 to 1,000 feet and even more, one well in the Portsmouth heing, we believe, 1,050 feet deep. The proposition has been made to put wells down to the rock salt, an estimated depth of 2,000 feet, and it is proheble that at no distant day, the suggestion will be acted upou. After the well is bored aud tnbed the hrine is pumped out with a steam pump, the working valve being 700 to 900 feet below the surface, according to the depth of the well. The brine hes a strength of from 85 to 100 per ceut. ae tested by a salometer. It bae many impurtiies, the principal of which is the carhonate of iron. The impurities are taken out in large settling cisterus, generally twenty feet hy thirty, holdiug from 22,000 to 25,000 gallons of hrine. Over the top of the brine is sprinkled a solution of caustic lime. The brine is then thoroughly "plunged," that is, it is stirred np until the lime is well mixed with the brine. It then stands in the cisterns ahout forty-eight hours before being drawn into the steam settlere in the salt block proper, where it is further prnfiled and brought to the point of saturation, that is, a point just preceeding the formation of salt cryslals. In the steem eettlers the hrine is kept warm and the little thin, square, salt pelliclee which form on the snrface and sink to the bottom, essist in carrying down the impurities. From the eteam settlers in

The Steam Evaporating Process,

It goes to the grainers, long wooden vats abont ten feet wide, aloug the bottom of which run galvanized iron pipee about four or five inches in diameter, through which exhaust or live steam is forced. The grainers are kept at a very high temperature, sometimes reaching 176 degrees, and the evaporation is very rapid. Twenty-four hours is snfficient to evaporate the water, leaving the grainer two-thirds full of a damp salt of a snowy whiteness. It is now "lifted" to the draining boards, a kind of pathway running over each grainer and communicating directly with the salt hins. On theee boards it should remain to dry thoroughly, twenty-four honrs, if possible, hefore going to the hins. It lies in the bins two weeke to complete drainage, when it is ready for inspection and barreling for shipment.

A large salt block in connection with a mill can he operated very cheaply. It can he rnn almost entirely hy the exhanet steam from the mill, which makee the expense little or nothing. Then the edgings of the mill furnieh ample material for the menufactnre of barrels. In one of our largest blocke the contract for mannfacturing the salt, the proprietor of course owning and furnishing everything, is let to a man for twenty-eeven cents per harrel, delivered on the dock. Add to this the coet of the harrels, and the actual cost of a harrel of salt ready for shipment ie from sixty to seventy-five cents; the latter figure probahly being abont the everage. Fine salt, delivered on the cars, brings at the present time about $1.50 per herrel, delivered on the dock $1.45. The capacity of steam blocke varies, the lergest in the valley being capahle of tnrning out ahrut 400 harrele per day. Each block has from one to four wells according to ite requirements. Oue block that we visited having five grainers and two settlere, with a capecity of 150 to 170 barrels per day, is said to have cost $19,000, and to have cleared it in the first yeer. It employs at present ahout sixteen men, and proposes to double its capecity, It is now shipping daily six car loads and 1,000 harrele by boat, and has made since the middle of April ahout 10,000 barrels. A barrel of salt contaius five bushele of fifty-six ponnds, or 280 ponnds.

The Pan Process

Is heing largely introduced of late and gives a very satisfactory grain of salt. The hoiling is more rapidly and easily controlled. The process recommends itself on account of the economy of heat and fuel, as also in the better separation of the bitter weters. The pans are of sheet iron, 120 feet long by 12 feet wide, and one foot deep. The front part ie protected hy a patent arch, which prevents the baking of the salt on the pans and tends to the more even distribntion of the heat. The salt as fast as made is raked out on the draining hoard, end the refuse or hitter waters are frequently drawn off. In

The Kettle Process

There are usnally from fifty to sixty kettles placed in douhle rows, over hrick archee, extending from the mouth of the furnace to the chimney, and separated merely by a dividing wall. The arches are three feet deep in front, but the hottom gradually risee to the hack kettles, where the space is only ten or twelve inches. The first kettles are protected hy patent arches. After hoiling a ehort time in the kettlee, crystals form iu the brine and eink to the bottom. When the hriue is hoiled to ahout one-third, the ealt ie dipped out with a ladle and thrown into haskets, etanding on the edge of the kettles, for draining. Thorough drainage is the important point, for if the hitter waters are not entirely drained from the eelt they are apt to give it a red, rusty color. The first preparation for

Solar Evaporation

Is to have a series of "covere" or wooden vats, each vat heving a roof running off or on, to protect or expose the brine, according to the weather. These separate vats with their covere are called "strings," and at the end of each string, eomewhat higher than the vate, are the settling cieterns, into which the brine is first pumped. No lime is used in settling in this process. After settliug, the hrine is drawn into the graiuing vete, and exposed to the action of the sun and atmosphere. The time required for evaporation of couree depends largely npon the weather, six weeks or two months heing the usual time. Two or three crope per season can be gathered, the first abont the 15th of July, the second in the early part of September and the third and last in October. The first crop is generally considered the best, ae it is coarser thau the others. Beef and pork packers prize thie salt highly on account of its coarsenese. After beiug gathered it is put in bins, drained and packed in bulk. Saginaw Valley coaree salt stands es high in the market as any other, and is in great demand for pork and beef packing. There are five solar fields in the valley, one of them coutaining 2,736.

General Statistics.

We give below a tahle ehowing the number of harrels produced in varions yeais, beginning with 1860. It will be seen that there was an immeuse increase from 1860 to 1861. Thie wee owing to the war, in the eerly part of which, the price of salt ran up to three dollere per harrel, of course greatly stimulating ite prodnction.

TOTAL PRONUCTION

	Bbls.
1860	4,000
1861	125,000
1870	646,515
1871	732,437
1872	724,481

We give only a few yeare, as our object is more to present a generel view of the bueinees, than to give a strictly eccurate stetistical accouut of it. The sum totel produced since the mauufactnre began, is 5,983,341 barrels, or nearly 30,000,000 hushele. There ere at present nearly 100 selt blocks in operation, several new ones heing erected this season. These blocke fnruish employment to ahout 1,000 meu, and represent a capital of $2,000,000. There will prohably be prodnced this year 750,000 or 800,000 harrels. These figures snffice to give one an idea of the magnitude of the ealt intereet in the Saginaw valley, and will convince any one that it is not to lumber alone that we are indebted for onr prosperity.

Of the total numher of harrels produced in 1772, the sixth and seventh inepection districts, comprising Bay City, Portsmonth, Salzhurg, Banks and Kawkawlin maunfactured nearly 300,000 barrele, or almost half. Bay City and Portsmouth are now one, and doubtless produce most of the salt made iu the two districts mentioned above. When the ahove estimate was made, one of our largeet selt blocks in the city was doing nothing; another has eince donbled its capacity; new onee are building, and from these data it is eafe to assnme that our city will, in 1863, produce half of the ealt made in the Sagimaw Valley. From that to the production of more salt than all the rest of Michigan, is bnt a step, which will be taken in the not very distaut future. In the compilation of the ahove article we ere indehted to Dr. S. S. Garrigues for much valuahle information, and also to the proprietors of eeveral of the salt blocks of this city and vicinity.

GUM PLANTS.

NICKEL.—Nickel was given its name by the discoverer, Comstedt, in 1751, in a derisive manner, it having heen extrected from the ore called copper nickel. The Saxon minere, in search of copper, diecovered a mineral resembling copper in appearance and color, but were disappointed in not ohtaining a particle of copper from it; they rejected it with the expression of a nick or copper nick, which name wae then converted into copper nickel. The emerald nickel ie a native mineral found encrusted ou chromic iron in Texas, Lancaeter county, Pa., aud is a hydreted oxide of nickel. Nickel hae a white color, intermediate hetween that of eilver and tin, hes a lustre between eteel and platinum, takes a high polish, is perfectly malleahle, may be forged when hot into bars, and bammered into plates when cold. It is very dnctile, and may be drawn into fine wires. Ite specific gravity is 8.28, and when forged, 8.7; coudncts heat, obeys the magnet, aud is itself capehle of becoming megnétic, but it loses its magnetic property when heated to 350°; it retains, however, the eame whenever alloyed with arsenic. The characteristice of the metal nickel were but little known in the heginning of this century, when it was thonght to be a modificatiou of iron, on account of its magnetic property; while others snpposed it to be an alloy of copper.

IRON ORE IN TASMANIA.—A large field of iron ore of superior quality hae heen discovered near Ilfracomhe bay, Tasmania. It it is now being profitahly worked, and companies intereeted expect soon to export largely the iron produced.

Useful Information.

Cements.

Many of these preparations, into the composition of which resins, gums and albuminous bodies enter, act by adhesion, while the mineral cements in architecture behave differently in consequence of a chemical union being formed between them, and the body of the substance. Cements are of many different kinds, according to the purposes to which they are to be applied.

For mending glass or china-ware, there are several receipts. One is as follows: Steep isinglass in water till it swells; dissolve in proof spirit to which a little gum-resin, gum ammoniacum, or rosin mastic, is added; heat gently before using. This resists moisture to a certain extent. Another is, two parts of shell-lac, dissolved in one of oil of turpentine, cast into sticks, to be dissolved in spirit and evaporated to the consistency of syrup. Keller recommends two parts of fish glue steeped for twenty-four hours, in sixteen parts of water, then to be boiled down one-half, an equal amount of alcohol is added, and the whole strained through linen; while warm, a solution of one part of mastic, in nine of alcohol, and one-half a part of gum ammoniacum gradually added. Shell-lac dissolved in spirit or in a concentrated solution of borax is very effective. White of egg mixed with quicklime, makes a very strong cement, but does not resist water well. Blood and the caseiu of cheese are substituted for the albumen of white of egg, for uniting metals and stone-ware. The cement used in philosophical instruments, to unite glass and brass, is made of five pounds of resin, one of beeswax, one of red ochre, and two table-spoonsful of plaster of Paris, all melted together. A colorless cement is made of white wax, resin and Canada balsam. Mastic is the common jeweler's cement.

In architecture a great variety of cements are used. These are known as building cements. Mortar is a mixture of slaked lime and sand in proper proportions. Lime alone is capable of forming a hard cement, if used in very thin strata, and between regular and tolerably smooth surfaces. Such mortars as have the property of hardening under water are termed hydraulic cements. Certain impure limestones when burned afford a lime which acts very differently from the pure "fat" lime as it is called. They usually contain, in addition to the normal carbonate of lime, carbonates of magnesia, protoxide of iron and protoxide of manganese, silica, alumina, oxide of iron, carbon and water, and the lime obtained by burning is made up essentially of lime (pure), with varying proportions of magnesia, clay and oxide of iron. Among the hydraulic cements are the Roman, Portland, Medina, Mulgrave, Parian and many others, all composed of similar or equivalent substances, but differing much in quality, to meet the varying requirements of the builder's art.

Iron and Steel in Early Times.

A late number of *Nature* gives the following interesting notes on the use of iron and steel by the ancients: "Iron was not in common use till long after the introduction of copper. It is far more difficult to procure, because it was not met with in the native state, and the fusing point is very high. The metallurgy of iron is more complex than that of copper, and when obtained it is a more difficult metal to work. According to Xenophon, melting iron ore was first practiced by the Chalubes, a nation dwelling near the Black sea; hence the name Chalupe used for steel, and hence our word *Chalybeate* applied to mineral waters containing iron. Steel was known to the ancients, but we do not know by what means it was prepared; it is tempered by heating to redness and plunging in cold water. According to some, the kuanoe mentioned by Homer was steel; but Gladstone prefers to conclude that it was bronze. Iron was known at least 1537 B. C. It was coined into money by the Lacedæmonians, and in the time of Lycurgus was in common use. It was used in the time of Homer for certain cutting instruments, such as woodmen's axes, and for plowshares. Its value is shown by the fact that Achilles proposed a ball of iron as a prize for the game in honor of Patroclee.

"Neither iron money nor iron implements of great antiquity have been found, because. unlike the other metals of which we have spoken above, iron rusts rapidly, and soon completely disappears, No remains of it have been found in Egypt, yet Herodotus tells us that iron instruments were used in building the pyramids; moreover, steel must have been employed to engrave the granite and other hard rocks, massive pillars of which are often found engraved most delicately from top to bottom with hieroglyphics. Again, the beautifully engraved Babylonian cylinders and Egyptian gems, frequently of corneliau and onyx, must have required steel tools of the finest temper. We have no record of the furnaces in which iron ore was smelted, but we know that bellows were in use in the fifteenth century B. C., in Egypt, and some crucibles of the same period are preserved in the Berlin Museum. They closely resemble the crucibles in use at the present day." We may add that Mr. Layard found an iron saw at Nineveh.

Curious Instincts of the Bee.

Honey bees are governed by instinct and not by art. They never deviate from the course they were created in. The first comb they ever built was as perfect as at the present day; no art has improved the shape or size. One bee lays all the eggs, while others raise the young and protect them; each bee does its part of the labor, in gathering in the stores and nursing the young; and I have noticed for several years past their mode of gathering pollen or bee bread. It is this: When a bee goes out after food, it alights on some kind of flower and gathers part of its load; then goes to another of the same kind of flower, and perhaps the third, to obtain a load. Another bee goes out, and if it alights on another kind of flower it keeps that kind until it gets a load. But how is this known? You go to the hive and watch them as they come in; some have yellow pollen on their legs; others have light color; others have dark; but no bee has two colors on his legs. If you see any, you will see more than I have, for I never did; and have supposed that they stored it in different cells for a change of food. The other day in overhauling a hive, I broke out a new piece of comb and found the different colors in different cells, which confirmed my belief; for I suppose that they like a change of food as well as human beings.

Another curiosity is their coming out and alighting before going off; for amongst the hundreds that I have hived, I never had one swarm leave direct from the hive. Another curious thing is their rearing the males and nursing them so tenderly; and after they become useless they destroy them. But instinct has directed them to do it. Another curious thing is that, when they get too numerous, the mother should call out a part of the brood to go with her and leave the others to take care of the young. Why not call them all out to go with her? Because instinct has ordered it otherwise. Certain ones go out with her while others are coming in with stores for future use. A certain part of them don't seem to have any inclination to follow the mother bee, nor do they mourn her loss, for another is provided.—*Selected.*

Fat Men.—It is a notable fact in criminal statistics, that no fat man was ever convicted of the crime of murder. Stout persons are not revengeful; nor, as a general thing, are they agitated by gusts of passion. Few murderers weigh more than ten stone. There are however, exceptions which justify us in assuming eleven as the utmost limit of the sliding scale, but beyond that there is no impulse toward homicide. Seldom has such a phenomenon as a fat horse-breaker been paraded at a criminal bar. It is your lean, wiry fellow, who works with skeleton keys, forces himself through closet windows which seemingly would scarce suffice for the entrance of the necessary cat, steals with noiseless step along the lobby, and up the stairs, glides into the chamber sacred for more than half a century to the chaste repose of the gentle Tabitha, and with husky voice, and the exhibition of an enormous carving knife, commands silence on pain of instant death, and delivery of her cash and jewels. It is your attenuated thief who insinuates himself under beds, behind counters, dives into hills, or makes prey of articles of commerce arrayed at shop-doors for temptation of the credulous passenger. A corpulent burglar is as much out of place, and as little to be feared as was Falstaff at Gadsill—and what policeman over yet gave chase to a depredator as bulky as a bullock? Corpulence, we maintain, is the outward sign not only of good constitution, but of inward rectitude and virtue.—*English Journal.*

Insect School of Medicine.—Insects bore a prominent part in the materia medica of former days; and then much could be said of their great value in preventing diseases and effecting cures. They were administered with as much confidence in their efficacy as is now given to the medicinal plants of the garden or the tinctures of the apothecary. They were generally given in the form of pills. Five gnats were equal to three grains of calomel. A lady-bird was a sovereign remedy for colic and measles, and a cockchafer for hydrophobia and the plague. Ants were considered to be invaluable against leprosy, and of great efficacy in strengthening the memory and giving wonderful vigor to the whole frame. An Italian professor declared that the finger imbued with the juice of a little insect having the pretty name of *rhinobatus antiodontalgicus*, will retain the power of curing the toothache for a year! These prescriptions are not now very often given, but it would not be the strangest thing that ever happened, if insect remedies should again be resorted to, and among allopathic, hydropathic, homeopathic and botanic physicians, we should find the entomologic physician, with his milliped, lady-bird and cockchafer, claiming a pre-eminence over all.

Gelatin is used in the laboratory as a test for tannic acid, in medicine as an emollient and demulcent, in pharmacy as a coating for pills and for capsule covers, and in cooking for making jellies and blanc-mange. Lately it has been employed as a photographic base in producing the photographic engravings, by being rendered sensitive by silver salts in the usual manner.

Good Health.

The Human Windpipe.

The windpipe is that tube through which the air or breath passes to and from the lungs. It commences in the throat at the root of the tongue, and extends down to the lungs, where it divides into two branches, one of which enters the right and the other the left lung. These branches are again subdivided into innumerable smaller tubes, which ramify in every direction through the substance of the lungs; and finally terminate in little clusters of cavities, which are formed around their extremities, like grapes around their stem. These are the *Bronchial Tubes* and the *Air Cells*. Now, the windpipe is composed of two parts; or rather—we give different names to different parts of the same tube. Thus the first or upper part is called the Larynx, and the lower part the Trachea. The larnyx commences at the root of the tongue, and extends down below that singular prominence on the front of the neck of man, known as the "apple of Adam," so named by the ancient anatomists, from the fanciful idea that it represented the difficulty experienced by our primeval ancestor in disposing of the forbidden fruit. The larynx is composed of several strong cartilages serving as a frame-work to protect the delicate organs of the voice. Being furnished with vibrative cords, it forms a perfect musical instrument, more or less under the control of the will. By the perfect action of these cords, the vocalist and the speaker are enabled to produce that infinity of sound which conduces so much to our enjoyment. The entrance into the larnyx is closed by a little valve, which rises up from the root of the tongue. This is the *Epiglottis*. On the approach of food or drink, the little sentinel compels the nutriment to pass on to the stomach, but will permit none to enter the windpipe. Below the vocal cords, which are situated from half to three-fourths of an inch below the entrance, the larnyx enlarges, becomes irregular, and soon ends in the trachea. The whole length of the tube to which the name larynx is applied, is not more than from one and a-half to two inches.

Carriage of the Body.—Instead of giving all sorts of rules about turning out the toes, straightening up the body and holding the shoulders back—all of which are needless, because soon forgotten, or because of a feeling of awkwardness or discomfort, which procures a willing omission — all that is necessary to secure the object is hold up the head and move on, letting the toes and shoulders take care of themselves. Walk with the chin but slightly above a horizontal line, or with the eyes directed to things a little higher than your own head. In this way you will walk properly, pleasantly, and with no feeling of restraint or awkwardness. If any one wishes to be aided in securing this habitual carriage of body, let him accustom himself to carrying his hands behind him, one hand grasping the opposite wrist. Englishmen are admired, the world over, for their full cheeks, broad shoulders, sturdy frames and manly bearing. This position of body is a favorite one with them, in the simple promenade, in the garden or gallery, in attending ladies along a crowded street, or in public worship.

Medical Uses of Charcoal.—A lecture was recently delivered before the Society of Arts, in London, by Mr. W. E. Newton, in which he attributed various virtues to peat and other vegetable charcoal. He stated that in the form of powder, put upon poultices, peat charcoal had been most beneficially employed in some of the London hospitals, especially in cases of offensive sores. It absorbs the putrid effluvia, and was of great benefit in cancers, etc. In many cases, when taken internally it was productive of good effects in those troubled with disordered stomachs, such as heartburn, sick headache, palpitation of the heart and giddiness. In all diseases of the chest, sore throats, diptheria or bronchical affections, peat charcoal has been found very useful. In France, a scientific commission appointed by government to investigate this subject, has reported very favorably in regard to the usefulness of this substance for a great number of purposes. A minute quantity of peat charcoal, in powder, boiled with some American corn starch and milk, has been given with almost miraculous success in London for curing dysentery.

Excreting Powers of the Skin.—Not only do the capillaries of the skin keep up an uninterruped discharge of carbonic acid, and take in oxygen in return, but this organ is also abundantly provided with small glands of two kinds, excreting from the blood the perspiration and the sebaceous or greasy substance of the skin. The perspiration contains many regularly detached scales of the epidermis. Beside a small quantity of fat, several volatile organic acids, consisting only of carbon, hydrogen and oxygen, are the principal constituents of the perspiration. The chemist calls these butyric, butyro-acetic, and formic acids, and classes them in one group as being in their composition very similar to the fatty acids, to which butyric acid belongs, also with respect to its other properties. These acids occasion the sourness of the perspired fluid. Common salt, chloride of potassium, sulphates of the alkalies, and traces of phosphates of lime and iron, are also dissolved in the perspiration.

Domestic Economy.

The Philosophy of Frying.

Perfect frying is the perfection of cooking; but as soon as the fat is not sufficiently hot to create the burnt crust around the article fried, then the fat penetrates it and absolutely prevents cooking from taking place at all. If the fat is not boiling, bubbling hot, the process that takes place is not cooking, but simply drenching the food with a tepid fat, and rendering it totally indigestible. It makes no difference how hot the fat is made afterwards, the mischief is done the moment the fat penetrates inside. All perfectly fried food has a thin crisp, brown, outside crust, (which has in itself a pleasant, relishing taste,) and is perfectly free from even the suspicion of fat inside, except what was intentionally put there by the cook. All housekeepers know that to fry well, their fat should be hot. But they do not attend to it half as scrupulously as they would if they understood the true philosophy of it. Boiling, bubbling hog fat cannot penetrate anything, and cooks to perfection; tepid fat penetrates everywhere, and does not cook at all, but actually prevents cooking. Any housekeeper who reads this, and chooses to profit by it, need never put any greasy, half-cooked and indigestible food upon her table. The whole secret consists in having the fat boiling before the things are put in. There is one other condition which follows naturally from this first one, which is almost invariably lost sight of even by good cooks, and that is that the fat should entirely cover the article to be fried. The reason of this is, that the part not at once covered by the fat remains cold, cools off the fat near it, and then absorbs the tepid fat just the same as if it had never been hot. Frying-pans should be deep, well filled and heated to the boiling point, and then it is easy to turn out fried food crisp, brown and dry on the outside, and perfectly soft, moist and well cooked within. It is a peculiarity of the outside crust of things fried in boiling fat that the fat itself drips off from it as readily as water; hence well fried articles are neither greasy in appearance nor very greasy in reality. Frying ought to be as easy as boiling.—*Christian Union.*

Indian Corn and its Uses in Domestic Economy.

A bushel of Indian corn contains more nutriment than a bushel of wheat; but Indian corn should not be ground fine, and it will not keep sweet. There is no grain that can be put to so many good uses and served up in so many different ways as corn end corn meal.

First, we have the green corn, roasting oar and soup in the early, and the dried corn soup and hominy the balance of the year. These dishes every good housekeeper knows how to prepare, being among the most simple in the culinary art.

And then by grinding it into meal, what visions of delicious eating float before our eyes. First, we have the corn cake, made of meal and water, and a little salt; if you are too poor to use eggs and milk, mix into a dough and bake on a griddle. Then corn bread or pone, which can only be made properly by about one housekeeper in ten. Then mush and milk and fried mush. We have never seen the individual that did not like one or the other. Many fail in making good mush by not boiling it enough. When it is merely scalded it has a raw taste. Then there is a very good corn meal pudding, made by stirring the meal into scalded skim milk till it is as thick as gruel, and when cool, add ginger, cinnamon, nutmeg, salt and sweetening to suit the taste, and a little fine cut suet and some raisins or dried peaches, and a fine cut apple. It should bake an hour or more, according to size. This is a good pudding. And then see into how many dishes corn becomes a palatable and favorite mixture. It is the cheapest and most wholesome food that man can live on, and should be on the table of both rich and poor more frequently than it now is, in some one of its many forms.—*Germantown Telegraph.*

A piece of red pepper, the size of your finger nail, put into the meat or vegetables when first beginning to cook, will aid greatly in killing the unpleasant odor arising therefrom. Remember this for boiled cabbage, green beans, onions, chickens, mutton, etc.

MINING AND SCIENTIFIC PRESS

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San Francisco:

Saturday Morning, Aug. 30, 1873.

Legal Tender Ratee.—S. F., Thurs., Aug. 28.—huying 86¾; selling 87¼.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Reported Ascent of Mt. Whitney; Value of Foreign Patents; A Mining Scene, 129. The Filling Up and Cleaning Out of Modern Rivers, 136. The State Fair; Mexican Mines; Transportation and Freights; An Improved Portable Water-Heater; The Panamint Mines; Quicksilver, 137.

ILLUSTRATIONS.—A Hydraulic Mining Scene, 129. Gum Plants, 134. Woolsey's Portable Heater, 137.

CORRESPONDENCE.—Vienna Exposition; Notes of Travel in White Pine County, Nevada, 130.

SCIENTIFIC PROGRESS.—Chloral Hydrate; How the Duration of a Flash of Lightning is Measured, 131.

MECHANICAL PROGRESS.—Krupp's Guns; Testing the Quality of Iron; Granulated Iron for the Danks Puddler, 131.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 132.

MINING SUMMARY from various counties in California, Nevada and Arizona, 132-3.

USEFUL INFORMATION.—Cements; Iron and Steel in Early Times; Curious Instincts of the Bee; Fat Men; Insect School of Medicine, 135.

GOOD HEALTH.—The Human Windpipe; Carriage of the Body; Medical Uses of Charcoal; Excreting Powers of the Skin, 135.

DOMESTIC ECONOMY.—The Philosophy of Frying; Indian Corn and its Uses in Domestic Economy, 135.

MISCELLANEOUS.—How are the Deep Placer Mines of Plumas County to be Rendered Productive? 130. Gum Plants; How Salt is Made; Nickel, 134. Patents and Inventions, 137. Narrow Gauge Vindicated, 138.

HEAVY PAN.—The Gold Hill *News* says: "A huge cest-iron pan, for the reductiou of tailings, passed np Mein street, this morning, on one of Gallagher's big wagons, drawn by a crowd of horses. It was as large as a pig-pen, weighed over 13,000 ponnds, and was lebeled on its starboerd side, in big white chalk letters, "Seratoga Trunk." It was cast at the Gold Hill Fonndry, and hes gone to Parke & Bowie's mill, Six-mile Cañon. It is intended for three sets of mullere, and it is the heeviest pau of the kind ever cast."

THE White Pine *News* suggests that a Commission, consisting of say three persons, well versed in the busiuess of mining and judges of varions characters of ore, he appointed by the next Legislature to collect specimens from the numerous districts of Nevada, label them properly and place them on exhibition at Philadelphia during the coming Centenuial Exposition.

THERE is a uice little muss now on the carpet between *Engineering* and *The Engineer*, which calls forth some pretty sharp language. This is quite an innovation on the usual dignified indifference of the Euglish periodicals. We are too well used to that sort of thing this side of the water. Speaking personally, we don't fight when we can get out of it.

CANON CREEK, Trinity county, is oue of the prosperous mining campe of the county; the claims being marked are generally deep hanks of heavy gravel and red loam. The outlook for mining next winter seems very favorable.

A SLUTHOUR PUMP is heing worked by a donkey engine, on the Government lot, near the Post Office, for the purpose of freeing the excavation of water. We gave a detailed description of this pump some time since.

THE GOLDEN CHARIOT MINE in Sau Diego County has a ledge seven feet wide upon rock from which a mill is kept running night and day.

THE late rains in Arizona have given an impetns to placer mining there.

The Filling up and Cleaning out of Modern Rivers—Formation of Alluvial Bottoms—Great Tunnel Scheme, etc.

A good example of the manuer in which deep aud narrow ravines become filled up and finally couverted iuto alluvial valleys, and river hottoms, is preseuted at many points whsre hydraulic mining is now beiug prosecuted in Califiornia. One ot the most notahle iustances of of this kind is fouud along Bear river, and its principal trihutaries. For more than twsnty years these streams have heen the receptacles of the teilings from the rich and extensive mining regiou drained by them. Originelly they were steep and nerrow gorges, having, however, hut a moderate descent. Owing to this letter feature, the dsbris from the mines began early to make lodgement aloug them, so early thet much of ths auriferous grevel on their banks was covsred np hefore it could be washed; and only a comparatively small portion of their heds was ever worked out. In this respect these were different from most other strssms throughout the mining regions of Celifornia, nearly all of which have a steep greds. and consequently a swift current thet bears off the sediment bronght into thsm, and deposits it a long way below.

Effects of the Winter Freshets.

For some years at first the winter freshets sufficed to sweep away the greater pert of these tailings lodgsd here dur ing the rest of the seeson. But being afterwards augmented by the repid extension of ths hydraulic weshings they at lsngth accumnlated to snch a degree that a portion of ths lower stratum remained undisturbed, having psrhaps first ohtained a permanent foothold during an extremely dry winter. After this the greatest floods failed to clean out these streams altogether, ths ordinary winter freshets serving only to reduce the volume of their contents by carrying off the lighter and more worthlese material, while the coarser seud, gravel and shingle, including most of the gold end quicksilver, impacted into a solid mass, wae left behind. The highest stages of water occurring during the past twelve yeers heve been insufficient to ley bare their beds at more than a few places, nearly ell situated some distauce below the seat of active hydreulic operations. For a long time past these creeks and rivers have heen so filled up that the falls and rapids along them have completely disappeared, the gravel occupying their chenuels, aud which wes a descent of about 50 feet to the mile, heing graded as evenly as the bed of a railroad.

Wben left to the operations of natural causes the formation of tbese alluvial hottoms is conducted something after this manner. Floods occurring from time to time, hring down and leeve along the hanks of the streams a quantity of sediment. Having subsided, the redueed volume of weter mekes for itself a cbannel through thie sediment, keeping it till another overflow occurs, which mey aud often does fill up tbis chenuel, or wash out additional ones, meking, meeutime, new deposits over tbe entire face of the flat, or so much thereof, as mey heve been submerged. And so this procedure is kept up one year after another, until this alluvial wash accumulating gradually raises the surface higher and higher, aud enlarges the area of these valley lands till the passage way that the water has made for itself becomes so broad and deep that the stream seldom any more overflows its banks, end the process of land-making is arrested, or proceeds here very slowly, the great mass of the debris beiug thereafter carried on and left at points further down.

Action of Hydraulic Washings.

Where these ravines are filled np with hydraulic slums the mode of procedure is somewhat different. In extremely wet winters, the floods sweep away the top layers of gravel, lowering the surface from side to side but leaving the great hody smooth and uutouched. During the rest of the year the water, reduced to a comparatively small volume, runs iu a numher of shallow channels, which readily filling up with sand, clay and gravel, are ahandoned for new ones, and in this manner the entire surface of the deposit is gradually raised, heing at the same time kept at a uniform level. Sometimes as many ss half a dozen rivulets will be seen meanderiug aloug these flats with much scattered water flowing between them.

For the past ten or twelve years the annual increment of tailings in these streams has ranged from ten to thirty feet, while the reduction caused by high stages of water has gone on at about two thirds that rate. With dry winters their bulk has heen reduced hut little, while with extremely wet ones a large proportion of them has heen run out. Latterly the water has acted upon them with dimiuished force owing to their hecoming so much impacted and spread out over so great a surface.

Extent of these Deposits.

In linear extent the tailings occupy the bed of the main Bear river for a distance of more than sixty miles, reaching all the way from Elmnore Hill, a little above Dutch Flat, to the mouth of the river. In some places they ere not over 100 feet wide on the snrface, while at others, whers the river channel is spreed out or covss have been formed hy inflowing streams, they expaud to a width of four or five hundred fest. In depth they are equally variable, heing more than 100 feet deep at some places, while they ars not over 20 or 30 feet deep at others. Above Colfax, the section richest in gold, they are estimated to hava an average depth of 60 feet end a width of 200; this applying to Greenhorn Cañon, Steep Hollow, Missouri Cañon, and other tribntaries of Bear river as well as to the main trunk itself.

Auriferous Bottom Lands.

After leaving the foot-hills, Bear rivsr, like all the streams descending from the Sierra, flows with a less accelerated current aud through a brosder channel, whereby extensive hars and flats have been formed along it from these hydrenlic washings. As only the more comminuted particles of clay and sand have heen floated this far down, we have in these the elements for a good soil, portions of these new mede lends, as well as others adjacent, that have heen enriched by the overflows of Bear river, having been cultivated with success. Mingled with this saud there is of course a great deal of gold, nons of which can ever, perheps, be gathered with profit owing to its uupalpehle fineness and to its heing mixed up with such a disproportionate emount of harreu metter. Did the gold exist hers in much larger quantity and under otherwise more favorebls conditions it conld not bs collected to advantage by any of the msans or methods now in use, becanse of a lack of sufficient fall along this portion of the river to admit of sluics washing. As a rule, the fnrther we go hslow the mines the smaller the quantity of precious metal contained iu these slnms. Afisr leaving the vicinity of the large hydranlic claims the amount of free gold, as well as of quicksilver, amalgem, sulphurets and hlack send diminishes at the rate of two or three per cent. for every fivs milss we make down stream.

The Fatal Trouble to be Dealt With.

But much as ths tailings up uear the mines ahound in thess valuahle snbstances, the same trouhle is encountered here that confronts us further down, there heing a leck of snfficient fall to admit of uninterrupted sluics weshing on a large scale. Fortunetely, this difficulty is not irremediehle. The North Fork of the American River, seperated from Bear River hy a narrow divide, runs in a hed uearly 800 feet lower than tbat of the latter etream, rendering it possible, hy the construction of a tunnel through this divide, to pass these tailings out of Bear River and dump theu into the North Fork, where they can never more be the cause of any trouhle, the gold heing extracted from them while on their passage from oue stream to the other.

This project has been talked of and the necessity of ite execution long foreseen; hut not until the present eummer has any party determined to cerry it out practicelly. In the month of April last a company was organized in this city for the purpose of determiniug by careful examination the quautity and valae of tbese tailings, the proper site for a tunnel, the cost of its construction, outfitting, etc. After three months spent in the field, a corps of able engineers and experts, having reported favorahly on the scheme, hoth es regards feaeibility and resultant profits, this company will proceed at once with the work, the firet step heing to settle the style of drilling machine to he employed in driving the tuunel, in connection with which all needed drafts and surveye have heen made, and other preliminary work completed.

Quality and Value of Tailings.

According to the report of the Company'e Mining Engineer, there are 50,000,000 cuhic yards of these tailings now resting in the hed of Bear river, and its brauches ahove the site of the proposed tunnel, and all of which will have to he passed through it. These tailinge it is calculated will yield ahout 65 cents to the cnbic yard, making an aggregate product for the whole mass of nearly $30,000,000, aside from the quicksilver and sulphurets they contain. The quantity of quicksilver mixed up with this material is estimated at 400 tons, most of it existing in the form of amalgam. It is helieved the tunnel can be completed and the eutire work be outfitted and placed iu runniug order within eigbteen months from the time the machiue drills are set up, it being the intention of the engineer to drive the excavation from eight different faces—six from a shsft—and two inclines to he sunk along the line of the tunnel, and one from each end of it.

Character and Cost of Tunnel, Etc.

This tnnnel will he 12,540 feet long, will be 12 feet wide and nine feet high and will he run on a six-inch grade—that is, it will have a fall of six inches to every 12 feet. It will set in four feet below the hottom of Bear River and come out 300 feet above the North Fork, making a descent of 394 feet on its passage through the divide. The site fixed on for this tuunel is at Cape Horn, a noted locality on the Central Pacifi Railroad. A flume reaching from side to side will he laid down along its entire length. This will be paved with large cohble stones, except a few hnndred feet at the npper end which will he laid with hlocke. A similar structure will he laid down in Bear River through which to pass the tailinge, this being advanced up stream as faet these are rnu out. The principal gold saving apparatus will be placed below the tunnel along the North Fork, it being intended that this shall bs of the most ample and perfect kiud. It is the purpose of this company to seve everything of valne, the quicksilver end sulphurets as wsll as ths flour gold and hlack sand, to which end no peins or necessary expeuse will be spared. Ths flumes, gates, dems, &c, are to he built of messive timhers and to he auchored into the hed rock with iron holts in such a manner that no flood can move them.

It is calenlated that the

Entire Cost of this Work,

Tnnnel, flumes, gold saviug appliances, Etc., included, will amount to ahout $600,000, and that the gross annual revenues will bs abont one and a half milliou dollars for the first year, two and a quarter for the second, aud fonr and a helf for every yeer thereafter, this incrsased product heing due to the greater richness of the gravel as work is advanced up stream. It would require tsn years to exhaust the stock of material on hand if no accessions were meantims made to it. With new snpplies constently coming in it will reqnire nearly twics that time to approximately clean out these chaunels, there heiug, of course, no such thing as keeping them entirely free from tailings as long as mining itself is coutinned. There can, therefore, be an end of these operations only when the business of hydraulic washing shall itself ceass, au event not likely to happen in this century nor yet in the next. It is

Matter for Public Congratutation

That an outlet for these tailings is likely to be furnished at an early day, as they hed already accumulated to a troublesome extent and if suffered to go on unchecked, must have soon seriously obstructed many mines tailing into thess streames. Ths work is said to he iu excellent hands, the company haviug it in charge being mads up of some of onr most sterling bnsiness men, and of practical miners interested in the section of country to hs hsnefited by thsir proposed operetions. Thet the euterprise is entirely feasibls, admits of no douht, nor is there any qnsstion but it will prove immensely profitahle to those concerned in carrying it out.

THE HASKIN'S perjury snit which has attracted so much attention iu mining circles and has heen going cn for some time in Selt Leke City, has heen dismiseed. A dispetch from there, deted the 27th, says: The case of Col. Enoe A. Wall, upon the cherge of perjury preferred hy J. W. Haskin, which hee heen on hearing before Justice Clinton for several days past, was dismissed this afternoon, the Court fully exoneeting the accnsed hy saying in snbstence that the evidence showed that Wall'e teetimony hefore Judge McKean, which was the basie of ths charge, wes well founded end trne. This therefore, so far as the Justice's Court goee, establishee the fect that the famous Great Eestern end Great Western mining cleims in Little Cottonwood were mythical as to actuel locetion and development, aud have been hrought up epperently to devour the Hiawatha, Last Chauce, and other valueble minee in the vicinity. It will be remembered Haskin was first arrested et the instance of Wall for perjury in reference to the same metter, and is yet under hail of $5,000 to anewer.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's Office, San Francisco

SOUTH ALMADEN QUICKSILVER M. Co.—Aug. 21: Object, to work certain lodes and deposits of cinnahar and other precious metals in New Almaden Township, and to carry on the general business of mining and smelting. Directors—John Chapman, James A. Hale, John L. Armstrong, George G. Hoag and I. Bluxome. Capital Stock $3,000,000, in shares of $100 each.

POORMAN G. & S. M Co., Aug. 25.—Location: Owyhee county, Idaho Territory. Capital stocks: $5,000,000, in shares of $100 each. Directors: David D. Colton, Geo. W. Beaver, Mark L. McDonald, E. M. Fry, T. J. Shackleford. All the capital stock has been subscribed.

ANAHEIM WHARFING AND TRANSPORTATION Co.—Aug.: 26. Object, to construct and maintain wharves, docks, piers and warehonses at Anaheim Landing and at other places within the State of California, and to do a general wharfing, dockiug, warehouse and transportation business within the State. Trustees—Michael. Reese, John B. Felton, Ohadiah Livermore, Theodore Wetzel and James M. Taylor. Capital stock, $500,000, in shares of $100, of which $ 60,000 have been subscribed.

DELIA G. AND S. M. Co.—Aug. 27. Nevada county, Cal. Directors—Jacob Bachtel, James Colley, J. M. Hixon, J. F. Atwill, John W. Bucklin. Capital stock, $4,000,000, in shares of $100 each, of which $500,000 have been subscribed.

Meetings and Elections.

CLAY STREET HILL RAILROAD Co.—Directors: A. S. Hallidie, Jos. Britton, H. L. Davis, James Moffit, Robert Sherwood, Charles Kohler and William Sinon.

NORTH BEACH AND MISSION RAILROAD Co.—Directors: John Morton, James T. Boyd, Jerome Lincoln, Calvin Paige, Michael Skelly, J. C. Wilmerding, Michael Reese, and T. L. Barker. The company have paid ten monthly dividends during the year, each one-half of one per cent, aggregating $50,000.

CALEDONIA S. M. Co.—Aug. 20: Trustees—A. K. P. Harmon, (President); W. E. Dean, (Vice-President), W. S. Hobart, B. Peart and Martin White. R. Wegener, Secretary; A. C. Hall, Superintendent.

WARD BEECHER CONS. M. Co.—Aug. 19: Trustees—B, F. Sherwood, Camilo Martin, Wm. B. Bourne, H. G. Blasdel, Robt. Sherwood, G. Pinkham, J. E. de la Montagnie.

CEREBERG M. Co.—Trustees: N. W. Spaulding, (President,) Joh M. Seamans, S. G. Beatty, E. Lathrop, Jr., and E. Tripp. The mine turned out $74,000 in bullion during the past fiscal year, and paid $48,000 in dividends to stock holders. There is now a cash balance of about $5,000 on hand. The shaft has been carried to a depth of 200 feet, and a new level will he opened.

THE Hibernia mine in Cedar Valley District, Mohave Co., Arizona, is said to have heen sold to parties in this city.

The State Fair.

The grand agricultural carnival of California is approaching, and from the note of preparation heard on every hand, we are assnred of one of the most attractive Fairs ever presented in the United States; California, of all the States of the Union, has the means to make it so. Our stock breeders have ransacked the whole of the Western and Atlantic States to secnre the best blooded stock known to exist, and they have, without regard to cost, secured the best blood of the country, or of the world, and this stock will be on exhibition; inclnding horses, cattle, sheep, goats and swine, with fancy and sterling poultry in great variety.

In the department of frnits, the liberal premiums nffered by the society will call nut, we are assured, from the applicatioue made for room for display, a larger and finer exhibit of the leading varieties of the fruits of the fall season, than was ever made before. There are a large nnmber of visitors from the East, some nf them waiting pnrposely to see the exhibit, with the avowed object of making arrangements for the purchase of large quantities for the Eastern markets, if promising varieties are presented. This ought to stimulate our fruit growere to come on with their best frnits, and ehow the world what they can do. It will not be the quantity on exhihition, but the quality as adapted to ex port, with a statement of the quautity that ean be fnrnished, etc., that will tell.

Let those who have fine wines of California growth, bring them out; strangers want to taste them, and this is what we want; we want to get rid of them at remnnerative prices, eo that we will not have to drink them ourselvee. Persons having anything a little finer and hetter than can be grown or gotten up in any other conntry, ehould exhibit them for premiums and for sale, at the State Fair to he held at Sacramento from the 15th to the 20th of September, inclusive.

Mexican Mines. — Our old correspondent, "Valverde," of San Dimas, Mexico, sends ns a few items from that locality, as follows: "Lae Agnas (i.e. the rainy season) has finally set in, and we are practically eealed in for four months. Our supplies are laid in, however, and so let it come. The San Luis mine people have come on a fine hody of ore, and are taking out a few tons of $500-ore per day, and considerahle $140-ore. The Angusta Tunnel, for the Bolañoe mine, has resumed work, and they are driving it ahead rapidly. They have 700 varas to rnn, and will come iu 59 feet below the 'Planes' of the miue, or 631 feet deep. The entire tnnnel will he 393 feet in length.

The Solidad mine, the Gnadalnpe mine, of Tayoltita, and San Rafael mine, of San Vincente, are doing well. Mining is looking up in these camps, and the starting-up of an American stamp mill, of Capt. C. B. Dahlgren's, has started every "Buscon" in the count:y to hnnt for ore. Henry Janin has lighted on a good thing here, and so has F. Snndell, of Mariposa. Thirty tons of $250-ore come out per week, eo far, and the production will be increased as soon ae eeveral old mines are pumped out, and hoisting-works put in others, or tunnels finished, etc."

The Panamint Mines.

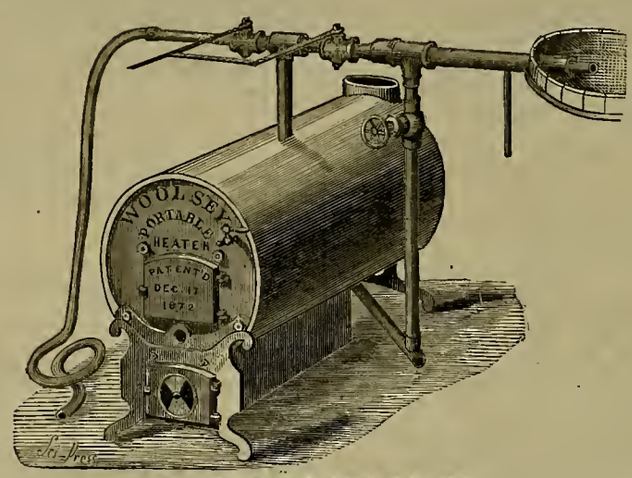
N. D. Christie writes to us from the Panamint mines, saying that he has made a carefu examination of most of the principal mines in that newly discovered helt of silver-hearing veins, and is fnlly convinced that many of them are valuable, and that this new mining region ie deetined to pay a large trihute of wealth to the conntry. He is fnlly satisfied that the "Wonder of the World" is a very valuahle mine. Thie mine in many placee ie from 20 to 25 feet in thicknese, and at least 6 feet of it will pay upwards of a hnndred dollars a ton. It will furnish plenty of good ore to keep a 20 stamp mill running for years. There is plenty nf wood and water here. Natnre has indeed heen generous in her henefactions, and favored the region with uot only rich and extensive miues of silver and lead, hnt with evcrything necessary to work them. As the place progresses and the mines become developed Mr. Christie will keep us posted.

Dr. A. K. Stearns, a vigorous prospector from Butte county, has discovered a very promising lode of galena. The lead ie about 4 feet in thickness, and will average 60 per cent. in lead to the ton. R. C. Jacobs, who is a very intelligent miner and a good metallurgist, is firm in the helief that the miues of Panamint will eurprise the world.

An Improved Portable Water-Heater.

The accompauying illnstration represents Woolsey's portable water-heater for domestic purposes. It consists mainly in a novel method of cnntructing the heater, and nniting the different parts eo thst it ie easily made tight without tbe use of joints. The outer shell of the boiler is made light, as it ie not required to etand mnch pressure; the inside ehell forms the fire box. The two shells are brought together at their lower edges, and at this point are united by rivets, leaviug an open space over which the grate liee. A pipe rieee from the top of the boiler and branches off as showu. These branches have cocks wbich are connected by levers, so that when one is opened the nther will be closed. Oue of theee branchee leads off tbe heated water tbrough a hose or hy other means. Tbe other branch leads out a short distance to the bottom of a harrel or tank. This branch leading to the tank is a douhle pipe, oue inside the other. The outer or larger pipe conducts the cold water into the hoiler, uuder it, and the smaller pipe carries the water, after it is heated, back into the tank, if it is not desired to draw it off. Tbe larger pipe takes the cold water from the bottom of tbe tank, and ae the emall pipe dischargee the hot water, it naturally rises to the top.

Whenever tbe water is heated in the hoiler, and when it is not needed for heating purposee, a circulation will be kept np hetween it and the tank so thst all the water will become heated and when, by reason of uee, tbe water



WOOLSEY'S PORTABLE HEATER.

in the hoiler is lowered, that from the tank will flow in and take its place. Ae this water is already heated, no cessation of the work need result. It affords a convenient method of utilizing the waste heat and preventing any accumulation of pressure within the hoiler. The whole device is cheap and effective, and would be very ueeful on farms for many purposes. On dairies, in particular, where hot water is needed so mnch, a emall machine like this would he invaluable. John S. Woolsey, of Gilroy, Santa Clara County, Cal., is the inventor.

Cleaning Quicksilver—"Valverde" writes ns from San Dimas, Mexico, and describes a method he has adopted for the purpose of cleaning quicksilver, which may he useful to some of our readers. He eaye: "I place 1,000 pounds of quicksilver in a hasin, and force nothing hnt cold or warm water through it from helow, and any grease or foreign matter is carried off. Any 'sick' mercury or calomel is also taken away. It is a cheap and useful method, and will keep mercnry nice and clean for any length of time. If one has not eteam power, etc., water may he led in pipes, and with the proper fall will answer. I have nsed it for aeveral years. The 'Mercury Pot,' as I call it, has a cock and valve to draw off the clean mercury. Care must he exercised not to force the water too violently, so as to cut up the quicksilver too much, and so carry off finely divided particles."

Ore shipments from Little Cottonwood last week were greater than for any other week this season. Six of the principal mines aggregate over 2,000 tons. It is estimated that there are hetween 3,000 and 4,000 tons on the dumps, Reports from other districts in Utah indicate a like improvement.

Transportation and Freights.

We puhlished in our last issne the circnlar issued by Senator Casserly, stating that the Sub-Committee of the United States Senate, which is empowered to inquire into the facilities for transportation by rail and sea, would meet in this city, to begin its husiness in relation to the Pacific Coast. Senators Casserly and Mitchell are the members soliciting the information relating to this coast. Senator Mitchell, of Oregon, being detained at home through sicknees in his family, the duty devolves upon the California Senator. On Tuesday last, Mr. Casserly met the committee appointed hy the Chamher of Commerce to confer with him, and during a preliminary conversation amongst them, one of them asked Mr. Casserly if Congreas could regulate these matters. Senator Casserly said this was a perplexiug question, and one that meu were afraid to face, although all were deeply anxious on the point. The Senator produced certain docnments arranged for statistical information, which he eaid it would be desirable to nave filled up. The headings of these documents were: "Average rate of freight on wheat from San Francisco to England, each montb dnring the last five yeare from 1868 to 1872, inclnsive." "Shipmente of wheat from San Francisco each month during the last five years, from 1868 to 1872 inclusive." "Average price of the leading grade of wheat at San Francisco, each montb dnring the last five years—1868 to 1872, inclusive." "Receipts of wheat flour, corn, rye, oats and barley at San Francieco, for fifteen years—1858 to 1872, inclusive."

He had eent a circnlar to the Farmers' Granges all over the State, eo far as he could ascertain them, and aleo to the newspapers in thie State, Oregon, and Nevada, defiuiug the nature of the inqniry, eo that pereous desiring to fnrnish any information would know what to do. It was desirable that persons who had any information to fnrnish should commnnicate with them as soon as possible.

At the meeting Mr. Capp was appointed to collect statistical information. During the proceedings the fact was developed tbat the Virginia and Truckee railroad, 52 milee long paid a profit of $40,000 per mile, per annum, being its entire cost. Freight from here to Reno was a cent and a quarter per pound.

Mr. Casserly read a printed document of the Senate, ehowing that the inquiry covered all means of transportation to the seaboard from the interior, thue embracing almost every deecription of route, and in reply to Capt. Eldridge he etated that the inquiry would also relate to the traffic with China and Panama, and up and down the coast, and with the Sandwich Islands. He expected to get answers soon to the circulars sent into the interior, and he believed a great deal of information could he ohtained in San Francisco. The meeting was only a preliminary one and adjourned subject to call of the chairman.

The Shipments of throngh freight eastward over the Central Pacific Railroad for the six months ending June 30, 1873, were, from San Francisco, 23,899,435 pounds, and from Sacramento and otber interior points, 2,655,032 pounds, a total of 26,554,367 pounds, or 1,328 car loade. The shipment for the eame period iu 1872 were 31,034,056 pounds and in 1871, 23,797,703 pounds, showing a decrease this year from 1872 of 4,479,689 ponnds, or 14 7-16 per cent., and an increase over 1871 of 2,756,675 pounds, or 11⅝ per cent. The principal items of freight in 1873 were: wool, 13,700,057 ponnds; tea, 2,927,434 pounds; coffee, 1,835,588 pounds; wine, 1,632,724 pounds; flour, 1,543,250 pouuds; leather, 776,321 pounds.

The digginge at Spanish Camp, Grant County, Oregon, fnrnish employment for 20 white men and a numher of Chinamen, who are makiug fair wagee.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, DEWEY & CO., Publishers and U. S. and Foreign Patent Agents.]

By Special Dispatch, Dated Washington, D. C., August 26th, 1873.

For Week Endinn August 12th, 1873."

Fastening for the Meetinn Rails of Sashes. Myron Gee, Oakland, Cal.

Dredginn Machine.—Albert Boschke, S. F., Cal.

Fauit Box.—Chas. W. Weston, S. F. Cal.

Hay and Grain Unloaden.—Wiuford J. Webber, Hollister, Cal.

Elevated Wire-Way.—Carlos E. W. Bnnster, Valparaiso, Chili.

Cookinn Furnace. — Henry Englemann, Salt Lake City, Utah.

Cookinn Furnace.—(Same ae above.)

Car-Couplino.—Richard B. Buckner, Gilroy, Cal.

State Fairs.

We have compiled the following list nf State Fairs to be held tbie year which will he neefnl to many of our readers for reference:

American Pomological Society, National Exhibition of Frnit, annual fair at Boston, Septemher 10, to —.

New Hampshire Ag. Aesociation, at Manchester, Sept. 30th.

New York State Ag. Society, 33d annual fair at Alhany, Sept. 24th to Oct. 1st.

Pennsylvania Hort. Society, annual exhihition, Philadelphia, Sept. 15th to 19th.

Northern Ohio Fair Association, annnal meeting at Cleveland, commencing Monday, Sept. 29th.

Ohio, Mansfield, Sept. 1st; Nehraska, Lincoln, Sept. 1st; Iowa, Cedar Rapids, Sept, 8th; Indiana, Indianapolis, Sept. 10th; Des Moinee, Des Moines, Sept. 16–4; Illinois, Peoria, Sept. 15th; Michigan, East Saginaw, Sept. 15th; Wisconsin, Milwankee, Sept. 22d; Kansas, Topeka, Sept. 22d; Miunesota, St. Paul, Sept. 23d; Montsna, Helena, Sept. 29th; Northern Kansae, Atchison, Sep. 8th; Cincinnati Exp'n, Cincinnati, Sept. 3d; Kansae City Exp'n, Kansas City, Sept. 15th; Missouri, St. Louis, Oct. 6th; Arkansas, Little Rock, Oct. 13–5; Georgia, Macon, Oct. 27–5.

California State Ag. Society, annnal fair at Sacramento, Sept. 15th to 20th.

The State Vine Growers and Brandy Makere' Association join tbe State fair ae nsual.

San Joaqnin Valley Ag. Society, annual fair at Stockton, Sept. 30th to Oct. 3d.

Santa Clara Ag. Society, fair at San José, Sept. 22d to 27th, inclusive.

Northern District Fair, annual fair, Maryeville, Sept. 8th to 13th, inclusive.

The Upper Sacramento Valley Agricnltnral Society's Fair, at Chico, on the 22d, 23d, 24th, 25th, 26th and 27th of September.

Santa Clara Valley Agricultural Society, at San José, Septemher 22d, 23d, 24th, 25th, 26th and 27th.

Santa Cruz District Fair, Soquel, time not fixed. The Santa Cruz *Sentinel* says: We learn from Mr. John S. Mattison, President of the Connty Agricnltural Club, that a County Fair will he held this fall in Santa Cruz, and that a committee has heen appointed to cousider time and place, ways and means, etc., nf holding the fair.

Napa and Solano District, annual fair, Vallejo, Sept. 9th to 13th, inclusive.

Sonoma and Marin District, annual fair at Petaluma, Oct. 6th to 11th, inclusive.

Contra Costa County Fair, annual show at Pacheco, Sept. 22d to 26th, inclusive.

California Farmers' Union hold their annual meeting and election of officers at Sacramento, September 17th, 1873. All the Farmers' Clubs and Grangee of the Patrons of Husbandry in the State are entitled to send delegates. One delegate for every ten members, and one additional for every fraction of that numher over half.

The Yellowstone Expedition ie having a little Indian fighting hy way of variety, and the extensive preparatious made for resisting them have heen fully justified. Several hattles have heen fought, hut the Indiane were whipped eaoh time. At one time a party of 800 Indians made an attack but lost ahout 40 of their numher. Over twenty of our men were wounded and three were killed.

Arizona wants more good practical miners and less specnlators without means. She wants men of meaus, and no mining experts, prophets or wiseacres. If Arizoua gets more men of means and practical miners than she wants, there is plenty of room for the surplus eupply elsewhere. She is not aloue in her "wants" for her needs are identically those of much older mining States and Territories.

The Carson Mint employe 50 pereons, seven of whom are women. The dishursements at the mint fnr lahor and material amount to about $10,000 per month.

Narrow Gauge Vindicated.

For the past few years no snbject, perhape, has excited more discussion in engineering circles than this vexed one of the proper width of rsilroad tracks. Argnments have been advanced on either side, broad and narrow, in overwhelming profusion, without leading to oonviction in case of a member of the opposing faction, so far as we know. The narrow gange party, on the one hand, have succeeded in proving to their own sstisfaction at least that the general system and rolling stock of the majority of existing roeds are cumbrous, expensive aud obsolete; while the wide gauge advocatcs have decided the revolutionary eystem to he slow, insecure and pnerile in character. But actnal experiment is whst has been needed, to prove comparative merits and demerits, and experiment on a large scale, in order that deductions made from it may be general. This practical experience has at least heen had in the case of the Festiniog railway in Wales and the Denver and Rio Grande R. R. of our own conntry. Several less important lines have been constructed on the narrow gsnge plan; we propose now to consider only the qnestions involved and points demonstrated in the very snccessfnl rnnning of the Denver and Rio Grande road, as collected from the late most interesting report.

The company saved about 37½ per cent. in the first ccst of construction and equipment of its road hy reason of the adoptiou of a gauge of 3 feet instead of 4 feet 8½ inches. This is a clear saving, hecanse the road is eqnally well hnilt in every respect and its capacity as great as thongh it had heen of the wider gauge. The passenger cars have proven comfortahle and at least as steady in riding as those on the wider roads, and the freight cars have carried satisfactorily all classes of traffic, hulky and concentrated. There has been no accident on the road, and the centre of gravity of the cars is so mnch lowered that one conld hardly occur that would he traceahle to the gauge. In addition to first and second class passengers, the road has carried dnring the past year freight of great variety in character. Beeidee heavy articles,—coal, ores, stone, lumher, iron, hardware, grain, etc.,—it has carried wool, furnitnre, hay, wagons, and other freight of the lightest and most bulky natnre; while, of conrse, on this last class, the henefit derived from the gange by the saving in dead car weight has not beeu so great, yet there is no class of freight npon which the proportion of paying to non-paying weight has not been in favor of the narrow gauge as compared with the wide.

Freight Cars.

With conceutrated or hcavy freight, which constitntes on this, as on nearly all railroads, the great bnlk of the tonnage to he transported, the advantage realized has been 35 per cent. That is to say, thirty-five hnndredths more freight has been regularly carried on the narrow-gange rolling stock, with the same total weight of cars aud load as on the broad-gauge. This can he most readily seen by observing a trsin of 16 loaded cars (which weigh say 8½ tons each when empty) arriving at Denver on the broad-gauge roads, and their contents transferred to the Denver and Rio Grande Railway. The same freight is placed in 20 narrow-gange cars, the empty freight of which is somewhat leas than 3 tons each. But it very often happens in the ordinary conrse of railroad business that cars are very freqnently not loaded to their capacity, in which event the narrow-gange receives a proportiouately greater henefit. For instance; if from any station there was a load of hut 5½ tons to carry, the narrow-gauge car would weigh no more with this load than the broad-gauge car wonld, entirely empty.

The narrow-gauge cars are not too light to atand the rough nsage for any lengtb of time; becanse, as all the other cars on the road are likewise light, they are not subjected to any more momentum or crushing force in proportion to their strength than a wide-gauge car is where all are heavy; and further, it is a well known fact in mechanics, that small structnres are much stronger in proportion to their weight than large ones. The cars have proved large enough to carry even the most hulky kinds of freight, such as wool, furniture, etc. Cattle and horses can he carried and although the road is not yet constructed sufficiently far sonth to obtain mnch cattle business, yet in time this may he looked for as furnishing a large traffic, and the road is preparing for it. The stock cars already bnilt are 6½ feet wide. 28 feet loug, weigh 8500 pounds, and carry nine head of cattle. The animals stand lengthwise with the car, which is hetter for them than sidewise, as they can steady themselves more readily. The dead weight of car to on animal is in the case of the wide-gauge, 1357 lbs., aud narrow-gauge, 844 lbs.

But for short cattle the cara are wide enough to carry the cattle in the usual way, in which case the narrow-gange car carries 13 head of cattle, or withiu onc of as many as the broad-gauge.

Passenger Cars.

The cars are comfortahle, well ventilated, handsomely fitted np, and the 25,000 passengcra who passed over the road last year certainly rode as steadily, and, as far as could be jndged, altogether as satisfactorily as ou any wide-gauge road. As far as space is concerned, the whole passenger travel of Europe is carried in compartment cars, practically lesa roomy and not nearly as well ventilated. The first-class cars seat 3 passengers across the width of the cars,—two on one side of the aisle and one on the other,—an arrangement which, by increaeing the proportion of naesengers who can have seats by themselves and adjoining the window, makes it mnch easier to fill all the seats.

Even three seats are not occupied on the average in wide-gange cars. A certain nnmher of passengers are acquainted, and wish to sit side hy side; others prefer to he alone. It is difficnlt hy supervision to stow away passengere as one wonld freight: the traveler taking one eeat, and his carpet-hag the other, thns preventing intrusion. The car adopted hy the company appears to suit the average conditions of travel oetter than one of either two seats or four.

The first-class narrow-gauge car ie 7 feet 2¾ inches wide inside; 35 feet 4½ inchee long, weighs 7½ tons net, and seats 36 passengers, —an average of 417 ponnds of car-weight to one passenger. The broad-gange day-car weighs 19½ tons, and can seat 56 passengers, —an average of 696 ponnds of car-weight to one person.

Sleeping Cars.

Sleeping cars are nsed with mnch greater advantsge than on the wide gange, becanse although people unknown to each other can generally with some effort he made to sit on the same seat, they cannot well he made to sleep in the same bed. The practical result is that the traveler pays for two beds and the railways carry the extra weight and width for two heds to one person. So it happens that while the present Pullman car weighs from 25 to 30 tons, it carries on an average but 15 customers. The Denver and Rio Grande Company has not a length of road sufficient to reqnire night travel, hut when it has, sleeping cars will he introduced which will weigh less than 10 tons aud accommodate 20 travelers. The conches will not be so wide as to allow the sleeper to roll nneasily with the movement of the train, bnt instead of paying for two berths he will pay for hut one. They will be every whit as comfortable as those on the wider gange, and still leave ample space for the aisle. When a single person wishes, as freqnently happens,—especially in the case of ladies,—to take an entire section, he will pay for two berths only, instead of fonr, as at present.

Speed and Safety.

It is to be hoped the good sense of the lines will prevent any general increase in their speed, at least to any extent; hut trains have heen run during the past year ou the Denver and Rio Grande Railroad at 30 and even 40 miles per hour, and it is impossible to see why they cannot, if it hecomes necessity, increase their present rates as readily as on tbe wide gange.

As regards safety, the cars are no more likely to npset thsn on the wide gauge, becanse the centre of gravity hae been greatly lowered. This is confirmed hy the year'e experience on the road. A car on the wide gange road, it is true, he made considerably wider than it commonly is without this danger, hut that would reqnire a hroader and costlier road, and in the practical transaction of the carrying trade the nnit of the grsss bnsiness, the car-load, has proven to he already to lsrge. It wants to be reduced rather than he enlarged. There is one respect in which the narrow-gauge car is nndoubtedly eafer to travel in than the wide gange,—that is, in the rednction of the momentum, wbich is the measure of the difficulty of stopping its headway in case of danger, as well as the concussiou in case of colision or heing thrown from the track. To carry 100 passengers on a narrow-gange road, the weigbt of the cars alone would he 18 tons, instead of ahont 36 tons as on the broad gange, consequently the momentum at the same speed wonld be bnt little over one-half.

A positive advantage is claimed from the rednction of the carrying capacity of a car below what it now is on wide-gauge roads. It so freqnently has to go partially loaded in the practical, everyday working of the bnsiness that it wonld he hetter if it were smeller. It is well known how rarely a passenger car is fnll; although capahle of seating 56, the cars probably do not average in the Unted States over 25 passengers to the car. In the heavy Pnllman car it is but 15. It is the aame with freight to some extent. The railroads in the United Statea carry at least fonr times aa much total weight yearly as of freight load. If the car nnit were smaller, mucb nnnecessary hauling would he saved. For local trade especially, which constitutes the bnlk of hnsiness on almost every American railroad, a great advantage wonld be gained, saving time, side-track room, hesides dead weight. The capacity of the narrow-gauge car even exceeds the average actnal load of the broad-gange car.

[To he continued.]

A New Oil.—In Tsuknmaken, Japan, a new way of making oil has been annonnced. By taking the waste cocoona and the chrysalids of the eilkworms (which are nsually thrown away after being taken ont of the hot water) and pressiug them, an oil is ohtained, which is fit for use after standiug ten days. About one hnndred and sixty-five pounds of these yield nearly fifteen pounds of the oil, which is said to hurn well in lamps. If thia be true, and can be practically and nniversally accomplished all over Japan, it will cause a new branch of industry to spring np of auch proportions as are not to be despised.—*Jour. of Applied Science.*

THE latest reports from the London coal market show the following qnotations: Hawthorne, 26s. 6d.; Lamhton, 28s. 6d.; Sonth Hetton, 29s. In 1869 the amount of coal conenmed in London alone was 5,133,667 tons; in 1870, 5,579,671 tons; in 1871, 5,810,789 tons; and in 1872 it was 5,900,690 tons. Taking the population at fonr millions, the average consumption per head was one ton, nine cwt., two qrs., dnring last year. In this calcnlation the term London inclndes what is known as the London Metropolitan district, taking within its scope nnmerous manufactories of all kinds, thus largely increasing the amount of coal nsed heyond the ordinary requirements of the city proper.

MINING DECISION.—The Commissioner of the General Land Office decided on the 21st inet., hat the adverse clsim of the "420" Mining Company to the application of the Bullion Company for a patent on the Comstock lode mnst be adjudicated in the conrts hefore the patent issnee to the Bullion Company.

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Hae heen hefore the public over THIRTY YEARS, and prohahly hae a wider and hetter repntation than any other proprietary medicine of the present day. At thie period there are but few unacquainted with the merits of the PAIN-KILLER; hnt, while some extol it ae a liniment, they know hut little of its power in easing pain when taken internally; while others use it internally with greet anccesa, hut are equally ignorant of its healing virtues when applied externally. We therefore wish to say to ell, thet it is equally successful, whether used internally or externally. It is sufficient evidence of its virtuee as e etandard me licine to know that it is now used in all parts of the world, and that its sale is constantly increasing. No curative agent haa had such e widespread aale or given each universal satisfaction.

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After over thirty yeare trial, it ie etill receiving the most unqnalified teetimonials to its virtnee, from perecna of the highest character and responsihility. Eminent Phyeicians commend it as a most effectual preparation for the extinction of pain. It is not only the hest remedy ever known for Bruises, Cuts, Burne, etc., hut for Dysentery, or Cholera, or any eort of howel complaint, it is a remedy unsurpaseed for efficiency and rapidity of action. In the great cities of India, and other hot climatea, it haa hecome the etandard medicine for all such complainta, as well as for Dyspepeia, Liver Complaints, and all other kindred disorders, For Conghs and Colds, Canker, Aethma, and Rheumatic difficnlties, it has been proved by the most ahundant and convincing testimony to he an invaluahle medicine.

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Political Notices.

Republican Nominee

—FOR—

THE SENATE,

IRVING M. SCOTT.

Republican Nominee

—FOR—

SENATOR,

W. H. SEARS.

Regular Republican Nominee

—FOR—

ASSEMBLY,

JONATHAN KITTREDGE.

Democratic and Liberal Reformers' Nominee

—FOR—

COUNTY SURVEYOR,

WM. P. HUMPHREYS.

FOR TREASURER,

CHARLES HUBERT,

Democratic Nominee.

Regular Democratic Candidate

—FOR—

DISTRICT ATTORNEY,

THOMAS P. RYAN.

Tax-payers' Nominee

—FOR—

MAYOR,

JAMES OTIS.

Tax-payers' Nominee

—FOR—

SUPERVISOR, FIFTH WARD,

JOHN R. SIMS.

Tax-payers' and People's Union Nominee

—FOR—

SHERIFF,

WILLIAM McKIBBIN.

Tax-payers' and People's Union Candidate

—FOR—

SUPERVISOR, TWELFTH WARD,

D. A. MACDONALD,
Of Enterprise Planing Mill.

Tax-Payers' and Liberal Reform Candidate

—FOR—

TREASURER,

J. A. BAUER,
Present Incumhent.

Tax-payers' and Liberal Reformers' Nominee

—FOR—

CHIEF OF POLICE,

P. CROWLEY.

Tax-payers' and People's Candidate for

CORONER,

DR. BENJAMIN R. SWAN.

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EITHER TOGETHER OR IN PARCELS.

The whole of the magnificent properties lately held by "The Nevada Land and Mining Company, Limited," consisting of:

THE AUBURN QUARTZ MILL, near Reno, Nevada, on the C P. R. R., run by water power, containing twenty stamps and a Stetefeldt Furnace, free of royalty; also, the necessary offices, storehouse, stables, and manager's and workingmens' houses.

The first right to the water of the Truckee River, more than sufficient to run 100 stamps, and forming the most valuable mill site in the State of Nevada. The canal is about four miles in length, and is used also for irrigation of land and the supply of water to the town of Reno and vicinity.

800 ACRES (about) of FERTILE LAND adjoining the town of Reno, partly laid out in town lots, and a considerable part of which has been under cultivation.

THE ALPHA MINE, at Rye Patch. This mine adjoins the well-known "RYE PATCH MINE," has been well developed, has produced large quantities of rich ore; and is considered, in every respect, equal to the Rye Patch Mine.

THE WHITMORE and NORTH SHEBA MINES, which adjoin the De Soto Mine, near Star City, Nevada, and controlling interests in three mines in the Pinto District. Ore of considerable value has been obtained from these last named mines, and they show fine indications, but they have not as yet been fully developed.

The exclusive right to grant licenses for the use of the STETEFELDT FURNACE for the county of Humboldt, Nevada, and one-half of the royalties payable in respect thereof.

The above properties constitute one of the most valuable mining and milling investments ever offered to the public.

The Mill is in good running order, and has the well-earned reputation of working ores (especially those of refractory character) to a higher percentage than any other mill on the coast.

Tenders for the purchase or lease of the above properties, or any part or parts thereof, may be addressed to

MR. WILLIAM A. STORRY,
Occidental Hotel, San Francisco.
W. S. GODBE, Esq., Salt Lake City.
MR. R. BOCH, Reno. ag23d,s-2w

PROPOSALS FOR

MATERIAL and WORK

FOR A PORTION OF THE

NEW CITY HALL

AND

HALL OF RECORDS.

OFFICE OF THE BOARD OF CITY HALL COMmissioners, corner Leavenworth and McAllister streets, San Francisco, August 14, 1873.

SEALED PROPOSALS.

For Furnishing certain Material and for doing certain Work for a portion of the New City Hall and Hall of Records, will be received at the office of the Board until 12 o'clock noon of **Friday, the 19th day of September,** A. D. 1873, as follows:

1—BRICK-WORK—Bricks laid in the wall, with Facework extra, and Setting Blocks, Keystones, Capitals, Springing Blocks, Iron Plates, etc., and providing and setting Iron Bonding and Arch and Chimney Bars, etc.

2—STONE AND STONE WORK—Granite Blocks, Keystones, Capitals, Springing Blocks, Stone Cressing, Internal Granite Columns of Hall of Records, etc., provided and worked.

3 IRON WORK—Wrought Iron Girders for Third Floor, provided and set.

4—IRON WORK—Cast Iron Columns, Girders, Lintels, Brackets, etc., for Hall of Records, provided and set,

5—IRON WORK—Dome of Hall of Records, complete.

All according to specifications, plans and drawings to be furnished by the Board.

The expenses of advertising will be charged pro rata to the successful bidders.

P. H. CANAVAN,
JOS. G. EASTLAND,
CHAS. E. McLANE,
Board of City Hall Commissioners.
ROBERT GEORGE, Secretary. au23-4t

PACIFIC OIL AND LEAD WORKS,

SAN FRANCISCO,

Manufacturers of

Linseed and Castor Oils,

OIL CAKES AND MEAL.

Highest price paid for Flax Seed and Castor Beans delivered at our works.

Office, 3 and 5 Front street.
Works, King street, bet. Second and Third. fe15-oow

AVERILL'S

CHEMICAL PAINT

Of any desired Shade or Color,

Mixed ready for application, and sold by the gallon

It is Cheaper, Handsomer, more Durable and Elastic than the best of any other Paint.

Office, corner Fourth and Townsend streets, San Francisco. Send for sample card and price list.
15v23-3meowhp HEALY & JEWELL, Agents.

MONTGOMERY'S HOTEL,

227 and 229 Second street,.....SAN FRANCISCO.

This Hotel has been newly furnished, and is situated in a central and healthy location, and is one of the few Hotels in San Francisco conducted on Temperance Principles.

BOARD, PER WEEK, $3.50. BOARD AND LODGING, $4 TO $5. SIX MEAL TICKETS FOR $1.

CHAS. MONTGOMERY, Proprietor.

☞ Passengers and Baggage taken to the Hotel free. ☜

☞ BUY BARBER'S BIT BRACE. ☜

The California Powder Works

No. 314 CALIFORNIA STREET.

SAN FRANCISCO.

Manufacturers and have constantly on hand

SPORTING,

MINING,

And BLASTING

POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS, It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the NEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

FAIRBANKS

THE ONLY RELIABLE STANDARD.

6,000 to 40,000 pounds capacity. Length of platform to suit purchaser. The same scale is used for weighing cattle, hogs, etc. Scales adapted to all branches of business. Address

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527 Market street.

Agents for MILES' ALARM MONEY DRAWERS, a sure protection against till thieves. 16v26eowbp6m

Useful Inventions

—FOR THE—

House, Field and Farm.

A safe and perfect FIRE KINDLER.

A HORSE RAKE that has no equal.

Parshall's LUBRICATORS for Locomotives and Stationary Engines.

SHEARS for cutting grapes and flowers.

A new ROLLER SKATE that is superior to all others.

Self-Regulating DRINKING FOUNTAIN for fowls.

A superior ROAD SCRAPER.

The cheapest and best FARM FENCE ever built.

A POST DRIVER that every farmer should have.

A SASH TIGHTENER that keeps out all dust, takes the place of weights, and keeps the windows from rattling.

A BED SPRING that never gets out of order.

A POTATO DIGGER that will dig a row as fast as a man can walk.

A HOUSEHOLD TOOL needed in every family.

A GAS LAMP that costs only half a cent per hour to burn.

The best SELF-OPENING GATE ever invented.

A PLOW on a new principle—it works to perfection in adobe.

An improved PLOW CLEVIS.

A TOY ENGINE that every boy should have for instruction.

A new GLASS CUTTER that heats a diamond.

A CAN OPENER that cuts any size or shaped hole.

The best WASH BOILER ever invented.

An EGG BEATER that heats eggs in one minute.

A WALL PROTECTOR for placing behind wash stands.

The LITTLE GIANT CORN SHELLER.

A KNIFE SHARPENER that should be in every kitchen.

A CORN HUSKER that husks 400 bushels per day.

The best machine to CLEAN GRAIN in the world.

A superior PAPER FILE HOLDER.

Address WIESTER & CO., Patent Brokers,

17 New Montgomery street, San Francisco.

The object of this school is to impart a thorough education in business affairs. It is open to persons of both sexes and of all ages. There is an English Department for those not sufficiently advanced for the Business Course. Sessions continue day and evening throughout the year. Students can enter at any time. All wishing to be successful should secure a practical education at this College. Send for "Heald's College Journal," and learn full particulars. Sent free to all by addressing E. P. HEALD, Pres. Business College, San Francisco, Cal. 2v27-1y

JOS. THORNHILL, 1612 Mason Street, near Green.
C. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

Banking.

SWISS AMERICAN BANK,

Incorporated in Geneva, Switzerland, January 20th, 1873.

HEAD OFFICE, IN GENEVA.

CAPITAL, TWO MILLION DOLLARS

SUBSCRIBED.—ONE-QUARTER PAID UP.

PRESIDENT.....HENRY HENTSCH.

SAN FRANCISCO BRANCH,

SUCCESSORS TO MESSRS. HENTSCH & BERTON,
527 CLAY STREET, S. F.

Directors:

FRANCIS BERTON, ROBERT WATT.

This Bank is prepared to grant Letters of Credit on Europe, and to transact every kind of Banking, Mercantile and Exchange Business, and to negotiate American Securities in Europe. Deposits received.

BILLS OF EXCHANGE ON:

New York,	Hamburg,	Winterthur,	Baden,
Liverpool,	Bellinzona,	Bern,	Chur,
London,	Berlin,	Neuchatel,	Shaffhausen,
Paris,	Frankfort,	Locarno,	Fribourg,
Lyons,	Geneva,	Chaux-de-Fonds,	Lucern,
Bordeaux,	Zurich,	Aarau,	
Marseilles,	Basel,	Solothurn,	Lugano,
Brussels,	St. Gall,	Lausanne,	Meudrisio.

An Assay Office

Is annexed to the Bank. Assays of gold, silver, quartz, ores and sulphurets. Returns in coin or bars, at the option of the depositor. Advances made on bullion and ores.

Dust and bullion can be forwarded from any part of the country, and returns made through Wells, Fargo & Co., or by checks. 1v27-3m

Anglo-Californian Bank.

LIMITED.

Succeeeors to J. Seligman & Co.

London Office.....No. 3 Angel Court.
San Francisco Office.....No. 412 California street.

Authorized Capital Stock, $3,000,000,

Subscribed, $3,000,000. Paid in, $1,500,000. Remainder subject to call.

DIRECTORS IN LONDON—Hon. Hugh McCulloch, Reuben D. Sassoon, William F. Schofield, Isaac Seligman, Julius Lington.

MANAGERS:
R. G. SNEATH, IGNATZ STEINHART,
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The Bank is now prepared to open accounts, receive deposits, make collections, buy and sell Exchange, and issue Letters of Credit available throughout the world, and to loan money on proper securities. 2v27-eowbp

The Merchants' Exchange Bank

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R. N. VAN BRUNT.....Cashier.

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No. 415 California street, San Francisco.

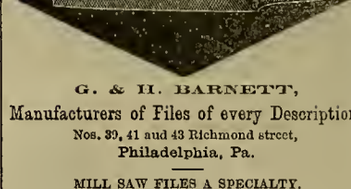
25v20-qy

French Savings and Loan Society,

411 Bush street, above Kearny..... SAN FRANCISCO.

4v27tf G. MAHE, Director.

BLACK DIAMOND FILE WORKS.



G. & H. BARNETT,

Manufacturers of Files of every Description,

Nos. 39, 41 and 43 Richmond street,
Philadelphia, Pa.

MILL SAW FILES A SPECIALTY.
18v25-1y

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

GEO. A. RAYMOND,

Purchasing and Commission Merchant,

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AGENT FOR

MACNEALE & URBAN'S

Fire and Burglar-proof SAFES.

REFERENCES.—Wells, Fargo & Co., W. T. Garratt, Chas. E. McLane, San Francisco.

Special attention given to orders for Mill and Mining Supplies and Machinery. 6v27-3m

Brittan, Holbrook & Co., Importers of Stoves and Metals, Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 178 J St., Sacramento. mr.-1y

Directory.

Menzo Spring---Manufacturer of the Dr. Bly Artificial Limbs, has removed from 101 Jessie street to 105 Tehama street, near northeast corner of Third and Tehama, and between Howard and Folsom streets. Address Menzo Spring, 105 Tehama st., San Francisco, Cal

DR. AIKIN, 504 Kearny st., N. E. cor. California st., S.F., cures Catarrh, Deafness, Ear Discharges, Deformities, and all Eye, Ear, Lung, Liver, Kidney, Blood, Nerve, Chronic, Special and Men's Diseases. Friendly advice; skillful treatment for all invalids. Medicines supplied. Hours, 10 to 4 and 6 to 8. Call or write. Ladies, married or single, speedily cured of any ill health. 23v26

H. C. BENNETT,

STATISTICIAN.

Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v21-tf

RICHARD H. STRETCH, Civil Engineer,

City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

GILES H. GRAY. JAMES M. HAVEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,

In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,

SAN FRANCISCO.

JOHN ROACH, Optician,

429 Montgomery Street,

S. W. corner Sacramento.

Spectacles, Instruments made, repaired and adjusted 22v17-3m

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,

BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers.

505 Clay street, (southwest cor. Sansome),
15v12-3m SAN FRANCISCO.

J. F. PAGES,

SEAL ENGRAVER,

AND LETTER CUTTER,

Brass and Steel Stamps and Dies, 608 Sacramento street, San Francisco. Orders by express promptly attended to.

J. M. STOCKMAN,

Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry).

N. W. corner Natoma and Fremont streets, S. F. Entrance on Natoma street. 6v23-3m

San Francisco Cordage Company.

Established 1856.

We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.

TUBBS & CO.,
17v26-tf 611 and 613 Front street, San Francisco.

DR. ABORN,

Physician and Operating Surgeon

FOR CHRONIC DISEASES,

213 GEARY STREET, - - - SAN FRANCISCO.

Diseases of a chronic and obstinate character, especially such cases as have for years, or a lifetime, resisted the ordinary modes of treatment, are the class of maladies in the treatment of which Dr. Aborn has become pre-eminent on the Pacific Coast, as well as throughout the Union, and by his success has acchieved for himself an enviable reputation. 28v25-1y

JOSEPH GILLOTT'S
STEEL PENS.
Sold by all Dealers throughout the World.

19v26-1y

JUST PUBLISHED.

Froiseth's New Sectional, Topographical and Mineral

MAP OF UTAH.

SIZE, 40 BY 56 INCHES; SCALE, 8 MILES TO AN INCH.

Handsomely engraved on stone, colored in counties, and mounted on cloth, showing the Counties, Towns, Rivers, Lakes, Railroads, Mines and Mining Districts throughout the Territory, and all GOVERNMENT SURVEYS made to date. Price, mounted, $8; Pocket form, $5. Mailed to any part of the United States, on receipt of price, by A. L. BANCROFT & CO., 721 Market street, San Francisco, Cal., or by B. A. M. FROISETH, Publisher, Salt Lake City, Utah. 10v25-tf

OAKEY & SON'S EMERY AND BLACK LEAD MILLS, Blackfriar's Road, London, England.
OAKEY'S WELLINGTON KNIFE POLISH. Packets, 3d. each; tins, 6d., 1s., 2s, 6d., and 4s. each.
OAKEY'S INDIA RUBBER KNIFE BOARDS from 1s. 6d. each.
OAKEY'S SILVERSMITHS' SOAP (NON MERCURIAL), for Cleansing and Polishing Silver, Electro-plate, Plate-glass, Marble, etc. Tablets, 6d. each.
OAKEY'S GENUINE EMERY, GRAIN AND FLOUR.
OAKEY'S EMERY AND GLASS CLOTH.
OAKEY'S CABINET GLASS PAPER, BLACK LEAD, etc.
OAKEY'S GOODS SOLD EVERYWHERE by Ironmongers, Grocers, Oilmen, Brushmakers, Druggists, etc. 21v25-1y

PURCHASERS please say advertised in Scientific Press.

Artificial Ice.

Ice-making by this direct action of heat can hardly he described as a novel process. For many years past ice has been mads by the application of the well-known principls that compressed gases extract heat from surrounding objects, and, passing off in vapor, may bs condensed and nsed ovsr again without appreciahle loss. In the well-known ice-machine invented by the late Mr. Daniel Siehe ether was uaed as the heat extractor, and nearly-frozen hrine circulating around tanks filled with cells containing pure water solidified the contents into slahs of pure ics. Since the succes of the ether machins a uew process has been invented, which, althongh apparently more complicated than the ancient method, has the advantage of exceeding cheapness. Mr. Reece's system produces cold by hoiling a strong solution of ammonia. The vapor is dsprived of watery particles and passss into a coil whereiu it is rendered liquid by th' pressnre of its own weight alons. Collected within a refrigerator, ths condensed gas ahatracts the heat from the contents of a worm filled with a freezing liquid of cold carrisr. Ths liquid employed for this pnrpose is a vast improvement on the old-fashioued hrine, inasmuch as chloride of calcium can be brought to a temperaturs of 50 degrees below zero, without congelation. This chloride of calcium is simply made to flow into tanks containing the object to be frozen, or through pipes destined to cool the surrounding atmospheres. So little coal is required to hoil the solution of ammonia, and so accurate is the adjustment of ths machins to prevent waste, that fine, pure ice can be produced at the cost of five shillings per ton. We are informed that the long-standing objection to machine ice, on the scors of cloudiness and general opacity, can now he overcome by the employment of larger plant and slower production; but inasmuch as ths consumption of clear ics is only 10 per cent. of ths total amount absorbed, the question of opacity is only of minor importancs. Quick freezing shuts in the air, and the rapidity of production is, in some measure, compensated by the less sightly and attractive appearancs of the ics, but, aftsr all, the production of artificial ice is only ous of the objects to which a cold-producing machine may he applied. Brewera and hutchers reqnire artificial cold for cooling wort, or preserving beef, and manufacturers of chemicals, distillers, and bacon curers also find their account in the institution, known in ths United Statss as a "cold room." The application of cold to the hold of a ship, at a slight outlay, affords a hops that Australian and Texan meat may at last reach our shores in perfect condition, and that the application of chlorids of calcium as a freezing liquid may produce happier results than the employment of the same liquid in cooking Australian beef. One uss of thia system of diffusing cold occurs to us as likely to provs of great sanitary importance. In the atokeholes of steamers, a stream of cold air would be of almost incalculable value.—*Iron.*

— THE Pensylvania R. R. Co. have at Philadelphia the largest round house in the United States. It haa 44 tracks, and accommodation for as many locomotives.

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

The Leather trade remains in the same continned state of dulness. Generally this time of the year is one of considerahle activity, while November and December are considered the months of greateat dulness. Perhaps this state of things may he reversed this year. There seems to be every probability that such will prove the result. The indications at present are of improvement, and business is a trifle stronger, as more money is changing hands just now, on account of advances made on crops. Prices, however, remain precisely the same as reported last week.

City Tanned Leather, ℔ lb	26@29
Santa Cruz Leather, ℔ lb	26@29
Country Leather, ℔ lb	25@28
Stookton Leather, ℔ lb	26@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 13 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 16 Kil. ℔ doz	55 00@ 70 00
Cornellian, 12 to 16 Ko	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumerville, 15 Kil	60 00@ —
Simon, 18 Kil., ℔ doz	60 00@ 62 00
Simon, 20 Kil., ℔ doz	65 00@ 67 00
Simon, 24 Kil. ℔ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ℔ lb	1 00@ 1 30
California Kip, ℔ doz	40 00 to 60 00
French Sheep, all colors, ℔ doz	8 00@ 15 00
Eastern Calf for Backs, ℔ Doz	1 00@ 1 25
Sheep Roane for Topping, all colors, ℔ doz	9 00@ 13 00
Sheep Roane for Linings, ℔ doz	5 50@ 10 50
California Rneeett Sheep Linings	1 75@ 4 50
Beat Jodot Calf Boot Legs, ℔ pair	5 00@ 8 25
Good French Calf Boot Legs, ℔ pair	4 00@ 4 75
French Calf Boot Lego, ℔ pair	4 00@ —
Harnese Leather, ℔ lb	30@ 37½
Hair Bridle Leather, ℔ doz	48 00@ 72 00
Skirting Leather, ℔ lb	34@ 37½
Welt Leather, ℔ doz	30 00@ 50 00
Bnff Leather, ℔ foot	19@ 22
Wax Side Leather, ℔ foot	17@ 19
Eastern Wax Leather	—@—

LUMBER MARKET.

CARGO PRICES OF REDWOOD.

Rough, ℔ M	$20 00
Rough refuse, ℔ M	16 00
Rough clear, ℔ M	32 50
Rough clear refuse, M	22 50
Rustic, ℔ M	35 00
Rustic, refuse, ℔ M	24 00
Surfaced, ℔ M	32 50
Surfaced refuse, ℔ M	22 50
Flooring, ℔ M	30 00
Flooring, refuse, ℔ M	20 00
Beaded flooring, ℔ M	32 50
Beaded floor, refuse, M	22 50
Half-inch Siding, M	22 50
Half-inch siding, ref, M	16 00
Half-inch, Surfaced, M	25 00
Half-inch Surf. ref., M	18 00
Half-inch Battens, M	22 50
Pickets, rough, ℔ M	14 00
Pickets, rough, p'ntd	16 00
Pickets, fancy, p'ntd	25 00
Shingles, ℔ M	3 00

PUGET SOUND PINE —Retail Price.

Rough, ℔ M	25 00
Fencing and Stepping, M	37 50
Fencing, 2d quality, ℔ M	30 00
Fencing, ℔ lineal foot	1c
Flooring and Step, ℔ M	30 00
Flooring, narrow, ℔ M	32 50
Flooring, 2d quality M	25 00
Battens, ℔ M	35 00
Lineal ft	¾

REDWOOD—Retail.

Rough, ℔ M	25 00
Rough Pickets, ℔ M	18 00
Rough Pickets, p'd, M	20 00
Fancy Pickets, ℔ M	30 00
Siding, ℔ M	27 50
Tongued and Grooved, surfaced, ℔ M	35 00
No do refuse, ℔ M	27 50
Half-inch surfaced, M	40 00
Rustic, ℔ M	42 50
Battens, ℔ lineal foot	1c
Shingles ℔ M	3 50

GENERAL MERCHANDISE.

Provisions generally are very firm. There is a fair demand for all kinds of Cured Meats. Oase Goods have been sold in some quantity at reserved prices. Refined grades of Sugar are in active demand. The large arrivals of Bags and Bagging of late have rather overstocked the market. Prices of Soap remain unchanged. The price of Coffee has advanced on an average 1c in New York. This is made the occasion for a similar rise here.

BAGS.	
Eng, stand. Wh't	14½@ 14½
Detrick's Mach'e Sewed, 22 x 36	— @ 13
Gilroy ℔	13½@ —
do, 22x36, do W	13 @ —
do, 22x10, do	13½@ —
do, 23x40	13½@ —
do, 32x60	15½@ —
Flour Sacks ½s	13 @ 15½
" ¼s	8¼@ 9
Stand. Gunnios	— @ 20
" Wool Sacks	60 @ 65
" Barley do	— @ 15½
Heselan 45-in.gde	— @ 11½
do 60	— @ 16
Burlaps, yard	10½@ 10¾
CANNED GOODS.	
Asst'd Pie Fruits in 2½ ℔ cans	3 00 @ —
do Table do	— @ 4 00
Jams & Jellies	4 00 @ 4 50
Pickles ½ gl	— @ 3 50
COAL—Jobbing.	
Anetralian, ℔ ton	— @10 00
Coos & Bel. Bay	8 50 @10—
Seattle	— @11—
Cumberl'd, cks	— @ —
do bulk	21 00 @22 50
Mt. Diablo	6 50 @8 50
Lehigh	14 25 @ —
Liverpool	11 00 @12—
West Hartley	12 00 @14—
Scotch	10 00 @11—
Scranton	10 00 @ —
Vancouver's Isl	12 00 @14—
Charcoal, ℔ sk	75 @ —
COFFEE.	
Sandwich Island	19½@ —
Costa Rica, prior to '72	— @ —
Guatemala	20 @ 21
Java	24 @ 25
Manilla	19 @ 20
Ground in oe	25 @ —
Chicory	10 @ —
FISH.	
Pac. Dry Cod, new	— @ 7
casee	8 @ 9
Eastern Cod	10 @ —
Salmon in bble	8 00 @ —
do ½ bbls	4 50 @5 00
do 2½ ℔ cans	— @ —
do 2 ℔ cans	2 75 @4 00
do 1 ℔ cans	2 25 @ —
Do Col. R. ½ b	4 50 @5 00
Pick. Cod, bble	22 00 @ —
do ½ bbls	11 00 @ —
Bos on Smoked	— @ —
Herr's, box	40 @ 50
Mack'l, No. 1, ½ bls	10 50 @10 50
" Extra	12 50 @12 50
" in kits	2 00 @2 00
" Ex mines	4 25 @4 50
" Ex mess, ½ bs	13 00 @13 00
NAILS.	
Assorted size, D.	4¾@ 7 —
NAVAL STORES.	
Pitch, per lb	7 @ 8
Oakum pr bale 501b	4 @4 50
Rosin	5 00 @ 6 50
Anchors	8 @ 9½
Chains	7 @ 7½
OILS.	
Pacific Glue Co.	— @ —
Neat F't No. 1	— @ —
Pure	1 50 @1 75
Castor Oil, No. 1	40 @1 45
do do No. 2	30 @1 35
Cocoa Nnt	60 @ —
Olive Plagnioli	5 00 @ —
do Possel	4 75 @ —
Palm	9 @ —
do Bagiolaupi	— @ —
Linseed	95 @1 00
China nut in cs	82½@ 85
Sperm, crude	1 25 @ —
do bleached	1 90 @ —
Coast Whales	37½@ 40
Polar, refined	— @ —
Lard	90 @ 92½
Coal, refined Pet	37½@ 40
Oleophine	37½@ 40
Devoe's Sril't	43 @ 45
Long Island	37½@ 40
Eureka	37½@ 40
Downer's Kero'e	50 @ 52½
Barre kerosene	30 @ —
Downer Kerosene's	50 @ 52½
Gas Light Oil	37½@ 40
PAINTS.	
Atlan. W. Lead	11½@ 12
Whiting	1½@ 1¾
Putty	— @ 4
Chalk	— @ 4
Parie White	2½@ —
Ochre	2½@ 3
Venetian Red	3 @ 3½
Red Lead	10½@ 11
Litharge	10 @ 11
RICE.	
China No. 1, ℔ lb	6¾@ —
2, do	5¾@ 6
Japan	6 @ 7½
Siam Cleaned	— @ —
Patna	7 @ —
Hawaiian	6 @ 8
Carolina	10 @ 10½
SALT.	
Cal. Bay, per ton	12 00 @15—
do Common	5 00 @8 00
Mexican	14 00@15 00
Carmen Island	14 00 @30—
Liverpool fine	22 00 @ —
do coarse	19 00 @ 20
SOAP.	
Castile ℔ lb	10 @ 13½
Local brands	7 @ 9
SPICES.	
Allspice, per lb	15 @ 16
Cloves	— @ 40
Cassia	27½@ —
Nutmeg	1 12 @1 15
Whole Peppor	— @ 26
Grnd Allsp'rdz	— @1 00
do Cassia do	— @1 50
do Cloves do	— @1 25
do Mustard do	— @1 25
do Gingor do	— @1 00
do Pepper do	— @1 00
do Mace do	1 20 @1 30
SUGAR, ETC.	
Cal. Cube per lb	11 @ —
Circle A cruehed	11 @ —
Powdered	— @ 11¼
Dry granulated	10¾@ 11
Extra do	10¼@ —
Golden O	9¾@ —
do Rey'g grade	— @ —
Cal. Syrup in bls	32½@ —
do in ½ bls	35 @ —
do in kegs	40 @ —
do Hawaiian	20 @ 22½
TEA.	
Colong, Canton, lb	19 @ 25
do Amoy	28 @ 50
do Formosa	40 @ 80
Imperial, Canton	25 @ 40
do Pingsuy	45 @ 60
do Moyune	60 @1 00
Gunpo'der, Cant.	30 @ 42½
do Pingsney	50 @ 90
do Moyune	65 @ 85
Y'ng Hy., Canton	28 @ 40
do Pingsuey	40 @ 70
do Moyune	65 @ 85
Japan, ½ chests, bulk	30 @ 75
Japan, lacquered bxs, 4½ and 5 lbs	45 @ 67
Japan do, 3 lb bxs	45 @ 90
do pl'n bx, 4½ lb	30 @ 65
do ½ & 1 lb paper	30 @ 55
TOBACCO—Jobbing.	
Bright Navye	50 @ 60
Dark do	45 @ 50
Dwarf Twist	57 @ 62½
12 inch do	57 @ 62½
Light Preeced	65 @ 75
Hard do	60 @ 70
Conn. Wrp'r	40 @ 50
Penn. Wrapper	35 @ 45
Ohio do	30 @ 40
Vrgi'a Smok'g	60 @ 95
Fine ct cbe'g, rs	50 @ 95
Fine cut chewing, buc'te, ℔ lb	75 @ 90
Banner fine cut	75 @ 95
Eureka Cala	8 00 @8 50
TURPENTINE.	
Eastern	67½@ 70

San Francisco Metal Market.

WEDNESDAY, Aug. 27, 1873.

The sales this week have been somewhat more frequent, though complaint is still made in this as in other departments of trade. In this connection we notice that cargoes of Pig have actually been shipped from Marquette to England. There has been much wild talk about supplying the English market, but facts have hitherto been wanting to substantiate the vague assertions. Shipments have also been made to British Colonial ports.

Though it will he long hofore we can hope to supply England, there is no doubt but that her foreign and Colonial export trade will he materially supplanted. This does not, of course, affect our market perceptibly as yet, though in time the influence must he felt.

IRON.—	
Scotch Pig Iron, ℔ ton	$52 50 @ —
White Pig, ℔ ton	52 50 @ —
Refined Bar, bad assortment, ℔ lb	— @ 4
Refined Bar, good assortment, ℔ lb	— @ 4¼
Boiler, No. 1 to 4	05½@ 06
Plate, No. 5 to 9	06½@ 07
Sheet, No. 10 to 13	07½@ —
Sheet, No. 14 to 20	08 @ 08¾
Sheet, No. 22 to 27	09 @ 09
Horse Shoes, per keg	7 50 @ 8 00
Nail Rod	9½@ —
Norway Iron	8 @ —
Rolled Iron	6 @ —
Other Irone for Blacksmithe, Miners, etc.	5 @ —
COPPER.—	
Braziers	35 @ — 38
Copper in'd	50 @ —
O. Nieu Metal	55 @ —
Sheathing, ℔ lb	— @ 25
Sheathing, Yellow	— @ 25
Sheathing, Old Yellow	— @ 12
Composition Nails	25 @ —
Composition Bolts	25 @ —
TIN PLATES.—	
Plates, Charcoal, IX ℔ box	14 00 @ 14 50
Plates, IC Charcoal	13 00 @ 13 50
Roofing Plates, 20 x 28	13 50 @ 13 50
Banca Tin, Slabs, ℔ lb	40 @ 42½
STEEL.—English Cast, ℔ lb	18 @ 22
Drill	18 @ 22
Flat Bar	18 @ 22
Plough Points	16 @ 17
ZINC.	9¾@ 10
Zinc, Sheet	9 @ 10
NAILS—Assorted sizes	5 @ 7

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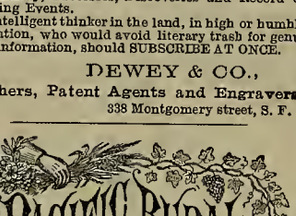

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Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Alpine Gold Mill and Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Puckerville Mining District, Amador County, Cal.

NOTICE.—There are delinquent upon the following discribed stock, on account of assessment, No. 5, levied on the 21st day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Banks, T O	41	100	$50 00
Felton, O N	25	100	50 00
Gashwiler, J W	28	100	50 00
Gashwiler, J W	32	250	125 00
Ives, G J	30	50	25 00
Luther, T M	26	100	50 00
Richardson, E A, Trustee	1	500	250 00
Richardson, E A, Trustee	2	500	250 00
Richardson, E A, Trustee	3	500	250 00
Richardson, E A, Trustee	4	500	250 00
Richardson, E A, Trustee	5	500	250 00
Richardson, E A, Trustee	6	500	250 00
Richardson, E A, Trustee	7	500	250 00
Richardson, E A, Trustee	9	500	250 00
Richardson, E A, Trustee	10	500	250 00
Richardson, E A, Trustee	12	500	250 00
Richardson, E A, Trustee	13	500	250 00
Richardson, E A, Trustee	14	500	250 00
Richardson, E A, Trustee	15	500	250 00
Richardson, E A, Trustee	15	500	250 00
Richardson, E A, Trustee	17	500	250 00
Richardson, E A, Trustee	20	500	250 00
Richardson, E A, Trustee	34	50	25 00
Richardson, E A, Trustee	35	50	25 00
Richardson, E A, Trustee	35	50	25 00
Richardson, E A, Trustee	38	100	50 00
Richardson, E A, Trustee	39	100	50 00
Richardson, E A, Trustee	42	100	50 00
Richardson, E A, Trustee	45	250	125 00
Richardson, E A, Trustee	45	250	125 00
Richardson, E A, Trustee	47	200	100 00
Richardson, E A, Trustee	48	50	25 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of July, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, California, on Wednesday, the 17th day of September, 1873, at the hour of 1 o'clock P. M. of such day, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. au30

Cincinnati Gold and Silver Mining Company.

Location of Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 7th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Clapp, R W	30	50	2 50
Curtiss, Jesse	21	100	5 00
Curtiss, Jesse	22	100	5 00
Curtiss, Jesse	23	50	2 50
Hinckley, G E	35	25	1 25
Hinckley, G E, (not issued)		500	25 00
Woods, A	44	1000	50 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will he sold at public auction, at the office of the Company, room 14, No. 331 Kearny street, San Francisco, California, on the 1st day of Septemher, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office, room 14, No. 331 Kearny street, San Francisco, California. au23

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of Septemher, 1873, at the same hour and place. By order of the Board of Directors. WM. SMALL, Secretary.

Commercial Coal Mining Company of San

Francisco. Location of principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 9th day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alexander, J	52	50	$25 00
Crocker, A E	135	25	12 50
Crocker, A E	137	25	12 50
Crocker, A E	138	25	12 50
Crocker, A E	139	25	12 50
Crocker, A E	140	10	5 00
Crocker, A E	141	10	5 00
Crocker, A E	142	5	2 50
Crocker, A E	143	100	50 00
Crocker, A E	144	50	25 00
Forrester, James	4	100	50 00
Forrester, B	132	5	2 50
Forrester, B	147	25	12 50
Hanson, S B	128	10	5 00
Harrop, S	13	20	10 00
Lindsey, Catharine	135	33	16 50
Thompson, D H	90	55	27 50
Thompson, D H	91	20	10 00
Thompson, D H	92	25	12 50
Thompson, D H	93	100	50 00

And in accordance with law and an order of the Board of Directors, made on the 9th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will he sold at public auction at the office of the Company, No. 402 Montgomery St., San Francisco, room No. 23, on the 8th day of Septemher 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office—No. 402 Montgomery street, San Francisco, room No. 23. ag23

Notice—The Annual Meeting of the

Stockholders of the Cerbat Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held on Monday the eleventh day of August, 1873, at the office of the company, 507 Montgomery street, San Francisco, California, at 1 o'clock, P M.

jy26td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Confidence Mining Company—Location of

principal place of bneiness, San Francisco, Cal. Location of works, Tnolumne county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fourth day of August, 1873, an assessment (No. 1) of one dollar and seventy-five cents ($1.75) per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the fourth day of September, 1873, will be delinquent, and advertised for sale at public anotion, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors. H. HAMPTON, Secretary.

Office, 217 Sansome street, San Francisco, Cal. au5

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta Loma, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the eighth day of August, 1873, an assessment (No. 3) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 5 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the twelfth day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the twenty-ninth day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. au9

Ida and Rhoda Lewis Consolidated Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of the above named company, held on the twenty-eighth (28th) day of August, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Tuesday, the thirtieth (30th) day of September, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the twentieth (20th) day of October, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office—Room No. 12, Express Building, San Francisco, California. ag30

Day Spring Gold Mining Company—Location of works, Kelsey Quartz Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees, held on the fourth day of August, A. D. 1873, an assessment of five cents per share was levied upon the assessable stock of said company, payable immediately in U. S. gold coin, to the Secretary, at the office of the company, No. 302 Sansome street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the tenth day of September, A. D. 1873, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before will be sold on Wednesday, the first day of October, to pay delinquent assessment, together with costs of advertising and expenses of sale.

C. F. BROWN, Secretary.

Office—302 Sansome street, San Francisco, Cal. aug

Excelsior Silver Mining Company—Principal place of business, 640 Washington street, San Francisco, Cal. Location of works, Yellow Pine District, Nye County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 18th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ashley, S J	174	50	$22 50
Bullettl, O	21	100	45 00
finlettl, C	84	50	22 50
Bullettf, C	111	100	45 00
Bullettl, O	110	100	45 00
Baldwin, M M	175	50	22 50
Burke, E	170	50	22 50
Boden, John H	178	50	22 50
Catanich, Peter	179	100	45 00
Cadenasso, G	83	50	22 50
Cadenasso, G	not issued	230	103 50
Docalo, Joseph	193	25	11 25
Ferrette, G	163	50	22 50
Ferrette, G	198	50	22 50
Ferrette, G	199	180	81 00
Grosette, John	46	100	45 00
Gorman, John	not issued	280	126 00
Gabricile, A	185	50	22 50
Henderson, James	14	25	11 25
Henderson, James	43	20	9 00
flenderson, James	107	20	9 00
Henderson, James	127	100	45 00
Henderson, James	not issued	115	51 75
ffenderson, Edward	25	25	11 25
Henderson, Edward	30	20	9 00
flenderson, Edward	106	20	9 00
ffenderson, Edward	128	100	45 00
Henderson, Edward,	not issued	115	51 75
Hicks, Thomas	209	280	120 00
Jackson, Walter	not issued	280	126 00
Jnry, Louie	not issued	280	126 00
Lauricelle, Raffolle	121	300	135 00
Larkin, Frederick	184	25	11 25
Larkin, Frederick	207	75	33 75
Larkin, Fredertck	208	180	81 00
Linarl, G	194	25	11 25
Linarl, S	195	25	11 25
Maccary, G	not isened	280	126 00
Marchella, D S	197	50	22 50
Macey, Albert	22	25	11 25
Macey, Albert	not issued	255	114 75
Murray, Wm	28	10	4 50
Magucral, S	161	25	11 25
Megueral, S	205	75	33 75
Magnerel, S	206	180	81 00
Malatesta, N	196	50	22 50
Magglo, F	192	25	11 25
Onesti, G	188	125	56 25
Onesti, G	not issued	155	69 75
Pardini, N	182	50	22 50
Pardini, N	not issued	230	103 50
Peuella, G	85	100	45 00
Reade, William	167	50	22 50
Reade, William	168	50	22 50
Reade, William	203	180	81 00
Robinson, T B	172	50	22 50
Robinson, T B	173	50	22 50
Rittorl, A	181	50	22 50
Rittorl, A	not issued	230	103 50
Silvestri, A	191	25	11 25
Silvestri, A	not issued	255	114 75
Volker, C J	185	100	45 00
Whiting, Henry H	190	100	45 00
Whiting, Henry H	not issued	180	81 00
Smith, A	16	25	11 25
Smith, A	177	50	22 50
Smith, A	not issued	205	92 25

And in accordance with law, and an order of the Board of Directors, made on the 18th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 640 Washington street, San Francisco, California, on the 20th day of September, 1873, at the hour of 8 o'clock P. M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.

Office—640 Washington street, San Francisco, California. ag21

Eureka Mining and Smelting Company—Principal place of business, San Francisco, Cal. Location of works, Eureka, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. P. BEACH, Secretary.

Office, 217 Sansome street, San Francisco. au25

Greenhorn Gold Mining Company—Location of principal place of business, San Francisco, Calfoinia. Location of worke, Grass Valley Mining District, Nevada County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 11th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Gashwiler, J W	23	50	$75 00
Gashwiler, J W	24	50	75 00
Gashwiler, J W	35	100	150 00
Richardson, E A, Trustee	60	1000	1500 00
Mackintosh, W, Trustee	46	500	750 00
Mackintosh, W, Trustee	47	500	750 00
Mackintosh, W, Trustee	48	500	750 00
Mackintoeh, W, Trustee	49	500	750 00
Mackintosh, W, Trustee	50	500	750 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of July, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, California, on Wednesday, the 10th day of September, 1873, at the hour of 1 o'clock P. M. of such day, to pay delinquent assesemnts thereon, together with costs of advertising and expenses of the sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francieco, California. au20

Hardy Coal Mining Company—Location of principal place of business, San Francisco, California

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of June, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
D M Weston	35	887½	$1,775 00
D M Weston	53	147	294 00
I Bartlett	25	12½	25 00
f Bartlett	33 (old)	66	1,650 00
Bartlett Willeox	33 (old)	50	1,250 00
R B Bartlett	17 (old)	10	250 00
R B Bartlett	46	25	50 00
f B Bartlett	47	25	50 00
f B Bartlett	48	25	50 00
f B Bartlett	49	25	50 00
f B Bartlett	50	22	44 00
Edward McLean	1	36	72 00
Edward McLean	2	52	104 00
Edward McLean	6	41	82 00
Edward McLean	18	100	200 00
Edward McLean	22	50	100 00
Edward McLean	23	50	100 00
Edward McLean	24	150	300 00
Edward McLean	33	2	4 00
Edward McLean	35	4	8 00
Edward McLean	37	46	92 00
Jacob Hardy	10	100	200 00
Jacob Hardy	38	15	30 00
Jacob ffardy	40	2	4 00
Jacob Hardy	51	2	4 00
Jacob ffardy	25 (old)	1	25 00
Jacob Hardy	39 (old)	1	25 00
M ff Eastmen	28	45	90 00
M H Eastman	29	55	110 00
M If Eastman	30	50	100 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of June, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the Company's office, Room 5, No. 338 Montgomery street, San Francisco, California, on the 30th day of August, 1873, at the hour of f2 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JACOB HARDY, Secretary pro tem.

Office, Room 5, No. 338 Montgomery street, San Francisco, California. jy28

Homiguera Mining Company—Location of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No. 7) of three dollars per share was levied upon the capital stock of the corporetion, peyable tnmeediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 803 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpeid on the 5th day of September, A. D, 1873, will he delinquent, and advertised for sale at public auction, and unless payment is made before will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. ang 2.

Hasloe Mill and Mining Company—Location of works, Gentry's Guich, Mariposa County, California. Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, held on the 13th day of August, 1873, an assessment (No. 2) of Seventy-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, room 14, No. 408 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpeid on the 13th day of September, 1873, will he delinquent and advertised for sale at public anction, end, unless payment is made hefore, will be sold on tbe 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. W. TRIPP, Secretary.

Office, Room 14, No. 408 California street, San Francisco, Californie. au19

Kincaid Flat Mining Company—Principal place of business, San Francisco, Cal. Location of works, Kincaid Flat, Tuolumne county, Cal.

Notice is hereby given, tbat at a meeting of tbe Board of Directors, held on the 5tb day of August, 1873, an assessment of Four Dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 8th day of September, 1873, will he delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

Office 217 Sansome street, San Francisco, Cal. au13

Lady Esten Tunnel and Mining Company—Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the eighth day of August, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No 35 New Merchants' Exchange, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 12th day of September, 1873, will he delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873 to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. au9

Land Purchasers Association—Office, No. 425 Kearny street, San Francisco, Cal.

Notice is hereby given, tbat at a meeting of the Directors, or Trustees of this corporation, held on the 26th day of August, 1873, an assessment of ten dollars per share (being the 37th monthly installment on the subscription to the stock) was levied upon the capital stock of the Corporation, payahie immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of Septemher, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

O. S. WRIGHT, Secretary.

Office, No. 425 Kearny street, San Francisco, California. sag30

Lemon Mill and Mining Company—Location of Principal place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka county, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of August, 1873, anassessment of three dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Corporation, No. 608 Merchant street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the seventeenth (17), day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 8th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

L. P. MILLIKEN, Secretary.

Office, No. 608 Merchant street, San Francisco, California. au16-1w

Manhattan Marble Company of California—principal place of business, San Francisco, California Location of works, Oakland, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of one dollar per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

D. M. BOREE, Secretary.

Office—319 Pine street, San Francisco, California. au23

Notice—the Annual Meeting of the Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held at the office of the company, 307 Montgomery street, San Francisco, on Saturday the 9th day of August, 1873, at 1 o'clock, P. M.

jy26td

T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Phenix Tunnel and Mining Company. Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 6th day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&a

POSTPONEMENT.—The day for deeming Stock delinquent on the above Assessment is hereby postponed until Thursday, the twenty-first day of August, and the day of sale of delinquent Stock until Friday, September 5th, 1873. By order of the Board of Trustees.

au9 CHAS. S. HEALY, Sec'y.

POSTPONEMENT.—The day for deeming Stock delinquent on the above assessment is hereby postponed until Friday, September 5th, 1873, and the day of sale of delinquent Stock until Saturday, September 20th, 1873. By order of the Board of Directors.

an23 CHAS. S. HEALY, Secretary.

Placer Gold Mining and Canal Company. Location of principal place of business, San Francisco, California. Location of works, Placer County, California.

NOTICE.—There are delinquent upon the following described stock, on acconnt of eesessment (No. 4) levied on the eighth (8th) day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Apel, J M, Trustee	8	20	$2 00
Blanckaert, V J, Trustee	28	10	1 00
Blanckaert, V J, Trustee	31	10	1 00
Blenckaert, V J, Trustee	33	5	50
Blackaert, V J, Trustee	297	5	50
Blanckaert, V J, Trustee	298	5	50
Blanckaert, V J, Trustee	299	5	50
Blanckaert, V J, Trustee	303	5	50
Blanckaert, V J, Trustee	304	5	50
Blanckaert, V J, Trustee	305	5	50
Blake, Wm L	42	15	1 50
Branger, Jcen	271	10	1 00
Cummings, E J	31f	30	3 00
De Lorme, G V	194	50	5 00
Gerber, J B	191	10	1 00
Gerber, J B	332	50	5 00
Gilmore, Walter	273	10	1 00
Hancock, C H	195	500	50 00
Hancock, C H	196	100	10 00
Hancock, C H	197	50	5 00
Hancock, C H	198	25	2 50
Hancock, C H	323	325	32 50
Hall, Wm D L	251	10	1 00
Hall, Wm D L	252	10	1 00
Hall, Wm D L	254	10	1 00
Hafl, Wm D L	265	10	1 00
Hoffman, G	325	5	50
Hoffman, G	326	10	1 00
Haas, S, Trustee	329	805	80 50
Kalh, J A	187	2	20
Kalh, J A	188	3	30
Kalb, J A	189	5	50
Kalh, Fred	301	10	1 00
Marina, J de Sta, Trustee	107	100	10 00
Marina, J de Sta, Trustee	108	100	10 00
Marina, J de Sta, Trustee	201	200	20 00
Muller, Henry	200	50	5 00
O'Hara, J D	60	50	5 00
O'Hara, J D	51	50	5 00
O'Hara, J D	54	50	5 00
O'Hara, J D	200	25	2 50
Parker, Henry, Trustee	324	35	3 50
Rosenfield, A, Trustee	204	500	50 00
Tromar, M	306	50	5 00
Wrede, Wm	327	5	50
Wrede, Wm	328	10	1 00

And in accordance with law, and an order of the Board of Directors, made on the eighth (8th) day of July, 187 , so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 411 California street, San Francisco, Cal., on Saturday, the thirtieth (30th) day of August, A. D. 1873, at the hour of twelv-(12) o'clock, M., of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of the sale.

GEO. W. R. KING, Secretary.

Office, No. 411 California street, San Francisco, California. au13

Office Rising Star Mining Company—Location of works, Nevada County, California.

Notice is hereby given, that the annual meeting of the stockholders of the Rising Star Mining Company, for the election of Directors and transaction of such business as may be presented, will be held on Thursday, the 4th day of September, 1873, at 3 o'clock P. M., at the office of the company, room 37, New Merchants' Exchange, California street, San Francisco, California.

ag22 s&d-2w J. M. BUFFINGTON, Secretary.

Rising Star Mining Company.—Location of works: Nevada County, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
J M Buffington, Trustee	401	395	$22 50
J M Buffington, Trustee	431	100	5 00
J M Buffington, Trustee	434	31	1 86
J M Buffington, Trustee	435	652	39 72
H B Berryman	185	100	5 00
H B Berryman	188	100	6 00
H B Berryman	189	31	1 86
H B Berrymad	355	50	3 00
E B Barnee	358	25	1 50
Jacob Bryan	416	25	1 50
L Englander	99	100	6 00
W Frederick	392	25	f 50
S T Kennedy	158	100	5 00
S T Kennedy	158	100	6 00
S T Kennedy	343	85 5-7	5 20
Samuel Marks	27	50	3 00
S Natban, Trustee	424	331	19 86
P Newman	194	50	3 00
P Newman	195	50	3 00
P Newmeu	195	50	3 00
John Wilkes	179	331	19 85
C A Wakeman	418	25	1 50

And in accordance with law and an order of the Board of Directors, made on the 11th day of July, 1873, so many shares of each parcel of said stock as may be neceesary, will be sold at public anction, at the office of the Company, 37 New Merchants' Exchange, California street, San Francisco, Cal., on Saturday, the 30th day of August, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchenge, California Street, San Francisco, California au16

Stanislaus Water Company—Location of principal place of business, 526 Kearny street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on accennt of assessment fevied on the second day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Nemes.	No. Certificate.	No. Shares.	Amount.
M A Wheaton	10	56,250	$1000 00
M A Wheaton	72	10,000	200 00
John Burcham	17	25	50
John Burcham	18	50	1 00
John Burcham	19	75	1 50
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2 00
E Tripp, Trustee	25	100	2 00
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
E Tripp, Trustee	5f	100,860	1009 25
S W Newhall	36	57	1 14
A E McGregor	38	82	1 64
E A Richardson, Truetee	55	56,250	1125 00
D E Heyer, Trustee	56	25,500	510 00
Charles Elliot	63	10,000	200 00
Charles Elliot	64	10,000	200 00
Charles Elliot	65	9,998	81 40
Che les Elliot	66	20,000	400 00
S C Field, Trustee	58	12,000	240 00
S C Field, Trustee	59	6,000	120 00
S C Field, Trustee	60	7,886	3 97

And in accordence with law, and an order of the Board of Directors, made on the 2d day of July, 1873, as many shares of each parcel of said stock as may be necessary, will be sold at public anction, at the office of the Company, No. 526 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON C. TRIPP, Secretary.

Office, No. 520 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

The Sanderson Gold Mining Company—Location of works, Railroad Flet, Oalavera County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said company, held on the 4th day of August, 1873, an assessment (No. 6) of fifteen (15) cents per share was levied upon the capital stock of the company, payahie immediately in United States gold and silver coin, to the Secretary of said company, at his office, 113 Leidesdorff street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of September, 1873, shall be delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office—113 Leidesdorff street, San Francisco, Cal. au3

Table Mountain Alpha Mining Company—Location of principal place of business, San Francisco, California. Location of works, Table Mountain District, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 8th day of August, 1873, an assessment (No. 1) of 12½ cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 425 California street, up stairs, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 7th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. F. CRONISE, Secretary.

Office, No. 434 California st., San Francisco, Cal. au13

Umpire Tunnel and Mining Company—Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., room No. 1, up stairs. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

Union Gold Mining Company—Location of principal place of business, San Francisco, California. Location of works, Howland Flat, Sierra County, Cal.

Notice is hereby given, that at a meeting of the Directors held on the 12th day of August, 1873, an assessment (No. 7) of Fifty Cents per share was levied upon the capital stock of the Corporation, payahie immediately in United States gold coin, to the Secretary, at the office of the Company, Room No. 22, Merchants' Exchange Building, California street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 15th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

ALFRED K. DURBROW, Secretary.

Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal. au6

Washington Mining Company—Principal place of business, San Francisco, State of California. Location of works, Mariposa County, California.

Notice is hereby given, that at a meeting of the Board of Directors held on the 11th day of August, 1873, an assessment of two dollars per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Friday, the 10th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARO, Secretary.

Office—Room 13, No. 318 California street, San Francisco, California. au13

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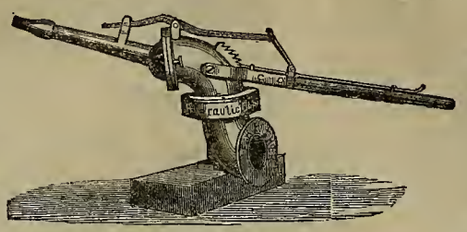

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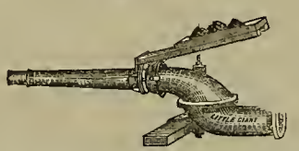

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Machines of all sizes always on hand.
If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.
For further particulars apply to
R. HOSKIN, Dutch Flat,
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STEBINS' HYDRAULIC ELEVATORS
—AND—
BRICK AND MORTAR HOISTS.

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The right to Manufacture and Sell in Counties of the Pacific States.
Inquire at Room 32, Merchants' Exchange, California street, San Francisco. au9-1m
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MACHINIST,
and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.
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Plans, Specifications, and Estimates for Machinery of all Kinds.
We also design machines to meet particular demands and secure and assign the patents on the same
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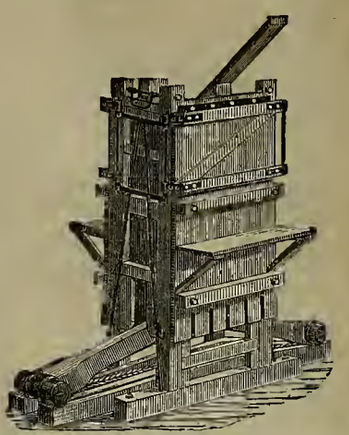
THE EAGLE HAY PRESS.

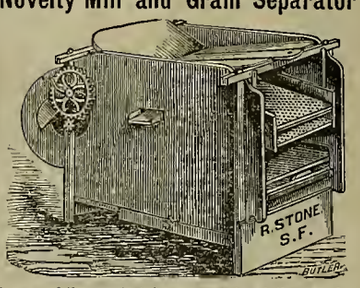


The above is a correct representation of this remarkable EAGLE HAY PRESS, the invention of J. A. McGillivral, of Illinois, to whom Letters Patent were issued Jan. 10th, 1855, and July 24th, 1866.
Several years were devoted by the patentee to the perfection of this powerful press, and its unprecedented sale in the East induces the proprietors to introduce it into California and the Pacific States.
All who have seen or used these presses pronounce them superior to anything used heretofore. The power is applied by means of two levers, and it will be seen the power increases in ratio to the resistance, as the levers approach a horizontal position the power can scarcely be estimated. It is not only a powerful press, but has the advantage of being cheap, and also simple, therefore not liable to get out of order.
Three men with one horse can bale from TEN TO FIFTEEN TONS PER DAY, each bale weighing 250 to 300 pounds. It obviates all necessity of beating the hay before pressing. On account of its great power it is well adapted for pressing HYDES, RAGS, WOOL OR COTTON. When a bale is pressed and fastened the follower runs down of its own weight, and the bales can be taken out on either side. On April 18th, 1871, this Press was tested at the State Agricultural Hall, Sacramento, and stood the test of a bale of wool, 550 pounds. Reference, Maj. Rob't Beck.
We have added to this Press this season an improvement (patented) which does the stamping, dispensing with men to tread down the hay in the Press, facilitating the operation, and saving much hard work. The additional cost being but $25, paying for itself in labor saved in a week.
These Presses are now manufactured in San Francisco by the

Kimball Car and Carriage Manufact'g Co.,

Who are the Proprietors on the Pacific Coast, and will endeavor to have a supply constantly on hand.
12v5-2am3m-2ts

THE PATENT
Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.
For further information apply to
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The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.
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The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for
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It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market
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MILL GEARING

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Application made by the Agents for the Pacific Coast.

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Air Compressors.

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They are to be used on the St. Gothard Tunnel, Switzerland; Tunnel 13 miles long. We refer to the following gentlemen and works:

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Mess. Shanley.....Hoosac Tunnel, Mass.
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Sidney Dillon.....Fourth Avenue Work, N. Y.
Col. Roebling .....East River Bridge Company, N. Y.

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AGENT FOR THE PACIFIC COAST. f15

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They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Opsratss as Follows.

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

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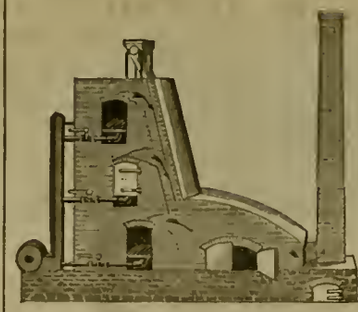

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ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

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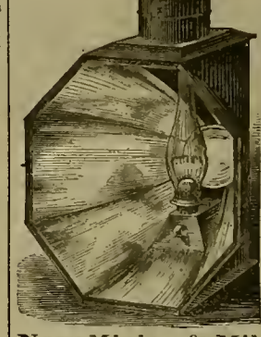

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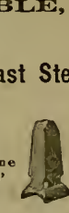

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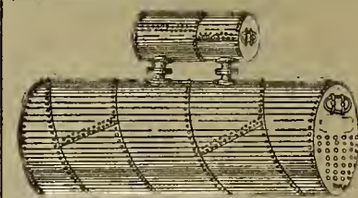

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found **more economical, advantageous and reliable** than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah. Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 28, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,

113 and 115 Pine Street, SAN FRANCISCO.

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SAN FRANCISCO, SATURDAY, SEPTEMBER 6, 1873.

VOLUME XXVII. Number 10.

An Improved Coal Screen and Chute.

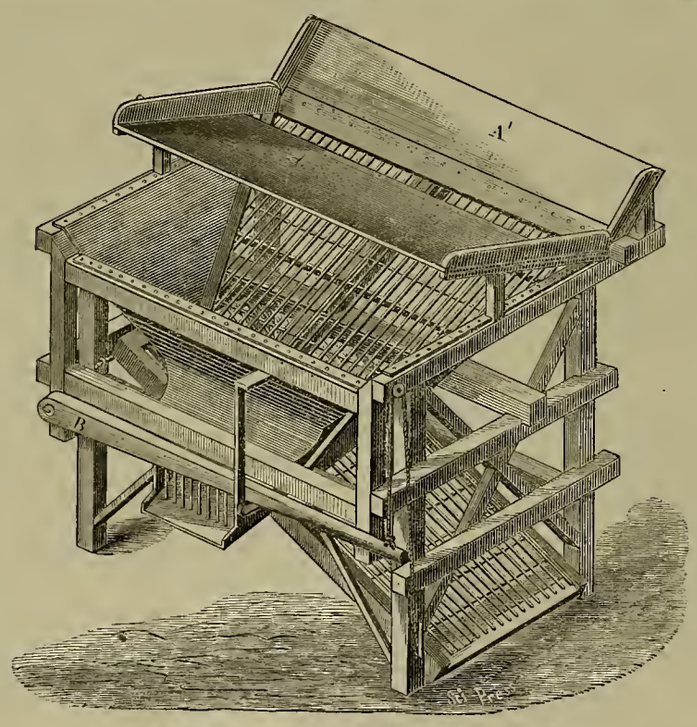
The usual method of discharging ships of their cargo of coal is to raise the coal from the vessel in tubs, by a steam hoisting apparatus, and dump it in a pile on the wharf. It is removed by carts to the different coal-yards, where it is screened so as to separate the screenings from the largo and more marketable portion. This plan necessitates considerable handling and shoveling, adding each time to the expense, and has many other objectionable features. Martin R. Roberts, of this city, has perfected a device which accomplishes the screening and loading at one operation, and as it has been working successfully on our wharves for some time, we have made an engraving of it for the benefit of parties who are unable to witness its operation.

The invention consists of a portable apparatus, having a double hopper, chute and screens, so arranged that by dumping the coal or other substances to be handled, from the tub into the upper hopper, the fine portions or small particles will be separated in two or more grades from the coarser portions, and be deposited in separate piles; while the coarser pieces are caught in the second hopper, from which they can be conveyed through a chute into the carts which convey them to the coal yards; thus requiring but one operation to discharge the cargo, screen the coal and load it into carts. The manner of construction of the device is easily seen. It is built in a strong frame, properly stayed and braced, and on one side of the top of the frame are two boards, *A* and *A'*, in the form of a trough with the lower ends separated. This is the upper hopper. The board *A'* forms an extension to one side of the large hopper, which is located in the body of the frame, below the upper hopper. This side of the large hopper slopes toward the opposite side of the frame, and is made of parallel wires, which form a screen over which the coal must pass in descending, leaving the large pieces on the screen, while the smaller particles fall below. This lower hopper is contracted toward its lower end, and a chute extends from it as shown. A gate serves to retain the coal in the chute until it is desired to allow it to pass from the chute into the cart. The gate consists of a lever bar *B*, which has one end pivoted to the frame, so that it extends across the end of the chute; metal teeth extend downward, as shown, across the mouth of the chute, so as to bar the entrance. By raising the free end of the lever the coal slides out into the chute.

An independent screen of finer mesh than the upper screen, is secured in an inclined position in the frame below the upper screen, so as to receive the particles of coal or other substance which pass through the upper screen. This serves to again separate the coal into two grades. The larger particles falling on this independent screen slide off to one side of the apparatus, and the finer stuff falls through on to the wharf or floor, directly under the frame. Two or more of these screens can be used, and the size of the meshes can be varied according to the substance to be cleaned, and the number and quality of the grades into which it is desired to separate the substance being discharged.

The frame may be mounted upon small wheels so that it can be moved from place to place on a wharf, in order to be put in position to receive the discharging cargo of several ships; but when moving from one wharf to another, axles are placed across each end of the frame on which wheels may be placed so that the entire machine may be drawn along similar to any wheeled vehicle. The upper trough, which is formed of the boards *A A'* is as long as the machine, so that in dumping the load, any vibration of the tub will not cause the load to be discharged outside of the hopper as long as the machine is properly located and ordinary care is exercised in dumping it. This form of the upper hopper also allows the substance which is dumped into it to spread over a larger surface and thus be more thoroughly screened than when the hopper is smaller. When it is not desired to screen the article or substance to be unloaded, a false bottom is placed upon the grating of the larger hopper so that the substance will be carried directly through the chute into the wagons.

It will be seen that by this arrangement coal can be discharged from ships, screened and loaded into carts not only at a great saving of time and expense in handling it, but with less wastage, as the large and more marketable pieces or lumps will not be broken when



AN IMPROVED COAL SCREEN AND CHUTE.

dumped in this machine as they always are when dumped from the hight of twenty or thirty feet upon the wharf or coal pile. All shoveling is done away with, except the light screenings which fall upon the wharf. A number of these machines are now in use in this city and give perfect satisfaction. In fact, all the coal used here is now dumped into these machines from the ships or lighters, screened and hauled away.

Heavy Bullion Shipments.—Eureka exported in one day, August 24th, 125,445 pounds of bullion. This is over 60 tons of bullion in one day. The *Sentinel* says at ten tons to the car load—the maximum tonnage of broad-gauge cars—it gives a train of six cars, with 772 pounds to spare. If shipped on narrow-gauge cars the length of the train would be doubled. Or to ship the same amount on mules—200 pounds to the animal and allowing each ten feet of space—it would make a train over a mile and a quarter long.

The shipment made on the 29th, however, beats this, being 173,589 pounds, the largest ever made from the district in a single day.

The Patent Congress.

The Vienna Exhibition, it seems, is destined to produce a result which the inventors of the United States and portions of Europe have long looked for.

The Patent Congress, which met at Vienna on the 4th day of August, has now before it a series of resolutions, which, if they are accepted by the various countries of the world, will assimilate our patent laws, protect inventors and provide easy, just and necessary rules for the future conduct of international patent matters. We have received, through our Prussian agents at Frankfort on the Main, a number of resolutions which it is proposed to present to the Congress for action, and after a careful examination we are prepared to endorse them fully, and believe their adoption would result in great benefit and advantage to the inventors of the entire world. We append a number of resolutions which have been presented and recommended by a committee appointed for the purpose of examining into the matter and submitting the result of the labors. The resolutions have been adopted by the Congress essentially as presented.

First.—Only the inventor himself, or his legal successor, shall obtain a patent. The granting of a patent cannot be refused to foreigners.

Second.—The duration of a patent for an invention is to be for fifteen years, or a shorter term, with the option of extending to that period.

Third.—Complete publication of patent to be obligatory.

Fourth.—The expenses of granting a patent to be established at a moderate but progressive scale. The amendment proposed by an American delegate to introduce a graduation tax on patents according to the condition of each respective country, was withdrawn, after repeated votes had been taken.

Fifth.—A specification of all patents in force must be accessible to the public.

Academy of Sciences.

The regular semi-monthly meeting of the California Academy of Sciences was held on Monday evening last, Professor Davidson in the chair. Dr. Horatio S. Gates was elected a life member and Messrs. Andrew F. Craven and John T. Brady resident members. The following donations to the cabinet were received: *Octopus Punctatus* Junior of Gabb presented by H. Chapman. This was a specimen of Victor Hugo's devil fish, small enough to be placed in a quart bottle, but perfectly formed. A blue shark caught in the bay was donated by Mr. Throckmorton, one of the State Fish Commissioners. Capt. McDonald, of the steamer "Newhern," sent a bottle of water from the warm springs at Point Isabel, Sonora. Mr. Henry Edwards gave several specimens of snakes and a wasp's nest containing wasps (prepared) from Vancouver's Island. Mrs. Henry Edwards presented also a small snake killed by herself. The President showed some specimens of fine white sandstone from Merced Lake, which is being used for polishing purposes extensively.

Mr. Edwards stated that during his recent trip in British Columbia he had made extensive entomological collections and was preparing some 500 or 600 specimens to present to the Academy. Mr. Edwards is engaged on a work concerning the butterflies of this coast and their food, and requested any of the members who had made any observations on the subject, particularly the varieties of plants on which they feed, to favor him with what information they could.

R. E. C. Stearns made a few remarks concerning the fossil tooth from Santa Rosa Island presented some time since by Mr. W. G. Blunt. It is interesting and important as showing the island to be of a different geological age than is generally supposed. The fossil was found *in situ* and is not a drift specimen, which is proved from the fact that near by was found the tusk of a species of elephant which was so decayed that it fell in pieces in the attempt to get it out.

Professor Davidson, since the last meeting of the Academy, had inspected the partially exhumed remains of a large animal near Lake Merced before referred to by Mr. Hanks. The deposit had been suspected to be the bones of a whale, but he did not agree with that opinion. It was suggested that other members, better qualified for determining the character of the bones, should visit the locality.

The President stated that the Trustees had had under advisement the questions arising from the terms of James Lick's gift to the Academy, and had addressed to that gentleman a letter embodying their views. It is necessary to obtain some modification of the terms in order to be able to collect the money necessary to build and maintain the structure. At present the conditions are so binding that it is impossible to make any headway. The building is to be so large and built in such a manner that it will cost an immense sum to construct it. The Academy desire Mr. Lick to remove some of the restrictions so that the size of the building may be reduced, some of the rooms rented if necessary, and that the sum of money required to be on hand before the building is commenced be lessened. Mr. Lick has as yet made no specific reply to the letter, but there is reason to hope that he will modify some of the terms.

Only 60 or 70 carloads of ore per day are now being sent over the Virginia and Truckee Railroad to the mills on Carson river. The water is so low in the river that scarcely any of the mills are being worked up to more than half their capacity. The working force of most of the leading mines will have to be reduced materially for this reason. The *Appeal* says, the Merrimack is running very light—barely in motion—on tailings. The Eureka is running thirty stamps and five pans; the Mexican twelve stamps and four pans. Empire, in consequence, has taken a trip up the flume to abide until the Winter's flood.

CORRESPONDENCE.

Notes of Travel in Lincoln County, Nevada.

[By Our Traveling Correspondent.]

Ely District.

This district is in Lincoln county, Nevada, 275 miles southeast of Palisade, on the line of divergence from the C. P. R. R., and is distant from San Francisco 848 miles, divided as follows: From San Francisco to Palisade, 573 miles, all rail, fare $38; from Palisade to Hamilton, 125 miles, fare $25 hy Woodruff & Ennor's Concord coaches; from Hamilton to Pioche, 150 miles, fare $30. Total cost of trip, $93; time occupied in transit, three days, ten hours, from San Francisco to Pioche. Meals average 75 cents each; run from 50 cents to $1. Currency is as good as coin in payment anywhere east of the line of California. Prominent among the stage men of Eastern Nevada, are Travis & Co., proprietors of the stage line between Hamilton and Pioche, carrying the United States mails and Wells, Fargo & Co.'s express. The Travis brothers of this firm, have spent the best part of their lives on the frontier, and though having to associate with the roughest element in the country (from the nature of their calling), they are both gentlemen of refined taste and business culture. E. J. Travis resides at Hamilton and attends to the business of this firm in general. Mr. W. S. Travis is the present Sheriff of Lincoln county, Nevada, resident at Pioche. His election to this position, by a very handsome majority over his competitor, against the natural politics of the county, shows his popularity, And although he is Sheriff of one of the worst cutthroat districts to-day, on the Pacific Coast, he is just as safe in the performance of his duties as if he were in the most peaceable community, for there are at least 500 men in Pioche that would risk their lives to save his. This company brings into requisition about 200 head of horses, and employ five drivers. They are also the proprietors of the stage line from Hamilton to Shellburn, via Mineral City, (Robinson District) a distauce of 95 miles; fare $12.50. Two drivers are employed on this route, and 45 horses are in use. You stop over night at Mineral City, distant from Hamilton 45 miles; fare $7.50.

Pioche Cily,

The county seat of this county, is located in close proximity to the mines of Ely District, at an elevation of 6,200 feet above the sea, and contains about 4,000 inhabitants; it is considered by the business men quite dull at present, owing to the unsettled state of mining titles—mines at law, and lying idle, employing hut few men, and purchasing but a small amount of supplies. Siuce my visit one year ago to this place, I noticed double the numher of fireproof buildings, and at least ten times as many families, showing a much better state of society. There are some 40 mercantile firms doing business here, hut a majority of their purchases are made East, at Chicago, St. Louis and New York, all owing to the inconsistency of your husiness public of San Francisco adhering so tenaciously to a metalic currency. They have heen sowing the wind for the last ten years, and now they are reaping the whirlwind. The mines of this district and snrrounding districts never looked hetter for permanency, hut the fear is that the legal gentlemen will get all that has heen taken out, and leave the owners of stocks without means to go on. There are no hotels in Pioche; it consists of lodging houses, and restaurants, the former chargiug from 75 cts to $2 per night for lodgings, all of which are about the same quality; the restaurants charge from 50 cts. to one dollar per meal. In this particular, there is a marked difference; the Star Restaurant kept by an old Californian, Mr. W. Stansfield, is the best place in Pioche for a fine meal, located on upper Main St.

The Raymond & Ely S. M. Co.

On my visit to this celebrated mine I was shown around the works above ground hy the ohliging and gentlemanly Superintendent, Capt. H. H. Day; hut owing to the present state of affairs of this company in equity, I was not allowed helow ground. They had just completed their fine hoisting works when I visited the district, which are seeond to none outside the Comstock mines for strength, heauty or capacity, a description of which I believe you copied from the Ely *Record* which was very truthful. I will not reiterate, hut add that they have introduced the Stevens oxyhydrogen flame; it is being attendcd to here by Mr. Rollin, the agent, and as far as I can learn it gives perfcct satisfaction, claiming to save 25 per cent. of the fucl used in the ordinary way. The roof of this company's new boisting works is covered with tin taken from fruit cans. The joh was done by contract at $12.50 per square of 100 square feet, one dollar less than the cost of wood shingles in this section. The company are working in all departments about 250 men. The main shaft, the Lightner or Panaca shaft, is now down 850 feet, at which point they are running their 9th level. Between the 7th and 8th levels, a few days hefore my visit (Aug. 15th), they struck some pretty fair ore with a strong prospect of its continuing down into the 9th level and even lower.

The Meadow Valley Co.

Are working about one-half the usual force, extracting some ore. Their deepest shaft is down about 1,000 feet. J. C. Maynard, Esq., is the Superintendent of this company. I am unable to give any particulars in regard to this mine, other than as ahove stated, owing to the close corporation principle of many companies heing operated upon in your stock boards. Even statistical information is not ohtainahle outside of what the ore pays. It may not be generally understood that the mines of this district are perfectly dry. The nearest water obtained in this district is in a well 180 feet deep, located at the Four-Mile House, 1,010 feet below the Lightner shaft of the Raymond & Ely mine. It is supposed that all the mines here in Pioche will, at a depth of 1,200 feet, strike water.

I will add as an opinion of my own that at a depth of 1,200 to 1,500 feet, all the dips, spurs and ledges, within two miles of Pioche will be one ore hody. My reasons are, after visiting a majority of them, that as all the ledges lying on the north of the main belt are gradually getting flatter in their pitch to the south, reducing the pitch at a depth of 500 feet, from 70° and 80° to from 35° to 40°, and all those located on the south of the main belt are hecoming more vertical, standing from 80° to 87°. When that time occurs (and I think it will) there will be employment for all the attorneys on the coast.

Washington and Creole Mine,

Superintendent, Martin Tarpey. This company are developing their mine hy an incline shaft, now down 640 feet, on an incline of ahout 75°. The hoisting works are excellent, with strength to develop to a depth of over 1,000 feet. The shaft is in two compartments, and timhered from top to bottom. The hoisting works cost something over $25,000, besides two tanks with capacity to hold 16,000 gallons of water, that cost ahout $1,500 more. The company have drifted ahout 300 feet upon their ledge, which at the present depth ohtained, is about 15 inches in average thickness. Last month they reduced 300 tons from this mine that paid $31,500, and they claim to have 350 tons more upon their dumps, of the same class of ore. Working 45 men in extracting ore, and further developing the mine.

Pioche Phœnix Silver M. Co.

This incorporation claims 1,000 feet of location; located hetween the Page & Panaca, anp the Raymond & Ely mines, 225 feet of which, on the east end of their claim, are claimed by the Hermes S. M. Co., and also hy the Raymond & Ely S. M. Co. As to the legal owners of this small, though very valnahle piece of mining ground, I have nothing to say, as the courts have the affair in charge, and will in due time, I dare say, settle to which company or corporation it does helong. Suffice it to say, that there are very excellent hoisting works upon this mine, run hy an engiue of 60 horse power, erected over their dcvelopiug shaft, which is down 500 feet vertically. It is in two compartments, 4x4 feet each, and timhered from top to hottom. The ore hody in this mine runs east and west and dips slightly to the sonth, say at ahout 80°. The shaft is soutb of the ledge, and has two levels run in to tap the ore body, ono at a depth of 400 feet taps the ledge iu 75 feet, running north, the other, run from the bottom of the shaft (500 feet deep) taps the ledge at a distance of 25 feet, running to the north. At the points where the drifts iutersect the ledge, it shows an ore hody of 3 feet in thickness. As the ahove mentioned work is on ground disputed at present, they are running a drift from the bottom of their maiu shaft to the northwest to tap the ore body heyond the disputed grounds which will be, when completed, about 25 feet from the main shaft; twelve men are employed. There is some ore on the dumps from the old working of last year, hut none from the new. John Nelson is the General Superintendent, and D. N. Jackson, Mining Foreman. This is among the most promising mines of the district.

Chapman Mill and M. Co.,

Situated between American Flag and Huhn and Hunt. Shaft 420 feet deep. The depth of the first level is 170 feet. Considerable ore is exposed. Betweeen second and third levels some 200 tons of ore have been mined and worked. At the third and fourth levels the ledge is broken and ore of low grade. At the fifth level (or 470 feet) the drift has cut the ledge and the character of the ore has changed, heing free and of better quality than in any of the upper levels. From indications they have sunk through the harren portion of the ledge, and have cut the top of the ledge in a new formation.

The officers are, President, D. L. McDonald; Secretary, Frank Swift; Superintendent, J. B. Daytou. They are hoisting by a whim.

Louise Silver M. Co.

The Anna Dickinson, Eliza Grattan, and Ellen Goodspeed claims form the consolidation. Work for the present is confined to the Anna Dickinson, a location of 400 feet, easterly about 800 feet from the Burke shaft of the Raymond & Ely. Shaft 200 feet in depth. At a depth of 78 feet, a drift has heen run on a ledge of narrow but high grade chloride ore. At present runniug drift on 200-foot level for the ledge. Feeders have heen cut, and the ledge, from all indications, is near at hand. The Grattan and Goodspeed, 1,000 feet each, are distant some 2½ miles westerly from Pioche. The Grattan shaft, 50 feet in depth; ledge wide and well defined. The ore, low grade, gives average assays near the bottom of the shaft, 45 feet. The ore has much improved in the last 15 feet—a mere trace near the surface. Goodspeed shaft is 75 feet deep; sunk on ore vein from surface; vein narrow, ore good quality. The ore vein can he traced for 400 feet on the surface, four to six inches in width. President, J. A. Pritchard; Secretary, W. H. Watson; Superintendent, J. B. Dayton.

Mazeppa Mine.

This mine is situated on the northwest slope of Spring Mountain, nearly due west from the American Flag mine, and in line with the Flag and the famous Panaca lode. The prevailing opinion in the district is that there is an orehody cutting through the mountain from east to west; and the developments made in the Panaca, Newark, Yolo, Mazeppa, Arkansas and Flag,—all nearly in liue, and all developing ore,—strengthen the opinion.

The Mazeppa was located in December, 1869, and contains 1,000 feet. It was incorporated in December, 1872, with Henry Raymond as President, W. H. Raymond, G. M. Dobin and others, Trustees. The stock has never heen placed on the market, the Trustees preferring to make further developments before placing it on the Stock Board. The mine has two shafts —one a prospecting shaft, ahout 180 ft. deep; the other, the working shaft, 350 to 400 feet deep, is now heing sunk and thoroughly timbered. The mine has excellent steam-hoisting works, with capacity for working to the depth of 1,000 feet. The machinery and everything ahout the mine is in perfect order and working smoothly.

From $10,000 to $15,000 worth of ore has heen taken from the mine, in sinking and working the prospecting shaft, the last lot of ore milling $237 per ton. The ore is a rich chloride, and at a depth of 150 feet the vein shows strongly, between well-defined walls. The company is sinking their main shaft rapidly, work heing prosecuted night and day. The mine is very highly esteemed in the district, and we shall before long expect to see it sending its bars of bullion to market.

Pioche Silver M. Co.,

An incorporation, prominent among the mines of Ely District, is being operated on your San Francisco Stock Exchange Board. John Nelson, Esq., is Superiutendent and P. J. Cullen, Mining Foreman. In my letter of Sept. 7th, last year, I gave your readers an extended account of the different dips and angles of this mine. I stated at that time that it was being developed through a vertical shaft, then 460 feet deep, and through five different levels, run south to the ledge. The same is the case at this writing, and the main shaft is no deeper. The development siuce my visit a year ago has been principally to the eastward, and by an incline sunk ou the dip of the ledge at a point on the fifth lovel, 266 feet from the bottom of the vertical shaft. The ore hody runs nearly east and west and dips to the south at an angle of ahout 60°, down to the fifth level; from this point the ledge becomes more flat, so that this latter incline, in following the ore body, dips south at an angle of only ahout 45°. The formation of the country rock in the mine is quartzite down to about the 4th level, or 360 feet from the surfaco. From this point it is principally shale, with an occasional bunch of quartzite, down to the present workings which are about 558 feet vertically from the surface. The ore now heing extracted from the miue is from the first and second lcvels. About five tons of first, and three tons of second class ore, are being extracted daily. The company are working regularly 41 men in all departments. They are directing their attentiou to sinking a new shaft, located 475 feet south of the present one and about 200 feet east of their west line, adjoining the Meadow Valley Co. This shaft is vertical, and at prcsent down 175 feet. It is being sunk hy contract, at $11 per foot. Tho shaft is in two compartments, (4x4½ feet in the clear) and will he when completed 900 feet deep, at which point they expect to strike the ore hody, and will if the ledge continues with the same dip as last indicated in their incline, sunk from the bottom of the 5th level in the old works. They are having their ore now worked at the Condor or Amador mill, three miles from Bullionville. The Bowery mill nsed to do their crushing, previous to its heing burned down in September last. The hullion product of this mine from March 31st, 1872, to March 31st, 1873, was $219,767.23, from 1,994 tons of ore, averaging $110.21 per tou. Tho assay value per ton was $157.83—worked to nearly 70 per cent.; assay value, showing the tailings to have contained $94,948.72. Since that date 286 tons of ore additional have been worked, yielding $25,384.04, or about $88 per ton. Tbere are now on this company's dnmps 50 tons of first-class, and about 400 tons of second-class ore. The tailings have heen carefully saved, and economy generally observed at this miue, notwithstanding two assessments of $1 each have heen levied during the last year, aggregating $40,000. In August last year, a dividend of $1.50 per share, aggregating the sum of $30,000, was paid.

L. P. Mc.

[To be continued.]

NEARLY all the Mansard roofs in the Boston burnt district are constructed of firo proof material, either of irou, brick or stone. The brick Mansards present a fine contrast in color with the facades, and give a real Parisian appearance.

Edible Starches.

An interesting paper on "The Edible Starches of Commerce; their Production and Consumption," was read a short time since hy Mr. P. L. Simmonds at a meeting of the London Society of Arts. The lecturer pointed out that while the English use but one word to define all sorts of starch, even the minor classifications of arrowroots, sagos, tapiocas, corn-flours, &c., the French have two words by which they distinguish the starch obtained from roots, stems, fruit, seeds, etc., from the amylaceous product obtained from cereals: the former they term fecula, and the latter they define as amidon or starch. The value of the edible starches imported into England, which was in 1860 206,438*l*, in 1870 amounted to 366,570*l*, and in 1871 to 485,706*l*. The production of European starches was shown to be trifling as compared with that of tropical and sub-tropical countries, though considerable quantities are manufactured in this country from imported maize (or Indian corn) and rice, aud sold under the name of corn-flour. The island of St. Vincent is the only arrowroot-producing colony that has kept steadily progressing, the quantity exported to the United Kingdom having increased from 11,436 cwts. in 1863, to 16,919 cwts. in 1870. In 1850 the shipments were only 3,573 barrels and 7,493 hoxes. The other West Indian Islands, though at one time exporting considerable quantities of arrowroot, have gradually decreased their production, and the quantity exported has in every case hut that of St. Vincent dwindled down to a merely nominal figure. In Brazil considerable attention is given to the production and manufacture of edible starches. A large and varied collection of these was shown at the Paris Exhibition of 1867, comprising starches made from pumpkins, maize, bread-fruit, white and yellow manioc, Brazil potato, Demerara potato yam, banana, etc. A variety of the manioc or cassava, from the tubers of which feculas are mostly manufactured, the *Maranta arundinacea* was introduced into India about 1840, and is now cultivated to a considerahle extent, the arrowroot made from it being extensively used in India, and some of it shipped to Europe. The consumption of sago in the United Kingdom is stated as 52,000 ewts. in 1850, 179,825 iu 1860, and in 1870 the aggregate of sago and tapioca received from Singapore was 344,000 cwts., representing a money value of £283,541. The Australian colonies were also noticed hy Mr. Simmonds as arrowroot producing counties, specimens of this starch manufactured in the colonies having been exhihited at the Paris Exhihition of 1867, and the London Exhihitiou of 1872. The Pacific islands appear to be very rich in the fecula producing aruma and other plants, and a considerable trado is carried on in various feculas in many of tbe islands. Africa also shares to a considerahle extent in the production of arrowroot, hut Cape Colony and Natal are the only two districts that export it in any quantity. The *Maranta arundinacea* is the species cultivated, and it has also been introdnced into the Mauritius, whence specimens of arrowroot were sent to the Paris Exhihition of 1867.

The Extension of the Signal Service to the West Indies.

The puhlic will be glad to learn that the long-projected extension of the Weather Bureau to the West Indies is about to be practically realized. It is in the waters of the West Indian Archipelago that are annually formed those terrible tornadoes which desolate our Gulf and Atlantic sea-board and have always been the terror of navigation. The Signal Office, stretching out its lines of meteorological sentinels, as is now proposed, will occupy stations at Havanna, Santiago de Cuha, Kingston (Jamaica), Porto Rico, St. Thomas, Antigua, Guadeloupe and St. Vincent, in the Windward Islands, and thence hy the lateral cahle from St. Vincent to Barbados it will plant its extreme outpost at this latter Island. Barhados lies in the best possihle position to fnrnish the earliest premonitions of tbe hurricane which is on its way to ravage tho sea-coasts of the United States. At most of the West Indian islands the terrihle roar of these revolving storms can he heard ofton while yet the gale is a whole day distant. But at Barbados, although this island was the scene of the historic storm of 1780—known as "The Great Hurricane"—it is so near the cradle of the cyclones that they have seldom acquired violence enough to be audible as they approach its sontheastern shore. While in the Carribbean sea these fearful meteors have an enormous speed of rotation, hut the speed of translation which they attaiu is happily hut very small, and never more than twenty miles an hour, and seldom half as much as that. There is, therefore, generally a period of several days intervening hetween the passage of the cyclone over the Windward Islands and its arrival on the Gulf or the Sonth Atlantic coast, in which the Signal Office can give ample warning, hoth hy mail and telegraph.—*New York Herald.*

THE iron trade of this country employs 137,545 operatives and a capital of $198,356,116; the lumber trade, 163,397 operatives and a capital of $161,500,273. These are the most important branches of manufacture in the country, cotton, machinery and woolen coming next, in the order named.

AN inexhaustihle quarry of mill-stone, closely resembling tho French burr, has beeu discovered on the North Santiam, Orogon.

Scientific Progress.

Treatment of Metals and Ores.

Pagen and Roux propoo tbe following general metallurgical process: Alkaline oxides, hydrates or carbouates act upon tho metals or oros which thsy transform into hydrates. The alkaline bath, in fusion, provokes the successivo oxidation of the oxidisable metals, and permits their separation from tboso less oxidisable. Tbo metals are attacked in the following order: 1, arsenic; 2, mauganese; 3, zinc; 4, tin; 5, iron; 6, relybdenum; 7, tungsten; 8, chromo; 9, cobalt; 10, uickel; 11, antimony; 12, copper; 13, cadmium; 14, bismutb. Tbe three last mentioned metals are only oxidised hy the contact of air or tho addition of an oxidizing agent to ths alkaline bath. Lead, mercury and silver aro not sensibly oxidised, except sometimes indirootly. The metals 1 to 9 oxidiss themselves in presonco of alkaline carbonates, which thoy render caustio, giving off at the samo time carbonic oxide. All metals of tbe series decompose alkalins hydrates, oxidising themselvce, giving of hydrogon gas and replacing tho water off the hydrate in variable proportions, tho excess of oxide remaining in suspension.

On blowing steam into an alkaline hath, the water which has been decomposed is restored, and the action continues as long as tho bath remains sufficiently fluid. In liko manner the authors force currents of air into the melted metal to promote oxidation and desulphurisation or to attack lead. They sometimes add nitrats of soda to ths alkaline bath to conclude tbs operation. A remarkable reaction is produced when a current of steam is passed into a mixture of alkaline carbonatoa and hydrates. The carbonates are rendered caustic. To extract the precioua metals from pattisonised lead it is melted with its own weight of alkaline flux, and a current of compressed air is forcsd in till the metal contains 25 per csnt. of ths precious metals. This enriched portion is separately treated in the same manner, and ths operation terminated by the addition of nitrate of soda. Tbe slag, on treatment with water, yields a deposit of oxido of lead and a solution of plumbats of soda containing ons part oxids of lead to thirteen of soda. It is evaporated and servss for future treatments.

The authors point out the application of their process to the purification of zinciferous and antimonial leads, tho argentiferous dross derived from tbs zincage of workable lead, the treatment of argentiferous coppers, and ths manufacture of alkaline chromates.

Speakino of that strange anomaly, the educated man of the pheriod, who doubts the spericity of the earth, and is ever and anon making his appearance in print, *Iron* says: There is to be for our snlightenment a "New Geographical Society," whose main object is to maintain that the earth is not a sphere, but a plane surface. In the prospectns, which with a few otbsr documeuts has reached us, we are informed, as a gravs scientific fact, that "indisputabls flats can be shown along ths margin of every ocean, lake, canal, or river in the world," but whether the new society is to be constituted of such "flats" is not stated. That eminent man of scisnco, tbe Shah of Persia, is dragged in to serve the cause, and we are invited to share his astouisbmeut (but when or where expressed we know not), "that a nation which makes such a display of her big ships and her maritime skill in general, does not yet know ths surface of tbe ocean over which they sail; and twit the Englisb admirals for nsing their man-of-war for dredging for sea snails, instead of endeavoring to gain that information which even savage nations are possessed of." Mr. Hampden makes mention of a singular race of beings, whoss "heads are filled with putty instead of brains," and more than insinuates that those who differ from him belong to this race. May we bs permitted to ask if these putty-headed creatures were discovered after prolonged introspectiou by the "indisputable flat" who believes tbe world is not an oblate spheroid?

An Eastern newspaper has done a great scrvice for the by no means small class of nervous people who are ill at ease in a thunder-storm, and who have an exaggerated fear of being struck by lightning. The Hartford *Courant* has been gathering statistics which show that the whole number of deaths in this country during the year 1870, from all causes, was about 500,000. Of these, lightning caused 202. When the percentage is so small any one who considers it cannot well be uervous. The sun is really more dangerous thau lightning, for the number of deaths from sunstroke in 1870 was 397, yet few people are so excitable as to borrow trouble concerning sunstrokes. If the public could be thoroughly instructed in the laws of percentage, we should have fewer panics, and consequently lese mortality in time of epidemics.

Sir Charles Wheatstone has been elected Foreign Associate of the French Academy of Sciencee, to fill the vacancy occasioned by the death of Baron Liebig; and Mr. Gladstone has been elected a member of tbe Hungarian Academy of Science.

The Yellowstone Expedition.

Gen. Rosser, in chargs of the Railroad Survsy of tbe Stanley Yellowstono Expedition has submitted to the autboritiss of the Nortbern Pacific Railroad Compauy his official report of the resulte thus far accomplished hy ths sxpedition. He finds the new and final route across Western Dakota from Missouri to the Yellowstons River entirely practicablo and satisfactory, it being greatly superior to tboss of former days. The distauce, 205 miles, is twenty-one miles shorter thau the survey of 1871. The gradients are moderate, the average of work per milo is considerably less, ths number of important bridges is reduced nearly two-thirds, and the Little Missouri River, whiob former survsys crossed aeven and eleven times, is crossed once on the line so located. Tbe route runs immediately through only ono mile of tbe "bad" or clay lands, just east of tho Little Missouri. With few exceptions, ths country is a rolliug prairie, sometimes rising into low hills, ths grass being excellent and soil good. Good water was found tho entire distance. Coal outcrops at various points in veins several feet in thickness and timbor is more abundant than on former routes.

The report states that tbe main body of Gen. Stanley's expedition accompanied the scientifie corps, and most of the press correspondents did not accompany the engineers who were escorted by Gen. Custer's department, but followed tbe old abandoned route south of Heart river, hence descriptions of the region traversed hy the main command do not apply to the country traversed by tbe new route for tbe railroad. Ths directors of ths company have accspted the new line recommended by Gen. Rosser from Bismarck, the present snd of tho track, to the Yellowstone crossing, and bave called for proposals to grade and bridge this section of 205 miles.

Ths expedition is now prosecuting the survey westward up tbe left bauk of the Yellowstone to Pompey's Pillar, wbers it will join the survey made last year from ths west, and thus complete the surveyed line across ths continent. The entire command is expected to return to Fort Rice about October 1st.

The Transatlantic Cable and Planet No. 131.—An example of the free transmission of telegraphic dispatches relating to astronomical discoveries was presented on the occasion of the last new planst (No. 131,) discovered at Washiugton on May 26, and observed at Marseilles on May 27 of the present year. The news was received by Atlantic cable and telegraphed from Paris to Marseilles in the following cabalistic terms: "Planet, sixteen, fourteen, south, twenty-one, eighteen, movement, right, west, eleventh." This, being interpreted, means: "A planet has been discovered, of which the rigbt ascension is 16 h. 14 m., and the dcclination, soutberly, 21° 18′: its movement is directly toward the west, and it is of abont the eleventh magnitude."

It is an odd coineidence that the first planet discovered in America (during ths ysar, 854) was No. 31, so that this last new comer, No. 131, also first noted in this country, is the hundredth found since.—*Ex.*

The most plausible theory of comparativs calorific power is that long since enunciatedby Welter: that the heat eliminated depends upon the quantity of oxygen taken up, and that the amount developed by equal weights of oxygen, when made to unite chemically with other bodies, however different they may be, is always the same. In this opinion Welter has been supported by the researches of other chemists. Despretz, by uniting ons pound of oxygen with the following substances in turn, found that the water raised from 32° to 212° Fahrenheit was with hydrogen 29.5 pounds; with charcoal, 29 pounds; with alcohol, 28 pounds, and with ether, 28.5 pounds. But that the law is not univsrsal, is shown by the fact that the heat developed by the oxidation of iron is equivalent to raising 53 pounds of water to 212°, from 32° Fahrenheit. Thus the theory, while subetantiated by experiment up to a certaiu point, unaccountably falls short when it is attempted to press it further.

Electricity and Life.—Recent studies have done considerable to determine what the action of electricity really is in the excitation of muscular irritability in dead bodies. Tbe continuous current seems to act on muscular fiber after the manner of heat. If dead muscle be exposed to cold, the current restores contraction for a considerable period, but finally destroys it hy inducing persistent contraction. If, on the other hand, the dead muscle is left at its normal temperatnre, the current merely shortens the period of irritability by quickening contraction. Experiments lately made with the L eyden jar demonstratee that with sufficient current, small animals and birds can be made absolutely rigid for the moment in the position in which they stand; and so suddenly is the work done, so completely is the posture of life preserved, that nothing but actual examination with the hand can impress on the mind the fact that the creature has, with tbat sudden shock, passed from earth.

Some experiments have lately been made in in the arsenal at Vienna with a new explosive mixture, tbe "Volkman powder," which are stated to have produced very satisfactory results, and to have ehown that the new mixture is cheaper and more powerful than ordinary gunpowder.

The respective merits of asphalte and wood paving have been under discussion by the authorities of the city of London. When horses fall on asphalts their legs, it is urged, are "apread out," and tbey becoms injured for lifs. Falls on granits paving aro not, as a rule, attended with such serious rssults, nor do horsee fall on wood paving to ths same extent as tbey fall on asphalte. The question is still nuder discussion.

Mechanical Progress.

Ventilation of Mines.

As all improvements in this direction bear directly upon our on miuiug interests, wo taks from the *Rockdale Observer* (Englaud), tbo folfowing description of a new ventilatingapparatus invented by a Mr. Pilling:

Ths principle is to force air drawn from tho atmosphere by direct action, into the miue, and by means of pipes and otber suitable channels convoy it to any portion of aaid mins. To effect this purpose, the method to bs adopted is to use a number of cylinders attached to a horizontal steam engine, but differing from the latter in tbis respect—that the steam is not forced into the cylinder, but ths cranks whicb draw the pistons in ths air cylinders backwards and forwards are turned by a pulley, at ths end of the crank shaft, which is driven by steam. At each stroke ths piston, which is constructed on the same principls as the common pump, draws air into ths cylinder which is afterwards forced with great velocity through a pipe into a chamber, and thence through conduit pipes to any portion of the mine, or throughout its whole extent, so as to cause a constant current of pure air. The invention which is very simple, yet thoroughly effieient, will enable colliery propristors to dispense with the large furnaces, fans, etc., which are in use for drawing foul air out of mines; for witb Mr. Pilling's apparatus the air can bs convsyed to any particular spot in unlimited quantities. By those means the mins may be supplied with pure atmospheric air, which will diluts or displace ths foul air, and that without decrsasing ths atmospheric pressure, as is the case when the ordinary principle of exhaustion is adopted, which favors the emission of dangerous gases, while at tbe same time it will effect local ventilation. Any number of cylinders may be attached together in ordsr to produce a large pressure at one spot, or it may bs so arranged that a number of small pipes can be coupled to the air chambsr and carried to any distance with the pressure being decreased. The invention may be applied to any mine, or for a vast number of other purposes of ventilation. Mr. Pilling has made it to act on the opposite principle to that usually adopted in ventilating mines, which is by exhaustion, which necessitates a diminution of atmospheric pressure; and it therefore follows that by the present arrangement not only can the ordinary pressure be maintained, but it can be increased to any desired amount, thereby diluting any explosive gas or prsventing its issus at low pressurs.

The machine promises to bs an sxtremely valuable one. It is very simply constructed, scarcely liable to accident, and not expensive. We feel thoroughly convinced that the fearful risks to which colliers exposed by reason of accumulation of dangerous gases will be entirely obviated by the use of this machine, and the working of a coal mine, so far as these causes of accident are concerned, made as safe as any operations above ground.

A Genius, writing to the *Coal and Iron Record* says: "I venture ths prediction that before this century closes, locomotives will be driven exclnsively by magnetic power, and ships by the use of the power contained in the ocean itself, without the use of fuel in either case. Will you make a nots of this?" To which ths *Record* respouds as follows:

"We cheerfully make 'a nots' of it, but chiefly for the purpose of protesting against any claims which may be based upon euch crude ill-defined imaginings. Some men seem to think that the mere suggestion of a possibility confers on them a title to the uame of inventor. Our literature is filled with fulsome adulation of poets, who, in their vague descriptions, have attempted to mention something out of the common way, though they had no idea in regard to tbe methods or tbe results of which they wrote. How often has Tennyson's allusion to aerial fights been quoted as evidence of his far-seeing genius and power of invention? And yet the idea is not new, and the description as given by Tennyson has done nothing to clear the way for its accomplishment. So with the suggestions of our correspondent. Such prophecies have been made a thousand times in reference to tbese very things but thus far they have accomplished no good."

The Diamonn Drill.—The peculiar advantage of this drill in testing lodes, mines, or strata of rock formation is that it brings to the surface a continuous and unbroken core, shows the widtb and nature of the matter formed, through varying the driving of test shafts, and useless outlay of money in examining property. By eetting the drill at an angle a scientific calculation cau be made of thickness of lode or vein, and give the quantity of it by triangulation.

A Novel Transportation Scheme.—It is reported that Mr. Nehemiah Gibson, of Boston, is preparing a plan to shorten ths watsr transportation bstwesn ths coal markats and Boston. He proposss to constrnct iron barges for tha transportation of coal from Nsw York, Philadelpbia, or Baltimore, by way of Narraganasstt Bay and ths Taunton River, in Massachusetts. These vessels are to be vsry strong, eacb to hold four hundrsd tons of coal, and to be propelled by tug-boats. From some point on the Taunton River he thinks a railway can be constructed upon which these barges can be taken from the water and carried overland about twenty miles to the cars at Weymouth. In this way 150 miles of sea transportation will bs saved without breaking bulk. The construction of the road and barges, however, will bs very expensive. The rails, evon tbs author of the scbemo acknowledges, will have to be very large, made of steel, and laid on a road-bed much wider than the ordiuary railway. The plan has some interest as one of ths nsw points in the transportation question.

Syracuse, N. Y., has now a novel manufacturing onterprise, ons firm tbere constructing no less than seven mammoth windmills as large as the enemies of Don Quixots. Ths milla are designed for crushing gold ore, and are to bs sent to tbe Island of Ornba in ths Caribbean Sea. The prevalence of trade winds in that section, and the bigh prios of fuel, hava induced the quartz-crushing company to introduce windmills for ors-crushing purposss. An accurate idea of the size of these powsrful agents may hs conceived from tbs following dimensions:—Ths diameter of the wheel, which is of the "rosette" pattern, is 36 fest loug, thus securing power squal to a 20-horse power sngine. Ths weight of each mill is about 9,000 lbs., the cost of construction being about 1,600 dollara.

Asphalte Paper.—This articls is likely to become of great use in many ways. In thin sheets it is usefnl for wrapping silks or otbsr fabrics that need protection from moisture, for lining the cases, or packing boxes for pianos, etc., or rolled up into pipes for conveying water. Asphalte tubes are only one-fifth tbe wsight of iron, will not rust, and ars quits tough and strong. The tubss ars simply sheets of paper, of peculiar quality, dipped in melted asphalte, and then rolled upon a cylinder. A machins for preparing the asphalte wrapping paper consists of a hollow cylinder, heated by steam, and wedge shaped box, containing the hot asphalte. The box has a narrow slit, ths width of ths paper, and as the paper passes, a thin layer of asphalts is distributed on ths paper just bsfors it passes the cylinder.

Cork Jackets for Steam Boilers. — M. Ohevallier, a French enginser, has adopted cork for the jacketing of boilers and other parts of machinery. Cork is known to bs an excellent non-conductor of hsat, and thess cork jackets are said to diminish the outward radiation by 15°C. The cork is cut in ths form of staves, and thess are united together by tongues, as in the case of flooring boards, so that the lines of junction are protected, while the cork staves ars easily rsmoved, when ths necessity occurs. Portions of ons of thess jackets, which had been on a boiler at work for fifteen months, were sxhibited ths otbsr day at a meeting of tbe Paris Society for the Encouragement of the Arts, etc., and were not found to have been in any way affeoted by ths hsat of the boiler.

Materials from which Paper is Made.—Ths materials of which paper is manufactured ars vegetable aubstances containing fiber, and ars not so limited in nnmber or kinds as is commonly supposed. Linsn and cotton rags, old paper, ropes, cotton waste, sweepings of flax mills, jute, surat, straw, linden and other woods, hemp and many otbsr substances, offer a long catalogue of materials from which to choose that most suitabls for making the particular description of paper wanted. Almost svery day new names are added to the list; from ths most unpromisiug and apparently worthless substances, it is found that some kind of paper can be made, provided ths original material bs fibrous.

A Bridge Across the Bosphorus.—Signor Antonio Zimello, of Vicenza, the Italian engineer who some time since announced his project for a route by way of Trieste and Belgrade, or Brindisi and Valona, to Constantiuople, and thence by the Euphrates Valley Railway to Bombay, has now devised a scheme for bridging the Bosphorus. He believes a bridge may be erected, resting on eighteen pillars, at a hight sufficient to allow vessels to sail under it. These pillars, being firmly united together, both by the bridge and by connecting stays 15 meters below the surface of the sea, will render the whole bridge, so to speak, a complete mass, the central pillars of which will be sustained by pontoons under the water.—*Iron.*

The largest casting ever made in Harrisburg was turned out lately at tbe foundry of the Harrisburg Car Company. The casting is 30 feet long, 2 inches thick and 8 feet wide, weighs about 14 tons, and is intended as a bed-plate for the engine being constructed at the machine works for the new water works.

The largest pumping apparatus in the world is that recently completed in England for draining tbe Ferrara marshes. The total capacity is 456,000 gallons discharged per minute, at a mean lift of 7 feet 3 inches.

Weekly Variations in Stocks.

[Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Sept. 4, 1873.

NAME OF COMPANY.	FEET IN MINE.	SHARES IN MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co	.....	300	6000	23	22	3	.....
Alpha Consolidated	.....	3600	.....	.....	.....	.....	.....
Alta	.....	.....	30000	4	3⅜	.....	⅛
American Flat	.....	.....	18000	1⅜	1⅜	.....	.....
Arizona & Utah	.....	1900	18000	1⅜	1⅜	.....	⅛
Bacon Mill & Mining Co.	.....	65	24000	1	1	.....	.....
Baltimore Consolidated	.....	.....	54000	7⅜	6½	.....	.....
Belcher	.....	1040	104000	73½	67	4½	.....
Best & Belcher	.....	224	22400	4½	4	⅛	.....
Bowers	.....	20	5000	.....	.....	.....	.....
Buckeye	.....	.....	16000	.....	.....	.....	.....
Bullion	.....	2500	28000	.....	.....	.....	.....
Caledonia Silver M. Co.	.....	5000	20000	25	17	5¾	.....
Central	.....	150	10800	6	5	.....	.....
Central No. Two	.....	100	20000	5	5	.....	⅛
Chollar-Potosi	.....	2600	28000	39¾	35½	2¾	.....
Confidence Silver M. Co.	.....	130	24860	6¾	5½	.....	.....
Cons. Gold Hill Quartz	.....	345	20000	1¼	1¼	.....	⅛
Consolidated Virginia	.....	1140	28000	99	96	1	.....
Cook & Geyer	.....	1600	24000	.....	.....	.....	.....
Crown Point G. & S. M. Co	.....	600	100000	98	86	13	.....
Daney	.....	2000	24000	1⅜	1⅜	.....	⅜
Dardanelles	.....	1200	24000	.....	.....	.....	.....
Eclipse	.....	70	25000	5	4¾	.....	.....
Empire Mill & M. Co	.....	75	50000	37½	31½	.....	¼
Exchequer	.....	400	8000	8	7⅞	1	.....
Flowery	.....	3000	12000	.....	.....	.....	.....
Franklin	.....	.....	.....	.....	.....	.....	.....
Globe	.....	.....	20000	75c	75c	.....	¼
Gould & Curry S. M. Co	.....	1200	48000	14¼	10½	.....	3¾
Hale & Norcross	.....	400	16000	28½	22	.....	4¾
Imperial	.....	184	100000	4¾	4	.....	⅜
Indus	.....	.....	.....	.....	.....	.....	.....
Insurance	.....	2000	30000	.....	.....	.....	.....
Jacob Little	.....	.....	.....	.....	.....	.....	.....
Julia Gold and S. M. Co	.....	2000	30000	1¼	1	.....	.....
Justice	.....	3000	21000	1¾	1⅝	.....	1⅝
Kentuck	.....	945	20000	8⅜	7½	.....	⅜
Knickerbocker	.....	1200	24000	4⅜	2¾	.....	⅜
Lady Bryan	.....	.....	.....	.....	.....	.....	.....
McMeans	.....	3600	36000	.....	.....	.....	.....
Mint Gold & S. M. Co	.....	1600	50000	40c	40c	.....	10c
Nevada	.....	3000	40000	.....	.....	.....	.....
New York Consolidated	.....	3600	36000	50c	50c	.....	⅛
Occidental	.....	800	10000	1	1	.....	.....
Ophir Silver Mining Co	.....	1400	16800	51½	23	29	.....
Overman Silver M. Co	.....	1200	12800	8	6¾	.....	⅛
Phil. Sheridan	.....	1200	24000	.....	.....	.....	.....
Pioton	.....	2000	30000	25c	25c	.....	.....
Rock Island	.....	.....	24000	.....	.....	.....	.....
Savage	.....	800	16000	46	36	.....	4½
Segregated Belcher	.....	160	1600	38	31⅜	.....	5
Segregated Caledonia	.....	.....	10000	.....	.....	.....	.....
Senator Silver M. Co	.....	.....	24000	.....	.....	.....	.....
Sierra Nevada	.....	.....	20000	11½	8¾	.....	3½
Silver Hill	.....	.....	54000	14	12	.....	⅛
South Overman	.....	.....	10000	.....	.....	.....	.....
Succor Mill and M. Co	.....	7600	22800	1⅜	1	.....	⅛
Sutro	.....	.....	24000	3	3	.....	.....
Trench	.....	20	5000	.....	.....	.....	.....
Tyler	.....	2200	33000	.....	.....	.....	.....
Union Consolidated	.....	803	20000	1⅜	17c	.....	⅜
Utah	.....	.....	20000	.....	.....	.....	.....
Woodville G. & S. M. Co	.....	1300	28000	1¼	1⅛	.....	.....
Yellow Jacket	.....	1200	24000	53	47	5	.....
	.....	.....	.....	.....	.....	.....	.....
NEVADA.							
Adams Hill	.....	.....	50000	.....	.....	.....	.....
Alps Silver Mining Co	.....	800	30000	75c	37½c	.....	½
Amador Tunnel & M. Co	.....	.....	.....	.....	.....	.....	.....
American Flag M. & M	.....	.....	30000	5	2⅝	.....	⅜
Arkansas	.....	300	30000	.....	.....	.....	.....
Belmont	.....	.....	.....	1⅜	1	.....	.....
Bowery	.....	.....	30000	50c	50c	.....	10c
Chapman Mill & M. Co	.....	.....	30000	10c	10c	.....	.....
Charter Oak S. M. Co	.....	1000	30000	.....	.....	.....	.....
Chief of the Hill	.....	.....	30000	1¼	1¼	.....	.....
Chief East Extension	.....	.....	30000	.....	.....	.....	.....
Columbus M. & M. Co	.....	10000	50000	.....	.....	.....	.....
Condor	.....	.....	25000	.....	.....	.....	.....
El Dorado South	.....	.....	.....	2½	2½	.....	⅜
Eureka Consolidated	.....	.....	50000	12½	11	.....	⅛
Excelsior	.....	.....	30000	.....	.....	.....	.....
Harper Silver Mining Co	.....	.....	30000	.....	.....	.....	.....
Hermes	.....	1000	30000	3	3	.....	.....
Home Ticket	.....	.....	.....	.....	.....	.....	½
Hunt & Hunt S. M. Co	.....	3600	30000	1⅜	1⅜	.....	.....
Ingomar Silver M. Co	.....	1000	40000	30c	25c	.....	20c
Ivanhoe	.....	.....	30000	.....	.....	.....	.....
Jackson	.....	.....	50000	17½c	17½c	.....	.....
Juniata Consolidated	.....	5000	50000	.....	.....	.....	.....
K. K. Consolidated	.....	.....	.....	.....	.....	.....	.....
Kentucky Gold & S. Co	.....	1000	30000	3½	2	.....	.....
Kinston	.....	1000	30000	.....	.....	.....	.....
Lehigh	.....	1000	30000	.....	.....	.....	.....
Lillian Hall	.....	1000	15000	.....	.....	.....	.....
Louise	.....	2400	30000	.....	.....	.....	.....
McMahon	.....	1000	30000	.....	.....	.....	.....
Marion	.....	.....	30000	.....	.....	.....	.....
Meadow Valley	.....	24023	60000	18	15½	.....	.....
Mocking-Bird	.....	1200	30000	.....	.....	.....	.....
Monitor Belmont	.....	.....	.....	.....	.....	.....	.....
Murphy	.....	.....	60000	.....	.....	.....	.....
Newark Silver M. Co	.....	800	32000	4¾	4⅝	⅛	.....
Pacific Tunnel & M. Co	.....	.....	.....	.....	.....	.....	.....
Page & Panaca S. M. Co	.....	2400	40000	50c	37½c	.....	1¼
Peavine	.....	1000	30000	.....	.....	.....	¼
Phœnix	.....	.....	50000	.....	.....	.....	.....
Pioche Silver Mining Co	.....	1000	20000	4	4	.....	1½
Pioche West Extension	.....	.....	30000	1	1	.....	.....
Pioche-Phœnix	.....	.....	40000	.....	.....	.....	.....
Portland	.....	.....	.....	.....	.....	.....	.....
Raymond & Ely	.....	5000	30000	75	63	1	.....
Silver Peak	.....	.....	30000	1¼	1¼	½	.....
Silver West Consolidated	.....	.....	.....	.....	.....	.....	.....
Standard Mill and M. Co	.....	.....	.....	.....	.....	.....	.....
Star Consolidated	.....	18000	50000	.....	.....	.....	.....
Starlight	.....	6900	25000	.....	.....	.....	.....
Sterling	.....	.....	30000	.....	.....	.....	.....
Spring Mount	.....	.....	25000	.....	.....	.....	.....
Spring Mountain Tunnel	.....	.....	20000	.....	.....	.....	.....
Ward Beecher	.....	.....	.....	.....	.....	.....	.....
Washington and Creole	.....	200	30000	2	2	.....	⅜
Yellowstone	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
CALIFORNIA.							
Alpine	.....	.....	12000	.....	.....	.....	.....
Bellevue	.....	1200	12000	.....	.....	.....	.....
Calaveras Gold M. Co	.....	8000	20000	.....	.....	.....	.....
Cedarberg Gold M. Co	.....	3200	20000	.....	.....	.....	.....
Consolidated Amador	.....	.....	24000	.....	.....	.....	.....
Cottonwood Creek	.....	.....	20000	.....	.....	.....	.....
Dunderberg M. & M. Co	.....	.....	.....	.....	.....	.....	.....
El Dorado Ind. Quartz M	.....	.....	.....	.....	.....	.....	.....
Eureka Gold Mining Co	.....	1680	20000	20	20	.....	.....
Gillis	.....	.....	24000	.....	.....	.....	.....
Independent Gold M. Co	.....	1800	25000	1¼	1	.....	½
Keystone Quartz	.....	.....	10000	.....	.....	.....	.....
Mt. Jefferson	.....	1500	25000	.....	.....	.....	.....
Oakville Quartz M Co	.....	.....	.....	.....	.....	.....	.....
Rye Patch	.....	.....	.....	6⅜	6	.....	⅜
St. Lawrence M. & M. Co	.....	.....	.....	.....	.....	.....	.....
St. Patrick	.....	.....	10000	.....	.....	.....	.....
Tecumseh	.....	3000	30000	.....	.....	.....	.....
Yule Gravel	.....	400	10000	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
IDAHO.							
Empire	.....	.....	25000	5½	4½	.....	⅝
Golden Chariot	.....	750	10000	25	22½	.....	2½
Ida Ellmore	.....	1300	10000	1¾	5	.....	¾
Mahogany G. & S. M. Co	.....	720	10000	9	8	.....	.....
Minnesota Gold & Silver	.....	1070	20000	19	17	.....	1½
Red Jacket	.....	.....	.....	3	2¼	1	.....
South Chariot	.....	680	20000	2¾	2¼	.....	¼
War Eagle	.....	1000	10000	1½	50c	.....	⅛
WHITE PINE.							
General Lee	.....	1000	20000	.....	.....	.....	.....
Mamoth Silver M. Co	.....	1800	36000	22½c	20c	.....	.....
Noonday	.....	1800	20000	.....	.....	.....	.....
Orig. Hidden Treasure	.....	800	21333	4	2¾	1	.....
Silver Wave	.....	.....	.....	.....	.....	.....	.....
Ward Beecher	.....	.....	24000	.....	.....	.....	.....
UTAH.							
Deseret Consolidated	.....	2400	30000	.....	.....	.....	.....
Wellington	.....	.....	50000	.....	.....	.....	.....
OREGON.							
Virtue	.....	2809	20000	.....	.....	.....	.....

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt.	Levied.	Deling'nt.	Sale.	Secretary.	Place of Business.
Alpine G. M. & M. Co.	Cal.		50	July 21	Aug 25	Sept 17	J. F. Lightner,	438 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 23	C. F. Balcom,	426 Monte'y st
American Flat M. Co.	Washoe		50	July 22	Aug 26	Sept 16	G. W. R. King,	411 California st
Buckeyo G. & S. M Co.	Washoe.	8	1 00	July 14	Aug 19	Sept 8	J. Maguire,	419 California st
Belmont M. Co.	Nevada	1	1 00	Aug 13	Sept 20	Oct 13	O. H. Bogart,	411½ California st
Chapman M. & M. Co.	Ely District	4	25	July 28	Sept 2	Sept 26	Frank Swift,	415 Monte'y st
Confidence M. Co.	Cal.	1	1 75	Aug 4	Sept 4	Sept 22	H. Hampton,	217 Sansom st
Cons. Gold Hill Quartz M. Co.	Nev.	1	75	Aug 4	Sept 3	Sept 29	R. Wegener,	414 California st
Charter Oak S. M. Co.	Ely District.		25	July 16	Aug 25	Sept 15	G. W. R. King,	411 California st
Caledonia Co	Nevada.	5	2 00	July 11	Aug 21	Sept 11	R. Wegener,	414 California st
South Eureka M. Co.	Nevada	5	20	Aug 30	Oct 6	Oct 27	T. F. Chester,	438 California st
Empire M. Co.	Idaho	4	3 00	July 16	Aug 25	Sept 22	C. F. Balcom,	426 Monte'y st
El Dorado South Cons. M. Co.	Nev.	1	1 50	Aug. 6	Sept. 12	Oct. 2	Wm. Willis.	419 California st
Eureka M. & S. Co.	Nev.		20	Aug. 21	Sept. 22	Oct. 13	T. F. Beach.	217 Sansome st
Squibob M. Co.	Utah	3	10	Aug. 23	Sept 12	Sept 29		Merchants' Ex
"420" M. Co.	Nevada.	8	122½	July 25	Aug 23	Sept 16	H. C. Howard.	523 Montgomery st
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Golden Eagle M. Co.	Cal.	1	10	July 15	Aug 18	Sept 6	R. Stevenson,	305 Montgomery st
Hahn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 7	Oct 23	R. L. Kimball,	419 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	C. S. Neal,	419 California st
Ida Ellmore M. C.	Idaho.	10	1 50	July 25	Aug. 29.	Sept. 20	Wm. Willis.	419 California st
Justice M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener,	414 California st
Julia O. & S. M. Co.	Washoe	15	75	Aug 5	Sept 8	Sept 27	A. Noel,	419 California st
Knickerbocker M. Co.	Am. Flat	6	1 00	July 24	Aug 25.	Sept. 15	Henry Boyle.	Stevenson's Bld'g
Lady Franklin G. & S. M. Co	Cal.		50	July 1	Aug 15	Sept 15	J. S. Luty,	507 Montgomery st
Lady Emma M. Co.	Cal	4	15	Aug 20	Sept 20	Oct 13	A. D. Carpenter,	605 Clay st
Lady Esten M. Co.	Utah	4	10	Aug 8	Sept 12	Sept 29	C. S. Healy,	Merchants' Ex
Mint G. & S. M. Co.	Washoe		10	Aug 20	Sept 24	Oct 15	D. A. Jennings,	401 California st
Mammoth S. M. Co.	White Pine.		10	July 26	Sept. 1	Sept. 22	J. L. King,	411 California st
New York Cons. M. Co.	Nevada	5	25	Aug 4	Sept 6	Sept 25	H. C. Kibbie,	419 California st
C. H. Treasure M. Co.	White Pine.		1 00	July 31	Sept 6	Sept 30	D. A. Jennings,	401 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 19	Sept 26	Oct 23	C. E. Elliott,	419 California st
Peavine S. M. Co.	Ely District	5	25	Aug 28	Oct 4	Oct 28	C. F. Balcom,	426 Monte'y st
Phoenix S. M. Co.	Eureka, Nevada		25	Aug 5	Sept 11	Oct 2	J. Maguire,	419 California st
Phenix Tunnel & M. Co.	Utah.		10	July 2	Aug. 21	Sept. 5	C. S. Healy.	Merchants' Ex
Page & Panaca S. M. Co.	Ely District	4	50	Aug 12	Sept 16	Oct 6	L. Kaplan,	Merchants' Ex
Rose Knott M. Co.	Am. Flat	1	10	Aug 5	Sept. 9	Sept. 30	S. Phillips,	408 California st
Savage M. Co.	Washoe.		5 00	July 24	Aug. 27	Sept. 15	E. B. Holmes.	Cr. Cal. & Sansome st
South Chariot M. Co.	Idaho.		50	July 29	Sept 8	Sept 29	J. L. King,	411 California st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A Jennings,	401 California st
Succor M. & M. Co.	Washoe	6	75	July 31	Aug 30	Sept 22	W. H. Watson,	302 Monte'y. st
St. Lawrence M. Co.	Cal.	2	1 00	July 23	Aug. 28.	Sept. 16	R. L. Noyes.	411½ California st
Tecumseh G. S. & C. M. Co.	Cal		25	Aug 1	Sept 5	Sept 30	J. E. Hofmann,	418 Kearny st
Tylor M. Co.	Washoe.	2	25	July 25	Aug 28	Sept 13	A. K. Durbrow,	Merchants' Ex
Union G. M. Co.	Cal	7	50	Aug 12	Sept 15	Oct 6	A. K. Durbrow,	Merchants' Ex
Yellow Jacket M. Co.	Washoe.	16	5 00	July 10	Aug 15	Sept 15	G. W. Hopkins,	Gold Hill
Woodville G. & S. M. Co.	Washoe.	2	75	July 16	Aug 19	Sept 6	A Noel,	419 California st
War Eagle M. Co.	Idaho	2	2 50	Aug 13	Sept 22	Oct 13	C. F. Balcom,	426 Monte'y st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings,	401 California st

Other Companies (not on the Lists of the Boards.)

Auburn G. M. Co.	Placer Co., Cal.	5	1 00	Aug 9	Sept 15	Oct 6	R. Wedgener,	414 California st
Buena Vista Vineultural Society.	Cal.		5 00	Aug 5	Sept 8	Oct 1	N. Selmer,	409 Battery st
Cedarberg First Sth. Ext. M. Co.	Cal.	4	5	July 31	Aug 30	Sept 19	J. N. Webster,	506 Monte'y st
Carson Cons. M. Co.	Nevada	1	10	July 28	Aug 30	Sept 22	A. D. Carpenter,	605 Clay st
Caroline M. Co.	Ely District.	1	20	June 30	Aug 8	Sept 4	C. E. Elliot,	419 California st
Clear Lake Water Co.	S. F.		3 40	July 30	Sept 4	Sept 22	S. J. C. Sweezy,	3 & 5 Front st
Cherokee Flat Blue Gravel Co.	Cal.	30	5	July 23	Aug. 26.	Sept. 15	J. Maguire.	603 Washington st
Cincinnati G. & S. Co.	Cal		5	July 7	Aug 18	Sept 1	Wm. Small,	313 Kearny st
Commercial Coal M. Co.	Cal.		50	July 9	Aug. 16	Sept. 3	S. B. Hanson.	402 Monte'y st
Day Spring G. M. Co.	Cal.		5	Aug. 4	Sept. 10	Oct. 1	C. F. Brown.	302 Sansome st
Excelsior M. Co.	Nevada		45	July 31	Aug 30	Sept 20	W. A. Kellmyer,	610 Washington st
Europa M. Co.	Nevada	1	25	Sept 2	Oct 4	Oct 21	R. B. Noyes,	411½ California st
Empire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakins,	230 Kearny st
Greenhorn G. M. Co.	Cal.		1 50	July 11	Aug 18	Sept 10	Joel F. Lightner,	438 California st
Hasloe M. & M. Co.	Cal.	2	75	Aug 13	Sept 13	Oct 6	J. W. Tripp,	408 California st
Honeaguen M. Co.	Lower Cal.	7	3 00	July 29	Sept 8	Oct 27	J. H. Applegate,	725 Monte'y. st
Kincaid Flat M. Co.	Cal		4 00	Aug 6	Sept 8	Sept 29	R. H. Cornell,	217 Sansome st
Lucky G. M. Co.	Cal.	1	10	Aug. 6	Sept. 6	Sept. 29	R. B. Noyes	411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 13	G. R. Spinney,	320 California st
Mazeppa M. Co.	Ely District	2	50	Aug 15	Sept 20	Oct 8	M. F. Cane,	220 Sansome st
North Bloomfield Gravel M. Co.	Cal	27	1 00	Aug. 22	Sept 26	Oct 14	Thos. Derby,	320 Sansome st
North Star G. M. Co.	Cal		4 00	Aug 13	Sept 17	Oct 8	D. A. Jennings,	401 California st
National M. Co.	Nevada		50	July 31	Sept 5	Sept 29	B. B. Minor,	411½ California st
Pacific Coast Wrecking Co.	S. F.		5 00	Aug 5	Sept 12	Oct 6	G. S. Pratt,	204 Monte'y. st
Pride of the Mountain M. Co.	Nevada		10	Aug 5	Sept 30	Oct 20	T. W. Coburn,	419 California st
Red Branch G. & S. M. Co.	Cal	1	5	Aug 16	Sept 26	Oct 20	F. D. Cleary,	Merchants' Ex
Santa Cruz Coal M. Co.	Cal	3	5	Aug 19	Sept 23	Oct 11	L. Kaplan,	113 Leidesdorff st
Sanderson G. M. Co.	Cal.	6	15	Aug. 4	Sept. 1	Sept. 17	Wm. Stuart.	113 Leidesdorff st
Seattle Coal & Trans'n. Co.	Oregon		2 00	Aug 4	Sept 5	Sept 25	H. L. Huttenson,	537 Market st
San Jose M. Co.	Nev.	3	5 00	July 24	Aug. 25	Sept. 25	A. C. Carrigan.	301 Front st
Summit M. Co.	Cal.	4	25	July 21	Aug 26	Sept 15	Geo. Davidson,	734 Montgomery st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 31	L. Franconi,	314 California st
San Marcial S. M. Co.	Mexico		1 50	Aug 25	Sept 26	Oct 16	C. F. Schulze,	426 Monte'y st
Umpire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakin,	230 Kearny st
Washington M. Co.	Cal		2 00	Aug 11	Sept 16	Oct 10	T. B. Wingard,	318 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Cosala S. M. Co.	Mexico	Chas. Baum,	510 Battery st	Annual	Sept 15
Cerbat Cons. O. & S. M. Co.	Cal	T. E. Jewell,	507 Montgomery st	Annual	Sept 10
Ida Elmore M. Co.	Idaho	Called by Trustees,	419 California st	Special	Sept 9
K. K. Consolidated M. Co.	Nevada	B. B. Minor,	411½ California st	Annual	Sept 5
Mohave Cons, M. Co.		T. E. Jewell,	507 Monte'y st	Annual	Sept 8
Noonday S. M. Co.	Nevada	J. Maguire,	419 California st	Adjourned	Sept 5
Rising Star M. Co.	Cal	J. M. Buffington,	Merchants' Ex	Annual	Sept 4
Virtue M. Co.	Oregon	C. F. Balcom,	426 Monte'y st	Annual	Sept 1
Victoria & Imperial T. & M. Co.	Utah	W. H. Watson,	302 Monte'y st	Annual	Sept 11

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	P. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Nevada.	H. C. Kibbe,	419 California st.	7 00	Aug 9
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	4 00	Aug. 6
Cedarberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Fasset.	220 Clay St	1 00	Jan. 20
Eureka M. Co.	Grase Valley, Cal.	H. Wegener,	414 California st	1 00	Sept 6
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor,	419 California st.	1 00	Aug 20
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Aug 9
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Aug 14
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Aug 7
Meadow Valley M. Co.	Ely District.	T. W. Coburn,	409 California St.	1 00	July 15
Mahogany C. & S. M. Co.	Idaho.	E. McFadden.	402 Montgry. St.	1 50	Aug. 7
National Gold Bank & Trust Co	Nevada.	B. B. Minor,	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	5 00	Feb. 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r,	M't. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	Pichoir,	Cor. Mont'g. & Wash. sts	1½ per cent.	Aug 15
German Savings & Loan Society,	S. F.	Geo. Lette.	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society.	S. F.	A. Hartmann,	16 Geary st.	9 6-10, 8 & 4 per cent.	July 16
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No. 6 Post st	9.75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April
Pioneer Land & Loan Association,	S. F.	H. Kofahe. Ch'r.,	405 California st.	1 per cent.	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	C. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 per cent	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

A NEW quicksilver mine has been found near the east end of the "Hog's Back," on the road from Healdsburgh to the Geysers, Sonoma county.

THE Brown Bear Ledge, according to the Yreka *Union* has just turned out 210 ounces of gold from 80 tons of rock.

THE Raymond & Ely mine has more lega trouble on its hands, a restraining order against it having been issued from the United States District Court of Nevada. The ground in dispute is claimed by the Kentucky Mining Co. It is the same as that claimed by the Hermes, Pioche and Raymond & Ely.

Our Weekly Stock Review.

SAN FRANCISCO, September 4, 1873.

At last we are able to chronicle an improvement in the mining stock market, which has occurred during the latter part of this week. Stocks had fallen about as low as it was possible for them to do and everybody expected a rise after election, but it began a day or two before and still continues. The rise is not very great, but in view of the late general depression which has lasted so long, it is quite encouraging. We may congratulate ourselves on the fact, however, that during all this stock depression legitimate mining has been prosecuted with even more vigor than usual, and the bullion production of the mines of the Coast is steadily increasing. Wherever good, first-class mines are found, the owners would rather hold on to them themselves than trust the property in the doubtful and variable form of stock, which is liable to fluctuate disastrously through extraneous circumstances. In fact legitimate mining enterprises are far more plentiful than they have heretofore been, for people no longer buy "paper mines." There must be some foundation or no money can be raised.

The Raymond & Ely Company are in more trouble, an injunction having been served upon them, to stop work on the ground formerly claimed by the Hermes, the title to which is claimed by the Kentucky.

The dividend declared by the Eureka (Gr

blankets and grub, sailed out for Waucoha last Thursday, on a general prospect. The Waucoha company have a few men at work driving tunnels, etc., but it is rumored that they will undertake some important operations before long.

AMADOR.

The Oneida Mine.—Sutter Creek *Independent*, August 23: We are pleased to learn that the work on this mine is prospering finely. The rock from the lower levels never looked better, and the hanging and foot walls are as firm and well defined as any in the county. The mill is running with a full force and crushes out its regular monthly allowance of the precious metal. Under the able superintendence of Wm. M. Stewart, Esq., the Oneida has been made a paying institution, and its owners will soon be rewarded for their long waiting. The machinery and works are all in excellent order.

CALAVERAS.

Happy Valley Fluming Claim.—Calaveras *Chronicle*, August 23: We learn that work is steadily progressing in the old Happy Valley Fluming claim with very flattering results. Mr. Drumm, proprietor of the mine, is preparing to make extensive improvements, contemplating the laying down of an entirely new flume. He is just reaching the deep deposits of gravel in the flat that composes the claim, and there is every indication that the yield of the mine in the future will be even greater than in the past. Happy Valley isn't played out yet.

Rich Rock.—We are glad to learn that rich rock has been struck in the 200-foot levels of the Good Hope mine at Mosquito Gulch. Quartz is now being taken out in quantities sufficient to keep the mill—an 8-stamp battery—in constant operation. We expect to be able to chronicle very favorable results from the crushing in a few days.

San Bruno.—We learn that rock has been struck in the tunnel that is being run in the San Bruno mine at Mosquito. The tunnel is about 400 ft. in length, and is nearly all the way in bedrock. The ledge, where uncovered, is about 2 ft. thick and shows very well. The proprietors of the San Bruno deserve a rich reward for their energy and perseverance, and indications are that they will meet it.

Blue Mountain Mines.—The furnace for roasting sulphurets, at the Heckendorn mine, is completed. This is of great importance in the working of the mine, and is a perfect success, for being so worked the sulphurets pay from $150 to $200 per ton. A second and lower turbine water-wheel has been added to the motive power of the mill, so, with the same supply of water, a much larger quantity of quartz will be crushed daily. The Imperatrice Eugenie, Prince Imperial and Good Hunter, also prove to be very rich; good quartz and wide veins. A wagon road from Sandy Gulch to Blue Mountain will be opened very soon.

The Stickle.—Sutter Creek *Independent*, Aug. 23: The Stickle at Angels closed out one day last week. Several men were in consequence thrown out of work, and will have to seek employment elsewhere.

The "Big Mine," of the same place, still continues work, though fears are entertained that it may be stopped soon unless better rock is found.

The Wallace & Ferguson, at Sheep Ranch, holds out as good as ever. The rock now being crushed yields from $40 to $50 per ton; and the cost of taking it out, hauling and crushing will not exceed $10 to the ton. The rock which is now taken out comes from the drifts near the surface. Deeper down it pays as high as $200, and from that to $500. Of course the extra rich rock comes out in smaller quantities and is attended with greater expense.

HUMBOLDT.

Columbia District.—Yreka *Union*, Aug. 23: A Coyote shaft on the Badger has followed the vein to a depth of some twenty feet, yielding a constant quality of ore that will produce over $100 a ton.

The Rosedale and Extension were down about 10 feet, the ore being of the same character as the Badger, except that it contains more silver.

The Goose Lake claim has exhibited two or three pockets surpassing anything I have ever seen in the mines—the rock literally hanging together by the net work of gold running through it after being shivered under the hammer. The Gaddy, Shoo Fly, and several other claims lately discovered prospect about the same as those named, but their state of development could give no satisfaction as to their extent. In a few words the prospect was never better for a fine and prosperous camp.

NEVADA COUNTY.

Starten Up.—Grass Valley *Union*, August 26: Yesterday the steam machinery for driving the pumping and hoisting works at the Magenta mine was started up. Everything worked well and harmoniously. The Magenta is north of the Empire and is on the Ophir Hill and Rich Hill ledges. Sinking and systematic development will be pushed rapidly forward, and we have no doubt but a fine mine will be opened. Mr. George C. King is the Superintendent.

SANTA CLARA COUNTY.

McLeod Mining District.—Gilroy *Advocate*, August 30: We are pleased to learn that the news from the McLeod Mining District is cheering. The Stayton Bros., after a long siege of patient toil, having struck immense deposits of quicksilver in their claims. Indeed we hear on good authority that there are tons of the richest quality of ore in view. They have, through their energy and perseverance, developed a district rich in mineral wealth, that will add much to the prosperity of Gilroy.

TRINITY.

Minersville.—Trinity *Journal*, Aug. 30: We passed through this place on Tuesday last. From the quietude which prevailed a stranger might have thought it the center of one of those dead and alive places in the mines that we read of. Such is not the case, however, the miners being all busy at work preparing for the approaching winter, which they are in hopes will be a wet one. There has been quite an accession to the population of this camp since the election last Fall, as the vote next week will doubtless show. Both Stewart's Fork and East Fork are lower this Summer than ever before known, and mining along the latter stream is pretty much at a stand-still, there being but one company at work there.

TUOLUMNE.

Kincaid Flat Tunnel.—Union *Democrat*, Aug. 30: During the season the company owning this claim have been engaged in opening it up; a large hole in the flat has been washed out by hydraulic means. Vast amount of boulders have been encountered, leaving small quantity of earth for washing. What ground was washed paid very well. The tunnel is being extended 250 ft. further into the flat, which will bring it to the deep ground that is believed to be rich. The tunnel is now being run at the rate of 7 feet every 24 hours.

Tuolumne Hydraulic Mining Claim.—In this claim, formerly known as the Rough and Ready, situated in Table Mountain, we learn a fine lead of gravel has been developed that pays handsomely. This new find is way in the mountain, beyond where the old company worked, and where the new one commenced.

The Table Mountain Blue Gravel M. Co.—Union *Democrat*, Aug. 23: We learn that the results in this mine are proving highly satisfactory, being enabled to declare dividends right along. This company have recently purchased the adjoining Alpha claim and are making preparations for extensive operations. The old works are being pushed, and a contract for another incline was made last week and work was commenced this week. In a few days this company will have 150 men at work.

Tuolumne *Independent*, August 23: Patterson Mine.—Yields some very rich specimens of gold quartz, not found yet in great abundance, but with such richness as to give most encouraging promise.

Gross Mine.—On same lead as Pattereon, yields by arastra from $60 to $120 per ton, and has ore enough in sight to pay the cost of a quartz mill.

Raw Hide Mine.—Is just beginning work in earnest to reduce the water first and then the rock. Two buckets in this mine will discharge 10,000 gallons per hour and the pump 15,000 ditto.

On the Ford Claim.—At Saw Mill Flat, Whiting, Gorham and Wilson have struck another rich pocket in their lode. They do not talk much about it, but report says they got about $3,000 last week.

Table Mountain.—Gravel mines hold out better encouragement than ever. The men who have long waited for something to turn up in that hitherto quiet region west of Table Mountain seem about to realize their wish.

Nevada.

WASHOE.

Crown Point.—Gold Hill *News* Aug. 30: Sufficient ore is being extracted to keep all the mills going. The Rhode Island, Atlas and Pioneer mills in Gold Cañon are being run to their full capacity, as is also the Morgan mill, on the Carson river; the Brunswick and Mexican are crushing 50 tons of ore per day each; the usual amount of ore is still being extracted from the 1,000, 1,200 and 1,300 ft. levels. The ore breasts are looking as well as usual. The work of sinking the north and middle winzes from the 1,300 ft. level is being pushed forward as fast as the water recedes; the pumps are kept busy all the while; all of the winzes are in high grade ore; the south drift, on the 1,400 ft. level, is being driven rapidly forward toward the Belcher line. The drift, from the 1,500 ft. station, is being pushed ahead vigorously.

Consolidated Virginia.—At this mine the greatest activity prevails in all the departments. A strong force of carpenters are employed in the construction of machine, blacksmith and carpenter shops, and a heavy stone wall is in process of erection in front of the works on F street, for the foundation of the ore house. The excavations for the several tank-pits in the main shaft are completed, and the tanks are being constructed therein. The pumps are nearly all in readiness for lowering to their respective stations in the shaft. Better progress is now being made in the drift from the Gould & Curry mine (1600-ft. level). The flow of water therefrom has greatly decreased, and it has been advanced 3 ft. per day during the past week.

Ophir.—The sump to the main shaft, 20 ft. deep below the 1700-ft. level, is completed, and the station for the drift in the ledge is being opened. The vein matter is chiefly barren quartz and clay. There is a body of quartz found at this point 2 ft. wide at the north side of the shaft and 6 ft. on the south. It assays mere traces, but the drift may possibly follow it south into a body of ore. The south drift at the 1300-ft. level is being driven ahead in favorable looking quartz, mixed with clay and porphyry. The quartz gives low assays.

New York Consolidated.—Shaft 335 ft. Water increases considerably at the bottom of the shaft, but is kept out by the bailing and pumping arrangements, and very good progress under the circumstances is made in sinking. The indications at the bottom of the shaft are of the most favorable character, unusually so, for striking a good ledge.

Gould & Curry.—Daily yield 45 tons of ore, taken from the second and fourth levels. On the 1500-ft. level two cross-cuts are being made in the vein, and ore of a low grade has been met with within the last few days. On the 1600-ft. level the east cross-cut presents but little change. The quartz continues in the drift is carried forward. The east wall has not yet been reached. Considerable water has been flowing from the face of the opening during the past three days, which indicates its close proximity to the eastern ore vein.

Dayton.—The main drift running west from the first station, at the 225-ft. level, has passed through 30 ft. of ledge, showing 18 ft. of fine ore. The work of extracting the pay-ore progresses. On the 1st of next month will commence driving northward on the vein a distance of 150 ft. to a point underneath a winze, which is being sunk from the level above, where a large ore body was developed last year.

Hale & Norcross.—Daily yield, 45 tons of ore, which is reduced at the Trench mill, in Silver City. The ore-breasts throughout the upper levels of the mine present but little change since our last weekly report. On the lower level they are running many exploring drifts, in some of which the indications are very flattering. They are now occupied in excavating a tank and pump bob-pit in the main incline, preparatory to sinking for the 1,000-ft. level.

Belcher.—Daily yield 400 tons from the ore sections of the four lowest levels, all of which continue looking and yielding well as usual. The main incline is down 67 feet below the 1300-ft. station. The rock at the bottom is hard, but works well. The drift from the incline to meet the drift south from the ore-stopes of the 1300-ft. level is in 33 ft., and being driven ahead as fast as possible. The south drift aforesaid is in 327 ft. from the Crown Point line, with the face still in good pay-ore; and the cross-cut east is in 45 ft., all the way in excellent ore. The winze, below the 1300-ft. level, is down 55 ft., and that below the 1200-ft. level is down 23 ft., both in fine ore.

Silver Hill.—Extracting the usual amount of ore, which is taken from the body south of the shaft, and from the ore deposit north of the same. During the week, farther north and 50 ft. from the Justice line, some very good ore has been found, which bids fair to be a substantial and permanent body. The work of prospecting in the second station and driving the main drift north is being pushed forward vigorously. The general appearance of the mine is good.

Imperial.—No particular change to note in the appearance of the mine since last report, and no new ore developments. A seam of clay is cut through in the east drift at the 1,700-ft. level, but the rock beyond it appears about the same as that already passed through—no ore in it. Some little water is encountered, but no sign of east wall. The south drift at that level is still in quartz, and of a more favorable character than heretofore. The main incline is 140 feet below the 1,700-ft. level, making six or seven feet per week.

Sutro Tunnel.—Total length 4,310 ft. Besides working in the face of the main tunnel, work is resumed in shaft No. 1, which is down to the tunnel level, drifting both east and west on the line of the tunnel. Over 100 ft. of tunnel has thus been made through this shaft during the past week or so. Operations are about being resumed at the other 3 shafts along the line.

Mint.—Still drifting ahead along the ledge at the second level, with very encouraging indications. Another level below would more effectually and satisfactorily test this mine, and the company will doubtless soon decide to sink their main shaft deeper for this purpose. The ledge, so far as explored, shows finely, the rock being of excellent and most promising character.

Julia.—Driving the east drift on the 800-ft. level; face of drift in solid quartz. Character of rock black, dirty looking, and carrying very little metal. Lowering the water in the shaft steadily. About 60 ft. of water remaining above the 1000-ft. level. Have just placed in position a new engine, together with a No. 4 Root-blower which started up yesterday.

Knickerbocker.—Main west drift in 756 ft., the face showing quartz and other vein-matter of a very encouraging character. The cross-cut of the southwest is in 167 ft., with the face in hard rock, which works well, however, and looks fine. The general progress of work in this mine is very satisfactory.

Empire.—At the 1700-ft. level the east cross-cut has passed through a clay seam, but the rock beyond is softer, allowing of better progress. This drift will be run east till sure of being beyond the east wall. A drift is being run north from the winze, a short distance below the 1600-ft. level, in a place which promises good ore-development.

Chollar-Potosi.—Daily yield 145 tons, giving average assays from car samples of $34 per ton. The old ore sections continue looking well, and the ore from the east drift recently run from the west Blue Wing section yields the same as last week—about $10 per ton.

Occidental.—In this mine the work of extending the lower tunnel is continued, with flattering prospects as to the quality and extent of the ore-vein. The ore-breasts in the upper and lower tunnels are looking well. The mill is constantly employed in reducing the ore.

Caledonia.—Extracting about 60 tons of ore per day, taken from the 400 and 500 ft. levels. Furnishing the Sapphire mill, and ore accumulating. The new development on the 500-foot level show material improvement both in the quantity and the quality of ore.

Baltimore Consolidated.—We have no particular news of importance to record relative to this mine, this week. Work is going ahead at the upper and lower levels as usual. Water troubles considerably, especially at the lower level, but it is draining out fast.

Tyler.—The ground at the lower part of the shaft has been very bad, and difficult to manage from its disposition to cave, but it is at last well secured, and good headway is being made in sinking. The pumps and everything work well.

Buckeye.—The ore breasts all look and prospect better than they have for some time past, consequently better milling returns are realized. The average assay of car samples is about $17 per ton.

Woonville.—A new plan of operation has been determined upon with reference to this mine. The Superintendent has received orders to discontinue the sinking of the old incline and to sink a three-compartment perpendicular shaft which will be located some 400 or 500 ft. north, and 300 ft. east of the old incline. In the mean time they will take out all the ore that can be found in the old mine, the present daily yield of which is sufficient to supply a ten-stamp mill.

Justice.—The cross-cut east at the 400-ft. level is progressing well, and is expected to encounter good ore very shortly. The prospecting drifts of the south mine are showing well, considerable good ore is being taken from the Waller Defeat section.

American Flat.—The main drift from the Baltimore 450-ft. level is progressing ahead at a lively rate, and the indications are very promising, even more so than in the Baltimore at that point.

Savage.—Cross-cutting at the 1600 and 1700-ft. levels develope nothing new as yet. Good work is done there, and also in sinking the incline, the rock working well.

Succor.—Sinking the small shaft in the ravine is stopped on account of water, and a drift is now being run for the ledge, which is near at hand. Good pay ore is expected.

Utah.—The pump engine and pump will be ready for work within a very few days. The sinking of the main shaft will then be resumed.

WHITE PINE DISTRICT.

Eagar Mine.—Work in the 150-ft. level is being pushed ahead with all speed, and reveals immense quantities of ore with a splendid prospect of continuance. The main drift from the Eagar shaft is now being followed in good ore toward and under the workings of the Hidden Treasure, and, as progress is made, the vein shows a decided pitch downward. We were allowed to see the result of several blasts at the time of our visit, it being nearly six o'clock, and the shifts in the act of relieving each other, which gave us a better idea of the immense amount of pay ore being taken out at this time. The usual average of 30 tons per day is being shipped from the mine, and the amount could easily be doubled without much extra exertion.

Eberhardt & Aurora. — The mines of the Eberhardt & Aurora Company are still looking well, and continue to produce the usual amount of fine ore. The Peerless Chamber particularly, shows no signs of diminution, but, on the contrary, gives rise to great hopes of its permanency as an ore-producing locality. The contract for crushing ore for the company, entered into with the Stanford mill, is nearly completed, and, by the 1st of next month, prospecting will be vigorously pushed ahead on other portions of the mines to enable the company to open ore bodies sufficient to supply the new mill, now in course of erection, during the Winter months.

Effect on Eberhardt.—Our neighboring camp at Eberhardt begins to assume a more lively appearance than has been the case there for many months, consequent on the work being done by the English company. Buildings long unoccupied are being refitted, and parties are busy getting things in shape for the increasing trade.

Arizona and Utah.—Sinking the incline east from the shaft rapidly, encountering low grade ore all along. Sinking main shaft as usual.

Sierra Nevada. — Extracting and milling sixty tons per day. The ore taken from surface workings is improving in quality.

Pictou.—About 40 feet have been added to the length of the tunnel since last report. Ground working well.

Crown Point Ravine. — The developments in the 250-ft. level continue looking well. Some very good assays are given.

Yellow Jacket. — Nothing new to report. Still drifting in the ledge at the 1400 and 1500-ft. levels.

The Buchanan Tunnel.—This tunnel, in Table Mountain, on Fonda's ranch, west of Columbia, has recently been re-opened by James W. Mandeville & Co., with Mr. M. as Superintendent. This claim was suspended some years ago on account of water, the tunnel not being deep enough to drain the ground. As soon as the present Co. get in to the gravel, they will put on machinery to cure the water evil, and will be well rewarded, as the claim is reported valuable.

San Francisco Manufactures. — What they Are and Might be.

In s city like San Francisco, not more thsn twenty-five years old, and the capital of a land chiefly famed for its metallic treasures of gold and silver, it would not be expected that any great manufacturing prominence should be attained, inasmuch as the length of time elapsing would be too short to permit of the gathering together of a sufficiently large population, and even then the minds of the people might naturally be expected to be fixed on other and more enticing pursuits. Nevertheless the status attained is fully commensurate with her population, though not with the population of the coast, of which she may be regarded as the capitsl. Excluding the value of the gold and silver refined, that of the other manufactures of which San Francisco is the seat cannot be less than $45,000,000, although the census returns would not make them so much, but considering that for various reasons not necessary to mention, the enumerators would not have been given the true returns, their growth for the last three years would be amply sufficient to make up the difference, so that we may make it that at least. Besides in the course of a very exhaustive review made by the *Bulletin*, a couple of years since, it was set down at just that figure.

The Principal Articles Manufactured

Are those of which Iron, Lumber, Leather, Tobacco, Wool, and the various food-producing articles are the besis. One entire section of our city is occupied preponderatingly by foundries, both in iron and brass, by boiler shops and machine shops. The demands of the great mines of the coast, impossible to be satisfied elsewhere, have called into existence the scores of busy workshops that exist in this section, and have given employment to their hundreds of workmen. Then the preparation of the prodnct of our various mills, of our furniture factories, and of our coach aud carriage factories need the services of several thousand busy and contented *proletaires*. The leather of this State, tanned as it is with oak bark, is much superior to the ordinary Eastern leather, and there is a demand in New York, Boston, Philadelphia, and other manufacturing centres for all that we can produce and much more too. Great portions of this State are fit only for pastoral purposes —at least one-half of it is of this character, and the flocks and herds of to-day would not be missed ont of those of twenty years to come, while our own demand and thst of those centres spoken of will be enormonsly increased. The leather now made up in San Francisco workshops is of all sorts, principally, however, the more common and utilitarian article of sole leather. But kip, kide, etc., are also made, and by men whose enterprise and faith in the building up of a trade in the locally manufactured articles which should drive away that in the imported, has through years of discouragement never for a moment flagged. Great progress has also been made in the art preparing faucy colored leathers from sheep and goat skin, and a large quantity is already supplied to our boot and shoe manufacturers and book binders. Boot and shoe manufacturing has during the last four or five years taken great strides, and now the Crispins of our city are fully as important members of the social and political body politic as they are in the New York, Philadelphia and Massachusetts.

Shoe Manufacturing Centres of the East.

It might be thonght that the cheap labor, better machinery, and larger establishments of the East would fsvor its commercial men and by making them able to produce so much more cheaply than we can, render impossible competition, on the part of local manufacturers. But our people do not run on cheap foot gear as a rule, and never have done so; they want good understandings, and the importations have not been as remarkable for durability as for cheapness. This afforded some enterprising men amongst us the opportunity sought, and the superior articles made by them has for years held its own against all competition. Still the trade in Eastern ware has continued large, forming fifty per cent of the whole, but that is also being undermined by the employment of Chinese labor which produces cheap shoes which do not bear unfavorable comparison with those of the East. As to the propriety of exposing Eastern white workmen to this kind of competition we express no opinion, and refer to it merely as a commercial fact. The reasons given sufficiently account for the prosperity of the numerous establishments with their thousands of workmen. In a country where

Nature has Scattered her Riches

With so lavish a hand, and whcre the general prosperity and riches are consequently so far in advance of that elsewhere wituessed, the character of the community as a luxurious one might be expected to rank high, and amongst other directions to make itself felt in the direction of more than ordinary gorgeous turn outs. And so it is—the proportion of the people who avail themselves of walking as a means of imparting health and vigor to their bnsiness enervated frames, is probably smaller than in any other American continent, and the extensive employment of horse flesh has given rise to an equally extensive demand for all tbe gear accompanying it. Hence the saddlery and harness business is one of the most flourishing in the Golden City. Manufacturing is prosperous too, although the import trade is immense, and npwards of fifty establishments sttest the growing importance of the local trade.

Our Woolen Mills.

Thongh even now large and pretentious institutions may be regarded as only in their infancy. We have all the facilities that could be wished, for the manufacture of woolen goods. And the raw material we have in such abundanco, that we are not excelled in that particular by any city on the American continent. There are the foothills which can raise an illimitable number of sheep, producing the best wool in the world, and then we have the great continent of Australia from which we can draw equally illimitable supplies—sufficient to prodnce all the woolen goods required for the supply of the markets of the earth. Almost with the establishtion of our State did the Pioneers of this business start in this city. Followed up by Donald McLennan, the Mission Woolen Mills were established, which absorbed the Pacific, and which is becoming not only one of the largest establishments on the Pacific Coast, but throughout the Union. The cloths made at our local woolen mills, and also we may say, at the Pacific Coast ones in general, are, though wanting in the variety which they will exhibit when a larger market justifies the additional expense, said by those who claim to be connoisaurs, to be equal to any and superior to many of those manufactured at the most celebrated mills of the East. And the blankets, shirts, etc., are certainly of quality with which anything imported might in vain hope to compete. Over one million and a half dollars worth of woolen goods are turned out annually by these two mills. San Francisco must always be the great centre of this manufacture, for though many places throughout the State are, from position, water power, etc., peculiarly suited to it, yet as everything required in it, save the raw material, must be lookcd for in this city and transported thence to the interior, and as the bulk of the manufacture would have to be brought hither as its distributing point, and as capital will always tend towards the great centres of population, it is evident that competition with Golden City mills will become a very difficult if not impossible task. In the matter of textile fabrics outside of weoleu goods, we have made very small progress. Thus though the mulberry thrives here as in sunny Italy, and though the cocoons produced are of the first quality and productivness in the world, yet all we have as yet to show in the city or State is a silk thread factory, a ribbon factory, and a silk factory just beginning to struggle for existence. The silk thread factory has not been half as prosperous as the enterprise of its promoters deserved, at one time it gave employment to fifty hands, but the nnmber should be doubled. Both the ribbon mill and the silk factory known as the Franco-Itslian silk factory are new enterprises, and have a great deal of uphill work to perform before they can hope to begin to displace the fabrics of England and France. But their promoters are men of push and enterprise and we have no doubt will finally overcome all the difficultcs that lie now in their somewhat thorny path. In the manufacture of substances used as articlcs of food and in that of

Malt and Spiritous Liquors,

It is our opinion that we do not rank the last of the cities of the Union, and probably shall not, as the Temperance excitement which has taken hold on the people of many of the Eastern States, will have the effect of shutting up many of the giant establishments there existent, may perhaps, of driving hither some of the thirsty souls whose longings cannot be appcased by the ginger-beer and sparkling water of the Atlantic States. But without any such adventitious aid we can make a respectable showing, and one quito creditable to the bibulous tendencies of our people. Just for a moment try and imagine what becomes of the odd one hundred and fifty thousand barrels of lager, of ale, and of porter which are here made by the sons of the land of the Rhine, assisted by those of a few other nations. One of the largest manufacturing establishments that we have in the city is one for the making of lager, where nearly thirty thousand barrels are made yearly. And the San Francisco Stock Brewery pays its dividends with a regularity unexcelled even by Belcher and Crown Point, and promises to do so at least as long as they. The ale and porter made at another manufacturing establishment is claimed to be equal to any that ever saw the light behind the white cliffs of chalky Albion, or the emerald sea slopes of green Erin.

The Beer, Ale and Porter manufacturers numbering close on forty, cast all other similar institutions into the shade. There are only four distilleries, but these make up in quality for what they want in number, producing on an average half a million of gallons annually. Just imagine what a fiery throat the sovereign people must have to swallow all this, in addition to the stock of fire waters imported from abroad, and marvel not if the over zealous should hint that it was the tunnel that led to shades Tartarean. The distilleries which all cost a great deal of money, are most of them substantially built, and are furnished with elaborate machinery, worth thousands on thousands of dollars. The manufacture of California Champagne occupies three establishments, including the well known house of Landsberger & Co., and Eberhardt & Lachmund. These gentlemen aim to monopolize the home market, and to supply at least *real* Champagne, and they also are determined to make New York and its sister Eastern States bow the knee to Oalifornia in the matter of Champagnes and other wines hitherto looked for almost entirely to France and Spain. But it ie not only to the East thst they may look for laurels. Shipments have been sent to England, who may cre long in order to gratify the tastes of her subjects for California Champagnes deem it expedient to conclude a commercial treaty in their regard with the United States, similar to that which she concluded with France. We need say little more about the minor manufactures included under the heading of liquors, further than to say that we prepare malt, make soda, and refine spirite, and that under the experienced manipulation of those whom it may concern, Alcohol becomes quickly changed to Gin, Brandy, Whiskey or Rum, at the good will and pleasure of tbe operator. The aggregate value of the manufacture of articles of

Domestic Economy

Is by far the largest of any (not less than twelve or thirteen millions of dollars worth per annum) clsss of goods being made in our city. The production of Flour by the mills of the city both for local trade and for export is always large, never being less than three hundred thousand barrels and not unfrequently more. Of this, much finds its way to China, Australia and Manilla—even to London. One of the largest and most important industries that we have hitherto carried on has been that of Fruit and Meat Canning and Preserving, and it is likely to be of still more importance in the not distant future. A very few years since, this industry was started by poor men, with all tbe reputation of first-class Eastern goods to contend against. They had no particular help, nothing but their own indomitable will and strength of purpose carried them along and enabled them to steer clear of all the shoals and breakers that surrounded their course. This much may be said of this business, that its value aggregates now at least two million dollars per annum, and that it has furnished to the farmer and fruit grower a means for disposing of all the fruit they may raise for California, preserved fruit is in demand all over the world. The business consumes over one million pounds of the finest sugar, over three million pounds of fruit, and one hundred thousand pounds of meat. And though Salmon is not packed in this city, it is sold by all our packers, and is exported to all countries, England, Australia, and other lands taking away large quantities by every ship aud every steamer.

Pork and Beef-Packing

Used to rank high in the industrial scale, and in addition to other things we used to make besides other products, over one million pounds of Ham and Bacon yearly. But that is so uo longer. The railroad has helped along the Eastern mannfacturers so that they have almost ruu our present establishments out. All the islands of the Pacific almost pay tribute to us in the shape of Coffee unground. Central America comes first, and promises to be one of the best, if not the best of our sources of supply. Manilla comes next, etc. Nearly three million pounds are ground in this city. This with the grinding of Spice gives eight or nine establishments support by this very necessary process. Besides the Coffee, these establishments put up every twelve months about a million and a quarter pounds of Spice.

In things of comparatively little moment or those which would naturally be deemed as such, inasmuch as their place in the economy of home is small we have quite a large and flourishing manufacturing trade. We have two manufacturers of Mustard, but Burr & Co., take the lead. Their factory at North Beach is one of the most complete establishments in the city, and contains improvements in machinery unknown elsewhere. The product of both factories is fast taking the place of the foreign article. The seed used formerly to be obtained from the wild Mustard plant which grows extensively all over the State, but of late farmers have paid attention to its cultivation, and the most of it used now has been cultivated. Not less than half a million pounds are annually manufactured. The Biscuit and Ship Bread manufactured is worth half a million dollars yearly, the weigbt in pounds being nearly ten million. It is of a superior quality and is made almost exclusively by one company, which has swallowed up three or four others that formerly had an existence in this city.

Yeast Powders, Cream Tartar, etc., occupy one large establishment and three or four small ones. A quarter of a million gallons of Wine are yearly converted into vinegar. The production of Maccaroni, Chocolate, etc., occupies four factories. The former, made by Italians, vies in quality and variety with that produced on the shores of the Mediterancan. The Chocolate is made by one firm only, that of Ghirardelli & Co., also Italians.

Cigars

Are *par excellence* the manufactnre of San Francisco, not less than three thousand men being employed in their manufacture, and the establishments where they are produced numbering over one hundred. Tho annual value of the manufactured article is over five million dollars, and the cigars made are of the immense number of one hundred and fifty millions. This business is the stronghold of the heathen Chinee, and at least one half of the number of those engaged in industrial pursuits in San Francisco, are engaged in putting up in this form the fragrant weed, the prodnce of Connecticut and Havana. San Francisco cigars are known in every portion of the Union. A few white men are engsged in the business, and there is a Spanish Cigar Maker's Association, the members of whom are Mexicans, and who are not regarded in the most favorable light by those who employ Chincso. Some of the establishments are immense, the nnmber of hands employed reaching far away up into the hundreds.

The Manufacture of Chemicals

Has long been struggling ahead in our city, and was far more prosperous two or three years ago than it is at present. Acids have been the principal product, there being at one time three establishments devoted to that object. A step in advance has been lately made by the Pacific Chemical Company, who have established works at North Beach, under the superintendence of Mr. Henry G. Hanks, a practical chemist. The company propose increasing their facilities as necessity demands, and are now running on a firm basis. Manufactures of Sulphates, etc., are extensively carried on at Hunter's Point, and at an establishment on the San Bruno road, and two or three have snccessfully carried on the preparations of tho various forms in which Soda is used in commerce, the refining of which, large quantities are now sent by almost every steamer to the East, and also to England has for a couple of years lsst formed quite an item of our industrial interests.

In so Wealthy a Community

It was to be expected that the furniture and appointments of our private houses wonld be most superb, and that our millionsires would not be over particular as to the price paid by them for good articles, and this has been the case, the result being the establishment of a great furniture and upholstery manufacturing interest. The quality of some of the warc is most superb, and the workmanship hardly to be excelled while in the latter the richest tissues issuing from the looms of France, England and Germany are used with a lavish prodigality characteristic of the land of gold. It is quite common for orders for furniture, etc., of a single chamber, worth thousands of dollars to be received. And the arrangements for turning the more common and useful articles have reached a high degree of perfection, the story of the wool going in at one door of the factory and coming out at the other in the form of ready-made clothing, being well illustrated in at least one of our furniture factories. The finest palace car ever constructed in America was made at the factory of the Kimball company on Fourth street. The most beautiful and gorgeous woods with hues born of the tropics, and yielding when polished the most brilliant colors were used in it, and whether the material or the workmanship was considered, it was indeed unrivalled. Sent East it perished in the great fire of Chicago. The factory to which we have made reference, in connection with, is one of the representative ones of the State. Carriage, railroad car-building, etc., being carried on in it, and each department being a complete establishment iu itself. There are at least fifty smaller ones scattered over the city, the most noticeable of which is that of Pollard & Carvill, whose carriage work is unrivalled. Receiving in this city every year over

Two Hundred Million Feet of Lumber.

It might be expected that our manufactures in it would be numerous and varied. And so they are. In addition to those already noticed, manufactures of doors, sashes, packing boxes, picture frames, kegs and barrels, billiard tables, matches, trunks, woodenware, cigar boxes, stairs, windmills, lasts, pumps, bellows, pianos, boats, jewelry boxes, show cases, baby and toy carriages, turned and carved work, ship blocks, canes, billiard furniture, and brushes are made. The door and sash manufacture occupies nine mills, whose products are not only used on the Pacific coast, but are exported to Australia, China and Japan. In one or two factories the work is performed almost entirely by machinery. Chinese labor has begun to invade this department too. The manufacture of Woodenware is carried on by two large city establishments, and with the development of the pastoral resources of the State is becoming daily of more importance. Its annual value is not much under a quarter of a million dollars. The demands of wine casks, etc., have for the last two or three years been quite pressing, and the result has been not only an increase of work at the various cooperages of the city, but the puttiug up on Brannan Street near the California Sugar Refinery, of one of the finest establishments in the State, where everything is carried on a scale that compared with our former efforts in that direction may be termed almost absolutely gigantic.

The manufacture of packing boxes shows conclusively the status to which our manufacturing business has grown. Over six million feet of lumber from which are made nearly one and a half million boxes yearly, attest the demand for them. This department of manufacture is a kind of test of all the rest, for if they flourish it must flourish, and if they decay it must decay also. All sorts and eizes of boxes from ones an inch cube, to those several feet in length and breadth. Many new machines for splitting, dovetailing, etc., have been introduced into the box factories of this city, and all are the invention of San Francisco mechanics—not indeed ones born here and racy of the soil, but those who have long made it their home, and who desire none other than near the wavcs of the broad Pacific. Another small manufacture, that of Paper Boxes, furnishes the same sort or index to the trade of our dry goods houses, and gives employment to a good many women and boys. The immense number of cigars manufactured keeps two factories of cigar boxes in full swing, and two Last factories are sustained hy our boot and shoe work. The boat-builders of the city have not been flourishing, and that section of our manufactures in lumber is feebly represented by half a dozen establishments, employing one or two men, and they at best drag out a spasmodic existence. Several attempts have been made in this city, to establish piano-forto factories, aud at one time, there were three in existence. All of these have since died out, but a new one has risen up to fill their place. Jacob Zech who ran an establishment on Ninth street about a year ago, really made some splendid pianos, but it was found a very up-hill job to struggle against the prejndice in favor of the old establisbed makers of the East.

The Iron Interests of the City.

And when we say the iron, we mean to include those of all the metallic ores, deserve more than a passing notice. It was not long till the shallow placer diggings of the days of '49 were worked out, and when that occurred, machinery had to be used in the process of further development. Especially were the receipts of machinery made manifest with the discovery of the wonderful mines of Nevada. But at first the demand could not be supplied. Eastern iron founders did not understand our wants, and could not be made to understand them. And even if they did, the expense, danger, and time consumed in transporting heavy iron castings around Cape Horn or over the Isthmus was such as to render Eastern machinery almost impossible to be used in Pacific Coast mines. Hence arise the numerous and important scrics of foundries, boiler shops, machine shops, etc., that so thickly stud a portion of our city. The prosperity of this quarter is a test of the prosperity of the mining districts and of their development, for when things are going ahead briskly the sound of the hammer and anvil, the roar of the furnace fire, and the confused noise of machinery is to be heard night and day, and at early morn and dewy eve the streets adjacent to the IRON QUARTER are filled with busy throngs of happy and contented workmen. Notwithstanding that the

Railroad Development of this Coast

Has only just begun, immense quantities of Rolled Iron have been used, and the future development of the railroad system will cause it to be increased enormously. To supply this want and others connected therewith the Rolling Mill at Hunter's Point has been established, an institution at present employing nearly two hundred hands, and destined to be the parent of many similar ones. Following in the establishment of Iron, came that of Brass foundries, of which we can at present boast of six. One of those is a very large complete establishment, and in addition to the founding of Brass, also makes a specialty of casting bells. And from many a church tower and fire house their melodious or awe-inspiring tones strike on the ear throughout the length and breadth of the coast from San Diego to the Straits of San Juan del Fuca, and from San Francisco to the capital of Mormon Utah. Of the gold and silver manufactures of the city excepting those carried on at the great assaying works on Seventh and Brannan streets, and at the United States Mint, we must speak in terms of unqualified praise. Between them all, they number at least thirty establishments, and their products are worth nearly a million of dollars every year. Cbains by the mile, watch cases, seals, signet rings, brooches, etc., by the bushel, are amongst their products, and the display of silver plate, made at one thcm is unrivalled west of Chicago. A couple of lapidaries are employing a dozen men to cut and set precious stones of every name, size, and hue. Silver plating and gold pen making are specialities, and we have two men competing for the custom to be had in that line of business, when the imported stock of gold pens is exhausted. Our gold and silver refinery is one of the most complete in the Union. All the gold for coining purposes used at the United States Mint is refined here, besides the immense amount passing through private hands. The value of the refined product after passing through is averaged at nearly twenty million of dollars per annum.

The Lead Mines of the Coast

Are bound to be one of its greatest sources of wealth, and for their development much will be owing to the enterprise and perscverance of Mr. T. H. Selby, late Mayor of the city, who was the first to think of establishing lead smelting works on the Coast. Located at Black Point, the works are a conspicuous object even at a long distance and form a notable contrast with their busy workmen, to the bare and desolate sand hills by which they are surrounded. Besides these, Mr. Selby has also a shot tower in the city—the only one west of the Mississippi. Over seven thousand tons of lead are refined, at least six thousand tons of which are exported to the East, and the balance is made into shot and bar and sheet lead. The proprietor has succeeded above his expectstions, and indeed such men as he are deserving of success.

The Manufacture of Glass,

That is bottle glass, has long been carried on with success in this city, though perhaps, not with the success that it ought. The value of the glass of all kinds imported to this coast annually reaches away up into the millions—the trade being sufficiently large to support several flourishing factories. Only one is now in operation, the San Francisco, near the foot of Fourth street. Here all kinds of bottles, flasks, jars, demijohns, carboys, etc., are manufactured, and when running full time, over forty hands are employed. Glass making is one of the most ancient and interesting of the Arts, and our people ought to patronize those who strive to establish it permanently amongst us. Ie it not better to give employment and patronize local industry, than to send to England, France, and Germany for what might as well be made here? The San Francisco factory has struggled against all kinds of difficulties, and has manfully kept on when others have failed. We hope our citizens will give it the aid it so richly deserves. The manufacture of clothing, etc., ought to support

Many Large Establishments,

But it is comparatively speaking small, though it is increasing day by day. Nearly all the boys' clothing used on the Coast is made in San Francisco, but the establishments are as yet only infantile. The major part of tbe men's clothing is however imported, save the rough denim and duck overalls, pants, etc., which are manufactured in this city, chiefly by Chinese. Over a thousand women find employment in making white goods, and a large number in shirt and umbrella making, in the manufacture of straw goods, gloves, caps, and necktics. Hats are manufactured in about a dozen establishments, not more than three, however, being of any size. The value of the production, however, does not exceed annually a quarter of a million dollars. Though we have no standing armies and though our powder for musket, etc., use is mostly imported, yet we have in tbe vicint of our city

Two Powder Factories,

Or rather we should say, explosive factories, one being devoted to the production of the well-known Giant Powder, the other to that of an infant giant—the Young Hercules. It is claimed that these institutions unitedly furnish about $400,000 worth of explosives to the mines, etc., of the coast. The making of artificial stone has been carried on for a couple of years past by two factories, only one of which however seems now to sustain a vigorous existence. This has had great success, which is made evident to every eye by the increasing use of its potent material in forming the projecting portions of buildings. Owing to the

Immense Wheat Crops

Of the last couple of years, and other needs, the making of bags has assumed leviathan proportions. It will at least this year be doubled, and the production of the half dozen factories will certainly be worth six hundred thousand dollars. Hitherto we have received nearly all our wheat bags from England, or Scotland rather, Dundee being the seat of their manufacture. This city, which has a population of over 100,000, has doubled it within a series of years solely by the manufacture of bags from jute. The material can be laid down here at 5 cents per pound, duty paid, and the cotton mill at Oakland has for the last couple of years started into manufacturing burlapa from it, and bags from the burlaps. Within a month or two they have announced their intention of doubling their capital and also their production. In this city the pioneer in the manufacture of wheat bags from burlaps is Detrick of Clay street, who has now upwards of thirty hands employed, and whose factory has a capacity of twenty thousand bags per day. For the future we shall require from ten to fifteen millions of wheat bags annually, probably a great deal more, all of which should be manufactured in this city. With

Our Immense Flocks and Herds

It might be expected that we do something beyond the tanning of leather, and so we do. Eighteen factories are engaged in the manufacture of soap, two or three of the largest having within a couple of years consolidated, and the article produced is of a very superior quality indeed. And the sale of it has been such that import save in the finer fancy kinds has been entirely shut off. This however, has been in no way detrimental in the matter of price, as competition has set in by the establishment of a very large factory at the Mission. Some of the soaps—the scented ones—produced here are extremely fine, and are fit to be used even in the toilet of an empress. The value of the soaps now manufactured in San Francisco, exceeds three-quarters of a million dollars a year. We will probably continue this subject in a future issue.

THERE seems to be some prospect of the much talked of plan of cutting a canal through the Isthmus of Corinth being realized. Negotiations have been entered into between the Greek government and engineers to cut a canal 125 feet wide by 26 feet in depth. Abont half way it is proposed to establish a large inland harbor, with an area of about 90 acres, and spacious warehouses. If the work is ever completed, it will prove a great time-saver to vessels which are now obliged to go outside of the peninsula.

Domestic Economy.

To Cook Egg Plant.

This vegetable is a delicious addition to every dinner, if it ie only cooked rightly; hut there is not much attentiou given to preparing it for au article of food in tho United States, yet in India it is highly prized, and in very genoral uso.

Fried Egg Plant.—Take a largo, ripe, purplo egg, and cut it in slices of half an inch in thickness; strew a little salt over each, and lay on a plate for ten minutes or more to let the water rnn out; then dip each slico into a well beaton egg, aud then iu cracker or hread crumhs, and fry in hot butter or lard as you would oysters, aud the plaat will taste liko fried fish.

Boiled Egg Plant.—Cut tho eggs directly in half and boil as yon would squash nutil perfectly soft and tender; then scrape from tho iuside of tho skins, season with salt, butter, etc.; and strew sifted bread crumbs all over them. Set the dish into tho oven to brown for ton minutes.

Baked Egg Plant.—Wash the vegetablos clean, and bake in the ovon as you would potatoes. Removo the skius while hot, mash to a pasto, and season with hutter, pepper and salt. A raw onion choppped fine and a small pepper, are cousidered great addition to this dish.

Preserving Plums Without Skins.—Pour hoiling water over large egg or magnnm honnm plums; cover them until it is cold, then pull off the skins. Make a syrup of a pound of sugar and a teacup of water for each pound of fruit; make it hoiling hot and pour it over; let them romain for a day or two, theu drain off and boil again; skim it clear and pour it hot ovor the plums; let them remain until the next day, then put tbem over tho fire in the syrup; hoil them very gently until clear; take them from the syrup with a skimmer into the pots or jars; hoil tho syrup until rich and thick; take off any scnm which may arise, then let it cool and settle, and pour it over the plnms. If brown sugar is used, which is quite as good, except for green gages, clarify it as directed,

How to Test the Richness of Milk.—Procnre any long glass vessel—a cologne bottle or long visl. Take a narrow strip of paper, jnst the length from the neck to the hottom of the vial, aud mark it off with one hundred lines, at equal distances; or, if more convenient, and to obtain greater exactness, into fifty lines, and count each as two—and paste it upon the vial, so as to divide its length into a hundred equal parts. Fill it to the highest mark with milk fresh from the cow, and allow it to stand in a porpendicular position twenty-four hours. The number of epaces occupied by the cream will give you its exact percentage in the milk without suy guess work.—*Miss. Agriculturist.*

Canning Grapes.—It is not known to every one that the grape can be put up like other fruits for winter use. But try it and see. There is no fruit easier to manage this way, or that rotains its nstnrsl flsvor and excellence better. Make a syrup of a quarter of a pouud of sugar for one pound of fruit; put the grapes whole into the scalding syrup and skim out soon, and let them partly cool, and tben can them as you would any other fruit. If you wish to have the pulp clear of the seeds, you have only to run it through a colander. Nothing in the line of canned fruit makes a more healthy and palatable pie tban the grape prepared in this way, or with less trouble.

How to Cook Corned Beef.—Tho Boston *Journal of Chemistry* says: The rulo has a Hibernian sound. Don't boil it, for corned heef should never he hoiled. It should only simmer, being placed on a part of the range or stove where this process may go on uninterruptedly from four to eix hours, according to the sizo of the piece. If it is to be served cold, let the meat remain in the liquor until cold Though meat can he made tender by let ting it remain in the liquor until the next day, and then hring it to the boiling point just hefore serving.

Warming Cold Boiled Potatoes.—Slice and put them in a basin with a little milk or water, somo cream if you havo it, and a little salt. Let it remain on the etove until it is thoroughly heated through, stirring often to prevent its sticking; a bit of fish left from a former meal or some heaten egg is a nice addition to it.

Maids and Mistresses.—It ehould be plain enough that examples are as much to servants as to children; since in maunors and social training servants are as children. The peasant-girl reared in an Irish cahin or German cottago can hardly be expected to be a model of politeness or of personal neatness. It is quito possihle, however, to teach hor by example alone. If tho mistress be courteous to every member of her family, aud they in turn to her, the maid soon feels tho atmosphere of good-breeding, and unconsciously becomes amiable and respectful. But let tho mistress speak sharply to hor husband, or scold the children in pnhlic, or let the master constantly find fanlt in the prosence of tho servant, and she will shortly discover that courtesy is not one of tho essontials of the ostahlishment, and will, most likely, add black looks, snd uncivil words to tho general disharmony. Servants heing imitativo, thore is more reasou that tho conduct of employers ho worthy of imitation. If the mistress of a house be careful of her dress, her speech, ber daily hahits, her handmaid will, in all probahility, grow more careful of her own. But the woman who comes to her hreakfast-tahlo with dishoveled hair and rumpled gown, has no right to find fault with the maid for attending, the door-bell in a dirty oalico and slovenly shoes. Like mistress like maid, as well as like master like man. Unless a good exsmple he set, there is no cause to complain of servants for following a had one. As a rule, tbey are ready to loarn, tbough they may he dull and slow of comprehension. They would rather improve their condition than degrade it. They would rather he ladies than servants. Their ignorance makes them mistske the false for tho true, the bsd for the good. If every mistress would take pains to set a fair example to ber maids, and aid tbem now and then by timely aud delicate hints, she would eoon have servants who would be, in fact, the help they are in name.—*Scribner.*

Cooking Peas.—Au English psper says: No vegetable depends more for its excellence upon cooking than peas. Have them freshly gathered and shelled, but never wash them. If they are not perfectly clean, roll them in a dry cloth; but this is seldom required, and then only through carelessness. Pour them into the dry cooking-dish and put as much salt over them ss is required; then pour on boiling water enough to cover them; boil them fifteen minutes if they are young; no pea is fit to cook which requires more than half an hour's hoiling. When done, put to a quart of peas three tablespoonfuls of butter snd pepper to your tsste. Put all the water to them in which they were boiled. The great mistake in cooking peas is in cooking too long, and in deluging them with water.

To Pickle Small Cucumbers and Gherkins.—Choose small, perfect gherkins, or cucumbers; spread on platters, mix a small bit of alum, pulverized, with salt, and cover them; let them lie in this a week. Then drain them, put tbem into a jar, cover them with boiliug vinegar, and cover in thick with grspe leaves. Set them near the fire. If they do not become tolerably green after au hour or so, pour the vinegar into another jar, set it on the hot range or hearth until too hot to bear your hand in it, but do not let it boil, then pour again over the pickles, cover with fresh leaves; repeat this until tbey are as green as you wish.

Tomato Preserves.—Take the round yellow variety as soon as ripe, scald and peel them; then to seven pounds of tomatoes add seven pounds of white sugar, and let them stand over night. Take the tomatoes out of tho sugar and hoil the syrup, removing the scum. Put in the tomatoes and boil gently fifteen or twenty minutes; remove the fruit again, and boil until the syrup thickens. On cooling put the fruit into jars and pour the syrup over it, and add a few slices of lemon to each jar, and you will have something to please tbo most fastidious.

Asparagus.—Cut this when two inches high, run the knife under the ground three or four inches. Put it in cold water as you scrape it off. Put it in a hag for the purpose, and boil it hard twenty minutes, or longer if reqnired. Put drawn butter over in a covered dish, and you have the nicest of all epring vegetahles. If you want it to grow large, press a large mouth bottle over tho first shoot, and press dirt around it. It will grow to a larger size and bo tender.

Good Health.

Artificial Fibrin as a Diet.

Dr. John Goodman, in a communication to the *British Medical Journal*, says of artificial fihriu: "As a member of tho British Medical Associatiou, aud in the common interests of humanity, I have much pleasuro in calling attontion to my discovery of this new dietetic substance. So far as I havo employed it, it promises fair to he invaluable in medical practice, especially in cases of feehlo alimentation and deficient nutrition, and second to none in those cases where rejectiou of food forms a prominent featuro, or where tbo appetito snd digestivo powers are reduced to a minimum. As fihriuous material, it is of courso highly uutritious, aud eminently adspted to all cases whero there is a doficiency of fihrin in the hlood. It is, perhaps, unparalleled in its qualities of lightness and digestihility, and is, moreover, a grest delicacy. In many urgent cases of rejection of food, otc., it not only remains where an ogg otherwise cooked would not ho tolerated, but its presence in the stomach has been found to create a feeling of want rather than of superfluity, and to promote rather than decrease the sppetite for food.

The production of this suhstanco is within the reach of every sick room, and is effected with great facility. It is formed hy exposing alhuminous material to the operation or influence of cold water, for a given period; and on sccount of its great plenteousness we employ the ordinsry hen's egg for its production. When the shell is hroken and removed, aud its contents are immersed in cold water for twelve hours or eo, they are found to undergo a chemico-molecular change, and to become solid and insoluhle. This change is indicated hy the assumptiou, by the transparent white of the egg, of an opaque and snowy wbite appesrance, which far surpasses that of an ordinary boiled egg. The product, and the fluid in which it is immersed, must now be submitted to the action of heat to the boiling point, when tho fihrin will he ready for use."

The Titusville *Herald* says that asthma is of very rsre occurrence in the oil regions, and tbat the cause of such exemption is found in the fsct that the atmosphere there is thoroughly impregnated with the vapore of petroleum, which act almost as a specific for the relief of astbma, and at the ssme time as a preventive of consumption. It adds: "Let anyone who is afflicted with astbma, and feels a particularly difficult spell of breathing coming on, go in the vicinity of a produciug well, where petroleum vapor hovers in the neighborhood, and he finds a great relief, and continued presence in such a neighborhood, will be the best means of a permanent cure."

Nutritive Properties of Apples.—It is etated thst by a careful analysis it has heen found that apples contain a larger amount of phosphorus, or brain food, than sny other fruit or vegotable, and on this account they are very important to sedentsry men who work their hrains rathor than their muscles. They also contain the acids which are needed every day, especially for sedentary men, the action of whose liver is sluggish, to eliminato effete matters, which, if retained in the systom, produce inaction of the brain, and indeed, of the whole system, causing jaundice, sleepiness, scurvy, and troublesome diseases of the skin.

Felon on the Finger.—The following simple prescription is recommended as a cure for felon on the finger. Take common rock salt, such as is used for salting down beef or pork; dry it in an oven; theu pound it fine; and mix it with spirits of turpentine in equal parts; put it in a rag and wrap it round the parts affected, and, as it gets dry, put on more, and in twenty-four hours you are cured—the felou will be dead. It will do no harm to try it.

Cure for Summer Complaint.—Take about two tablespoonfnls of grated comfrey root and tho white of one egg, beaten well together; then have ready a hoiling pint of milk, into which stir the comfrey and egg. It will thicken like "pap," and it is not unpleasaut to take.

Cider and Red Pepper for Measles.—I have never seen it in print that cider will drive out the measles when they havo etruck in, and as I know it to be a good remedy I think it ought to be published. —*B, in New England Farmer.*

Useful Information.

How to Harden Steel Drills.—It is uot generally known that steel can be made so hard that it will pierce any known suhstauce but a diamond. Mauy jewelers and lapidaries have great trouhle in getting the points of thoir drills hard enough to pierco an amothyst. For the benefit of miners and others using drills that require a hard point, wo rocommend the following manner of manipulation. The drills should bo held, if small, hy hot pinchers or tongs, whilo temperiug. First heat the tool to a whito heat, and tben pross it into a stick of sealing-wax; leave it hut a secoud there, and then stick it into tho wax in another place. This operation is rapidly repeated until tho graver is too cool to enter the wax. In turning or drilliug, tho tool is moistened with oil of turpentine.

Waterproof Paint for Canvas.—The following is a cheap and simple process for coating canvas for wagon tope, tents, awnings, etc. It renders it impermeable to moisture, without making it stiff and liahle to hreak. Soft soap is to be dissolved iu hot water, and a solution of sulpbste of iron added. The sulphuric acid combines with the potssh of the soap, and the oxide of iron is precipitated with the fatty acid as insoluble iron soap. This is washed and dried, and mixed with linseed oil. The addition of dissolved India ruhber to the oil improves the paint.

A Teaspoonful of ammonia in one gallon of warm water will often restore the color of carpets, even if produced hy scid or alksli. If a ceiling hss been whitewashed with carpet down, and a few drops are visible, this will remove it. Or, after the earpet is well beaten and hrushed, scour with ox gsll, which will not only extract gresse but freshen the colors. 1 pint of gall in 3 gallons warm water will do s large carpot. Table and floor cloths may he thus washed. The suds left from a wash, when ammonia is used, oven if almost cold; cleans these new floor-cloths well.

Cayenne Pepper for Bugs.—W. Lynn, a farmer of Monroe county, Ohio, has succeeded for many years in driving awsy cucumber and squash bugs from his vines, by dusting common cayenne pepper upou them while wet with dew in the morning. He repeats the operation once a week, and finds five cents worth of pepper sufficient to keep his cucumber, melon and equash vines free during the sesson. He has recently tried it upon the new cabhage worm with success.

Artificial Indian Ink.—By mixing lsmpblsck with ten times its weight of sulphuric acid (sp. gr. 66° Beaume) and allowing it to stsnd for some hours, and then washing out all the acid, the material acquires the power of mixing readily with water, and possesses all the properties of genuine Indian ink.

Varnish for White Woods.—Dissolve three pounds of bleached shellac in one gallon of spirit of wine; strain, and add one and oue-hslf more gallons of spirit. If tho shellac is pure and white, this will make a boantifully clear covering for white wooden articles.

Sizing for Lace Curtains.—Mske a strong solution of four parts of borax, iu hot water, to which add twelve parts of white shellac, and three parts cf starch and isinglass, the latter two heing first reduced to tho form of a jelly by hot water.

Rendering Boots Waterproof.—Boil one quart of linseed oil with half a pound of Venice turpentine, with which paint the leather froquently whilo warm, hut not hot, till the leather will ahsorb no more. Afterward apply any kind of blacking.

A Correspondent of the Detroit *Tribune* says:—"If an edge tool is so hard as to crumble, grind it on a dry stone until the edge turns blue; it will then cease to break and the temper will generally prove to be about right. Scythes and axes are sometimes too hard at the edge, but if treated in this way will give no farther trouble.

To Restore Color.—When color on a fabric has been accidently or otherwise destroyed by acid, ammonia is applied to nentralize the same, after which an application of chloroform will, in almost all cases, restore the original color. The application of ammonia is common, but that of chloroform is but little known.

To Remove Paint.—Choloroform will remove paint from a garment or elsewhere, when benzol or bisulphide of carbon fails.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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Legal Tender Rates.—S. F., Thurs., Sept. 4.—buying 86¾; selling 87⅛.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—An Improved Coal Screen and Chute; The Patent Congress; Academy of Sciences, 145. San Francisco Manufacturers—What they Are and Might Be, 150. Quicksilver Mining in Napa and Lake Counties, 152 A New Leveling Rod for Surveyors; The Discharge in Dry Crushing Batteries, 153.

ILLUSTRATIONS.—An Improved Coal Screen and Chute, 145. A New Leveling Rod for Surveyors, 153.

CORRESPONDENCE.—Notes of Travel in Lincoln County, Nevada, 146. About Quicksilver Extraction, 154.

SCIENTIFIC PROGRESS.—Treatment of Metals and Ores; The Yellowstone Expedition; The Transatlantic Cable and Planet No. 131; Electricity and Life, 147.

MECHANICAL PROGRESS.—Ventilation of Mines; The Diamond Drill; A Novel Transportation Scheme; Asphalte Paper; Cork Jackete for Steam Boilers; Materials from which Paper is Made; A Bridge Across the Bosphorus; The Largest Pumping Apparatus, 147.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparativo Pricee for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 148.

MINING SUMMARY from various counties in California and Nevada, 148-9.

USEFUL INFORMATION.—How to Harden Steel Drills; Waterproof Paint for Canvas; Cayenne Pepper for Bugs; Artificial Indian Ink; Varnish for White Woods, 151.

GOOD HEALTH.—Artificial Fibrin as a Diet; Nutritive Properties of Apples; Felon on the Finger; Cure for Summer Complaint; Cider and Red Pepper for Measles, 151.

DOMESTIC ECONOMY.—To Cook Egg Plant; Preserving Plums Without Skins; How to Test the Richness of Milk; Canning Grapes; How to Cook Corned Beef; Warming Cold Boiled Potatoes; Maids and Mistresses; Cooking Peas; To Pickle Small Cucumbers and Gherkins; Tomato Preservee; Asparagus, 151.

MISCELLANEOUS.—Edible Starches; The Extension of the Signal Service to the West Indies, 146. Pateute and Invcutione, 153. Narrow Gauge Vindicated, 154.

BLANKETS *vs.* CONCENTRATORS.—The Keystone Consolidated Mining Co., located at Amador, Amador county, Cal., have recently taken ont the blanketa in front of the hattery and snbstituted twenty of Hendy'a concentratora. Sixteen of the concentrators take the tailings direct from the hatteries and the remaining four re-concentrate the pulp from the sixteen. The latest report from the mine is that they do away with the lahor of six or seven men who were formerly employed with the huddlea and hlanketa, and in addition the concentrators save ahout half a ton of sulphurets daily.

THE STEETKIN RIVER mines, of which little has heen heard for some time, are again attracting attention. There is great excitement at Porta Wrangel and Tongas over the mines discovered 245 milcs from Tongas. The diggings are in a creek that empties into a lake 70 miles from the Steetkin river, ahout 80 miles from the head of hoat navigation in the latter. Some 23 mincrs are at work there now, aud are said to he making from one to fonr ounces per day to the hand. If half of the reports of this locality prove true the mines muat hs rich in orea.

THE NEW diggiugs helow Oroville are attracting 700 or 800 Chinamen per month by the cara and crowds of them are flocking thither hy other means. The Chinamen will make good wages at diggings where white meu would atarve.

THE new quartz mill for the Gold Tnnnel mine near Grass Valley has heen completed. It is to he run by water power, and will not commence operations until the rainy season starta iu; meanwhile rock from the mine is accumulatiug on the dumps.

THE Petaluma foundry is huilding an addition for the mannfacture of more stoves.

Quicksilver Mining.

Progress in Napa, Lake and Sonoma Counties.

But few of our readers are aware of the extent to which prospecting and mining for the ores of mercury has besn carried on during the past year in the coast counties lying to the north of San Francisco Bay, and particularly in that portion of the coast range lying on the eastsrn slopes of the St. Hslena range, in the counties of Sonoma, Lake and Napa. A large part of the section rsferred to has bsen well prospected, and many new and promising minea have heen discoversd. Our friend, W. A. Skidmore, who made a trip through that region recently, furniahes ns with some interesting ohaervationa concerning the quicksilver mines, which ahow that the mines in our northern coast counties may yet equal older and "more famous one", hoth here and elsewhere.

The renewed euergy infused into tbia branch of mining may he attributed to several causes, prominent among wbich we may mention

The High Price of Quicksilver,

Caused hy a combination of leading capitalista in the principal marts of the world, for the purpoae of diminishing and controlling the supply and keeping np the prics of the article. Under the influence of this combinatiou the price of this much-ueeded product, on which ao much of the material prosperity of our State dspeuds, has heen run up from 75 cents to $1.10 psr pound within ths past eighteen months. Under the influence of this combination the total product of the Nsw Almaden was, a few years since, "farmed out" at 40c. per pound, while the article readily commanded in the hands of the monopolists 75 cents per ponnd, and a large portion of the product was sold at $1 per pound, to the disgust and indignation of the duped stockholders. As a part of this gigantic combination, shipmenta were made to China, where it waa sold at the cost of production, thereby forciug the re-ahipmeut to Europe from that couutry of the products of the Spauish Almaden, and throwing the trade in the hands of a mouopoly.

The Supply in the United States and Europe.

It ia estimated that the demand from the Pacific States alone exceeda 100,000 pounds per month, exclusive of the demand for export to Mexico, South America aud Chiua; and it will not he long hefore Japan will develop its vast mineral resonrces and hecome one of our most profitahle customers.

Again, there has heen a material falling off in the supply from Europe, cansed hy the civil war in Spain, which has closed the famons Almaden, worked for centuries, and yet apparently inexhaustihle. Added to this, there is an increased demand for ita nse in the arts, as well as the increasing exactions caused hy the development of the vast mineral region extending from the Rocky Mountains to the Pacific, and from British Columhia to Mexico. Thia, with the irrepressible energy of our prospectora and the confidence and venturesome spirit of our leading capitalists, haa promoted the discovery, exploration aud development of mines which promise to rival the Almadens and Idrias of hoth the Old and New World.

A few observations on the mode of occurence and

Characteristics of Ores of Mercury

May not he inappropriate. Mineralogists divide these ores into three classes: Native mercury, ocenring in pockets and glohules, generally in a shaly formation, and found to a greater or lesa extent in all quicksilver mines; cinnahar, when pure, 86 mercury and 14 sulphur, hut freqnently mixed with earthy matter, and fallow ores of mercury, containing variahle proportions as: Copper 30 to 39 per cent.; iron 2 to 7; mercury ¼ per cent. to 16 per cent.; antimony 25 to 33 per cent.; aulphur 20 to 25 per cent. The latter class of orea are apparently rare in California, hnt are extensively worked in Hungary, hy a rude proceas described in Crookes & Rhorig's "Treatise on Metallurgy" and yield a fair profit on ores containing only *one-fourth* of one per cent. mercury.

The Principal Producing Mines of the World

Are the Almaden of Spain, the Idria of Austria, and the New Almaden of California. Our State also contains other mines of note, such as the New Idria, Guadalupe and the Redington or Knoxville. These have materially added to our local prodnction, nntil the closing hy protracted litigation of the New Idria. Tbis deficit in production will soon he more than counterhalanced by the development of the Great Western of Lake Connty.

The Almaden of Spain has worked since a period of remote antiqnity, so far that "the memory of man runneth not to the contrary" with the exceptions of intsrvals of inactivity from wars aud civil disasnsions. Ths ores occur in argillaceous scbists and aandstones, and the greatest depth attained up to tbe closing of the miue was 1,200 fset. There, as in the miusral belt of Lake and Napa counties, the porphyritic eruptions (of which Mt. St. Helena is ths culmiuating point) seem to havs volatilized the mercury which has heen condeused in the vein mattsr, and its overlying strata in the form of cinnahar and native mercury.

The Idria, of Austria, haa heen profitahly worked for nearly 400 years, and haa attained a dspth of from 500 to 750 feet bslow the aurfacs. Ths ores occur in talcoss and argillaceous sbale, associated with a hituminoua sbale containing glohulea of native mercury, wbich drop on ths tunnsl floors during the process of extraction. Several specimens of precissly similar characteristica have heen shown to us hy Mr. Skidmors, to whom tbey wsre pressuted, by Mr. Wm. Rousch, of Placer Co., obtained from a mine in Napa County. The occurrence of native mercury has heretofore been erroneously considered as an evidsnce of unstability of minea producing such ores, hnt a rsview of the history of the leading mines of Europs will demontrate that this feature ia inseparahle from all great quicksilver minea.

Our own Nsw Almaden occurs in a serpsntine and steatitic formation, similar in many respecta to the Great Western of Lake county. The history of the dsvslopmsnt of this mine and its statistics of production are familiar to or readily attainahle hy our readers.

The travelsr or plsasure seeker throngh

Our Northern Coast Counties

Cannot fail to observs, from any portion of Napa Vailsy, the bold prominent landmark, known as St. Heleua Mountain, situated at the head or Napa Valley, and rising to an altitude of nearly 4,500 feet. This mountain, itself an eruption of porphyry and tracbyte, is flanked hy bigh ridges and cliffs of metamorphic aandstoue, not unlikein appearance from a distance the hasaltic Table Mountains of Butts and Tuolnmne counties. To the sast of this range runs a belt of serpentine, cutting the spurs of the main range and prsssrving its uuiformity for many miles in a north and south course. Ou this hslt ws fiud many of the prominent quicksilver mines of ths northern Coast Range—among others the Redington, Phœnix and Great Western. The general characteristics of the country were recently described in the MINING AND SCIENTIEIO PRESS, accompanied hy a diagram, and a repetition here wonld be uaeless. Limited time afforded Mr. Skidmore an opportunity to visit but one of this group of mines—the Great Weatern—of which he gives us the following details picked up during a few hours' visit.

The Great Western Quicksilver Mine

Ia aituated on the east slope of the St. Helena Range at an elevation of 2,200 feet ahove sealevel and about 1,000 feet ahove St. Heleua Cañon—distant 16 miles from Calistoga. The mineral hearing matter haa a width of from 30 to 50 feet and consists of a serpentiue and talcose formation, associated with cblorite and shales, the whole mass irregularly impregnated with cinnahar and containing orea of various grades, from one per cent. to pure cinnahar. The ground haa heen explored for a length of 1500 feet hy numerous tunnels and a large proportion proved to be mineralized to a profitahle degree. The workings of the mine through the varioua tunnels, which attack the ore body at right augles to its course, bave satisfactorily demonstrated its continuity and richness for more than 1000 feet in length and an average depth from "grass roots" to floor silla of lower tunnels of 150 feet—leaving apparently the hest ground under these floora, to be developed hy shafta.

The Ore Body

Has heen tapped hy eight tnnnels. Four of these—the upper tunnels—may he cousidered as mere prospecting tnnnels, though availahle for the extraction of surface orea. Of the fonr lower tunnels, the main adit, No. 8, attacks the deposit from the aontheast aide, running nnder a ridge 100 feet higher than its mouth, and connecting (when completed) hy means of a main drift with three lower tunnels on the other side of the ridge. When thia work ia completed, the entire product of the mine will he run out through this tunnel, in cars, over a tramway nearly 1,000 feet in length, to the ore-chute, where it is dumped on the feed-floor of the furnace, 100 feet helow, therehy saving handling and hauling of the ores.

Pendiug the completion of this work, the tunnela on the other side of the ridge are heing vigorously driven on the ore-deposits, and a ahaft is heing aunk on No. 8 for a new level, and "raising" to surface is progressing. No extensive and rich chambers or deposits have as yet heen struck. The entire mass ia permeated with veins of cinnahar, alternately contracting and expanding, hut showing the remarkahle feature of a uniform and continnoua wideniug with depth. In fact, in all the faces of the various drifts and tunnela, the facea look better on the floor than on the roof. This indicates that the present deposita are stringera or exfloreacencea of larger depoaita. These stringers are sometimes mere seams, hnt are nowhere ahsent in any part of the worka, and in aome parts have an expanaion of five to ten feet.

The property was acqnired a year since hy a few ahrewd capitalista of Sau Francisco at a cost of ahout one-tenth the same prospect would now command. They have quietly and steadily proceeded in its development, having expsuded some $50,000, aud are uow about to reap the reward of tbeir psraeverance and sntsrprise. But few except ths ownsra have known of the existence of a property which at uo distant day will compete in production with the New Almaden and Redington.

The Furnace,

Recently completed, and now heating up for the first run, waa huilt on the plans of Riotte and Luckhardt, and haa a capacity of from ten to twslve tons psr 24 houra. They are provided with donhle seta of condensers with capacity sufficient for running another furnace of equal size, which will no doubt soon be erected as even now the ors supply will exceed ths facilities of reduction. The ohject of two aets of condenssrs ia that one may cool while the other is in opsration, tberehy insnring continuous runs. The compauy own asveral hnndred acrsa of wsll timhered land and are receiving wood at $2.50 per cord. Mr. Luckhardt eatimatea the cost of treatment of orss at $1.25 to $1.50 per ton, and the loss of quickailver at from five to six per cent. of the average aasay of the ores. Forty-sight minera (Cbinese, with whits overssers) are smployed, at an expenae of $1.50 per day each, and give aatisfaction. Under all theae circumstances, taking into consideration cheapneaa of labor and fuel and convsniences for extracting and deliveriug ore from so vast a deposit, it would seem tbat a fair profit may he made on one per csnt. ore, and a large revenne derivcd by ths conatruction and operation of another furnace of equal capacity even on thia low grade of ore. However, there is no rsaaon to suppose the average yield will rnn hslow two and a half per cent., and even five per cent. may be looked upon aa reasenable. Ths extent of supply ia practically unlimitsd for many years uuless the rsducing machinery ahould be largely increassd. The appliancss of tbe mins ars first-claas and show the exercise of skill, experisnce and judgmsnt in planning and execution. This is manifest in tbe construction of furnace, chutss, roada and handling of water. To use a common, hut expressive phrase, the owners "mean husiness."

CORNUCOPIA.—Conflicting reporta coucerning the Cornucopia mining district continue to he received. The Humboldt *Register* is down on it, and ao are asveral othsr papera and nnmerous correspondents. The Elko *Independent*, however, ia aanguine over the prospects of a rich camp and aaya: Almost everybody who has viaited these mines and returned appears satiafied, hut, as must he expected, it is utterly impoasihle to anit all, and occasionally you will find a man who would not he satiafied if he found a mine that would produce twenty-dollar piecea in an unlimited quantity, and anch a one has tnrned up in the delegation that went from Austin. He returned aud says he could see nothing there to amount to anything, and he never knew of ao little merit exciting so much commeut and giving everyhody the fever. On tbe other hand, where there is one man dissatiafied, there are twenty highly elated at the proapect.

NEW HYDRAULIC PRESS.—Anthony V. Ojeda of this city, Chief Engineer of the steamer "China," has invented and recently patented a valuable improvement in hydraulic jacks. The improvement ia in that claas of hydraulic pressea which have the plunger, piaton, operating valves and mechanism, and the necesaary liquid all contained within the outer cylinder, which is easily portahle. It conaists mainly in the novel construction of a plunger to he moved within the cylinder, which plnnger is provided with a central hore for the operating piston, and also with certain paasagea ao arranged that water ia taken from ahove the plnnger and forced helow it by means of the piston, with the use of ouly one valve. The piston is so conatructed, with a projection helow, that when it ia forced down to the lowest point it will open the valve and permit the water to eacape from helow to the apace above it, after having done its work. Those who are familiar with the hydraulic jack will at once see the natnre and advantage of the invention.

THE Yreka *Union* aaya that the mining newa from Oak Bar is encouraging. There are now aome eight claims in full hlast and doing well. The Delaney claim is payiug heat. On one day of last week they took out 28½ ounces; the next day, 37 ounces, and the day following 36¼ ounces. The claim is shortly to he worked night and day with a force of 25 men.

ABOUT 40,000 sacka of ore from the Little Cottonwood mines are said to he awaiting transportation at Sandy Station on the Utah Sonthern Railroad.

THE Salt Lake amelters are said to he running short of fnel, and it ia feared that some of them will he ohliged to suapend operations temporary.

A New Leveling Rod for Surveyors.

In the regular work of the Coast Survey on this Coast, but more particularly in some special examinations connected therewith, it became patent that the ordinary wooden leveling rod was inadequate to give perfectly reliable results. The defects are inherent in the instrument and the principal ones are—(*a*) inaccuracy of graduation; (*b*) uncertainty of the standard with which (if ever) it was compared; (*c*) no rate of expansion of the rod for changes of temperature; (*d*) no knowledge of the effect of hygrometric changes; (*e*) no means in the rod itself for adjusting the verticality; (*f*) no tangent motion.

For all ordinary work of leveling the best made rods are sufficiently accurate; but where investigations are to be made for the coefficient of refraction, so important in the hypsometrical work of large triangulations, they do not afford the desired precision. In the reference of the mean level of the sea, at any point where years of continuous tidal observations have been made to some well-marked bench mark, the utmost precision is demanded, because by such observations through a series of years or of centuries, we shall be able to measure the rising or the subsidence of the shores of the continent. When the hypsometrical work of a triangulation is carried across the country with the same precision as that of the sides and geographical positions, future observers will be able to determine the changes, if any, in the elevation of the interior of the continent.

To effect this, Prof. George Davidson, of the U. S. Coast Survey, has devised a three-sided, hollow, rectangular metal casing, to fit over the graduated part of the "Boston Rod," which he described at the last meeting of the California Academy of Sciences. The casing described is made up of three side and two end pieces of bell metal planed to the thickness required and brazed together. After all mechanical work upon it is done, the graduation is made and compared with the same standard of the United States as the measures of length are compared with. Its standard length is therefore determined for a specified temperature.

The casing devised by Prof. Davidson fits over the front sides and ends of the front part of the ordinary rod, and is secured only at the bottom, so that it is free to change its length by changes of temperature and is guided at the upper end by studs standing through in slots. The extent of graduation is the same as that of the ordinary rod, and the verniers read to 0.001 feet, although they could be made to read to 0.0001 feet. To determine the temperature of the casing, a thermometer is set in a long slot in the front part and the thermometer is read at each reading of the rod.

That the rod-man may be able to keep the rod vertical, two small circular levels are attached to the back of the rod, one for the direct and the other for the inverted position. The ordinary back part of the rod is retained, and this compels the assumption that the change of its length between any two sights on account of change of temperature is inappreciable; and this will virtually be the case in all except extraordinary changes of temperature, and even their effect will be much less than ordinary errors of observation. In addition to what has already been described, Prof. Davidson has also added a tangent screw which he will exhibit and explain at a future meeting of the California Academy of Sciences.

The *Silver State* says that the mills of the Arizona Mining Association, on Buena Vista Creek, near Unionville, were shut down recently for want of water. There is no lack of water in the creek at a point above the mills, but it is appropriated by gardeners. The *Silver State* justly remarks that the labor of the number of men at present idle on account of stoppage in milling and mining is worth more in one month than all the vegetables raised along the creek during the entire season.

Jumping Claims is all the rage at Coruucopia, and prevents extensive prospecting at present. A Mining Vigilance Committee has been formed, however, which will probably put a stop to jumpers.

The New College of Letters of the University of California, at Berkeley, has been completed and will shortly be turned over to the University by the contractors. The College of Agriculture building is nearly finished.

The Discharge in Dry Crushing Batteries.

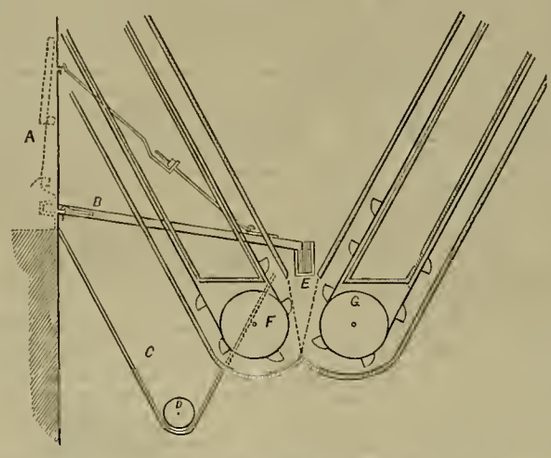
The author of Mining Statistics of California and Nevada justly remarks that the efficiency of dry crushing batteries may be greatly increased by providing more effectually for the discharge of the ore, which is pulverized much faster than it can pass through the screens, as they are usually arranged. One of our correspondents, "C. H. A.," pending the advent of a better invention, sends us a description of a plan which he has used with advantage, and which may be of use to some of our readers. He first saw it in Mexico, and thinks it was invented by a Frenchman who was employed at the mill. The mortar used was a common wet crushing one, discharging only in front, and the work done was over one ton of heavy ore per stamp in 24 hours through a No. 40 mesh wire screen, against 0.6 ton per stamp in a neighboring mill, where the battery discharged on four sides.

In the open front of the mortar was placed, instead of the usual fine screen, one of 10 meshes to the linear inch through which the ore was discharged very fast, falling upon an inclined apron, about five feet long, and as wide as the front of the battery. This apron was formed of 40 mesh wire gauze, stretched upon a frame hung to the battery posts by hooks and staples at one end, and by long rods of iron at the other end, with an inclination from the battery sufficient to cause the ore to pass over it without other impulse than the jar of the stamps, which had from 10 inches to a foot drop. The greater portion of the ore, after passing through the No. 10 mesh screen, was fine enough to go through the apron into a box below, from which it was taken to the furnaces for roasting; while about 10 per cent. of it passed over the apron into another box, and was removed by the feeder to be returned to the battery mixed with fresh ore. In large mills, conveyors and elevators could be used to return this coarse stuff to the battery, and where the mortars discharge on two sides, very rapid crushing might be done.

By referring to the accompanying cuts the plan will be seen. In Fig. 1, *A* is the battery post; *B* is the apron; *C*, the receptacle for fine ore passing through the apron; *D* is a screw-conveyor; *E*, a trough attached to the apron and delivering the coarse matter to the elevator *F*, by which it is returned to the battery. *G* represents another elevator to remove the coarse stuff, when it is not desired to return it to the battery. It may be worked raw or thrown away, while the fine portion is conveyed by the screw, *D*, to the roasting furnace. Fig. 2 is a plan of the apron with screw beneath and elevator drums.

The ore which passes through a No. 40 screen on this plan, is not so fine as when the screen is placed upright, or nearly so, in the mortar, but it is fine enough for roasting in most cases. In addition to the advantage of a free discharge, it will be found that some ores can be concentrated by this method; for, as our correspondent states, the rich portions are generally pulverized first and finest; the stuff which passes over the apron is much poorer than that which passes through, and in some cases may be found poor enough to throw aside, instead of returning it to the stamps. Our correspondent says he has found this plan quite successful, and if some of our readers will try it we would like to see the result published in the Mining and Scientific Press.

Fig. I.

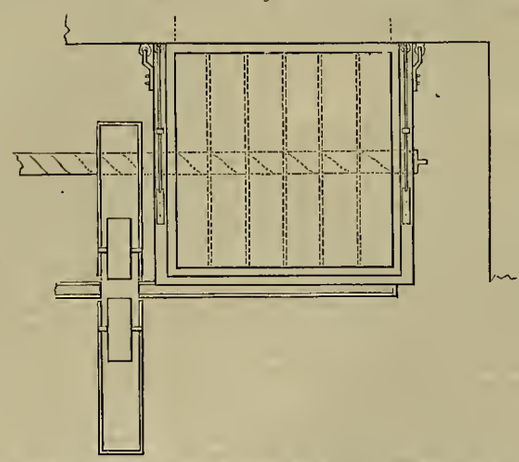


South American Mines.—An Associated Press dispatch from New York says that the South American news received announces various mining discoveries in Ecuador. A quicksilver mine has been discovered not far from Guayaquil. In Chile a bed of coal, it is said, has been discovered on the island of Chiloe, forty yards deep, exceeding in richness any in England.

A great discovery has been made of silver deposits in the desert of Atacama, at a distance of fifteen leagues from Chanaval. The ore is said to yield from eight hundred to one thousand marks per cajon. At Copiapo the excitement rose to an extraordinary pitch, and all the towns in that region were likely to be left nearly deserted of their inhabitants.

Later advices announce the discovery of five more veins of great richness. Such are the crowds of people starting for the new mines, that at Copiapo as high as one hundred and fifty dollars has been paid for a single draught mule. In the Corcobado mines, La Descenta, La Flor del Desierto, La Cantiva, La Descubridora, and Bueno Esperanza mines, alone have during the first six months of the present year, paid wages to 3,598 workmen. They have worked 1,058 metres, which yielded 45,782,945,782 kilogrammes of ore.

Fig. II.



PLAN OF ELEVATORS AND SIEVES FOR DRY CRUSHING BATTERY.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents.]

By Special Dispatch, Dated Washington, D. C., September 2d, 1873.

For Week Ending August 19th, 1873."

Table-Leaf Supporter.—Edwin W. Perrin, assignor to W. E. Weldon, Portland, Oregon.

Horse Hay-Fork.—Samuel B. Bowen, Stockton, Cal.

Medical Compound.—Peter H. Steenbergen, Chico, Cal.

Veneer Keg.—George W. Swan, S. F., Cal.

———"The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

Gold in San Francisco.

Regularly, every year or so, we indulge in a mining excitement, in San Francisco, over auriferous ledges discovered on the peninsula, but as often do the fortunate (?) locators find out that they are of no value. The latest find of this sort was at Bernal Heights, near the San Bruno Road. An "experienced miner" washed out a panful of the crushed rock, and pronounced it rich. How strange it is, that with all the "experienced miners," locators always get hold of some numskull, who can't tell mica or pyrites from a real color, or quartz from slate or any other kind of rock.

In this instance all the bright visions of prospective mills, hoisting works, shafts, tunnels, etc., winding up with certificates of stock, and piles of coin, were dispelled by the following report of Mr. Henry G. Hanks, the well known assayer, by whom a sample of the "ore" was tested: "The mineral is the ordinary metamorphic rock of which the peninsula of San Francisco is so largely composed, a formation which is very unlikely to contain gold; the shining yellow particles are superficial, and dissolve readily in nitric acid, which is a positive proof that they are not gold. Under the microscope they have a striated appearance, as if having been rubbed on, which leads to the suspicion that the rock has been prepared to deceive some person or persons. The rock, pulverised and carefully washed, revealed under the microscope particles of chalco pyrites, iron pyrites, and a yellowish transparent mineral (peculiar to the coast range, and which is probably yellow quartz), but no gold."

The Ochoco mines did not have water enough to get out the gold or gold enough to bring in water, so they "fizzled" as many other mining camps have done before them under similar circumstances. It is but just to say, however, that reports conflict, and some half dozen men are yet at work there and said to be making from $4 to $7 per day. They work at a disadvantage, taking out the dirt in dry gulches and carrying it to water where it is washed in rockers.

The Eureka District mines are looking better than ever and the facilities for producing bullion are being increased. The *Sentinel* gives the following as the bullion shipment for the several companies for the month of August: Richmond Company, 971,420 pounds; Eureka Consolidated Company, 860,563 pounds; Ruby Consolidated Company, 40,589 pounds; K. K. Consolidated Company, 150,000. Grand total, 2,432,692 pounds.

It is reported that rich deposits of silver have been discovered in Utah, 20 miles south of the Union Pacific station at Green river. No regular defined vein was discovered, but the ore is in pockets.

High Freights.—The principal shippers to Salt Lake City are preparing to present to the Government Directors of the Union Pacific Railroad a protest against the high freight tariff.

The machinery for running the pumping and hoisting works of the Magenta mine, Grass Valley, is now in full running order.

Large quantities of ore, intended for shipment to the East, are being held back in Salt Lake, on account of the high freight tariffs.

Narrow Gauge Vindicated.

[Continued.]

In last week's issue we gave some facts collated from the late report of the Denver and Rio Grande railway, upon which was based a plea for the narrow-gauge. Taking up the thread, we notice that the power of the narrow-gange locomotive is not affected by the narrowness of the track. This power depends upon the amonnt of weight placed upon the driving wheels of the locomotive, which may he increased as desired,—in other words, as the size of the train requires it. Practically throughout the United States it hae not been found desirahle, except on unusual grades where special power is used, to increase the freight train above what a 30-ton locomotive will draw. While the narrow-gauge road with the same weight of rail can of course carry any weight of locomotive that the wide-gauge can, yet even with a very much lighter rail than that usually adopted on railroads in the United States a 30-ton engine can he used without difficulty on the narrower road, hy increasing the number of driving wheels which carry the 30 tons over the track. In consequence of the reduction in dead-car weight, euch an engine will draw, as has heen shown, 35 per cent. more freight than it can, taken with the present style of rolling stock, ou wide-gauge roads; or, a locomotive weighing 23 tons on the narrow-gauge will carry as much ae one of 30 tons on the other. It is true the uumber of driving wheels could he increased on the wide-guage engine, enahling lighter iron to be used without diminishing the train helow its hest practical size; but the heavy passenger and freight cars of the wide roads (each of which weigbs more than the heaviest present locomotive on the Denver and Rio Grande Railway), and the fact tbat thousands of these machines pass over the line, since a railroad will have say 20 times as many cars in motion as of locomotives, will practically prevent this advantage from heing realized to any considerable extent.

On the Denver and Rio Grande Railway the present passenger locomotive weighs 12½ tons, and the freight locomotive 17⅞ tons. They are more powerful than are needed ordinarily for the preseut eize of the daily through freight train and passeuger train, and for the local mixed train. On occasions where there is a temporary excess of freight an extra engine is run. When the daily through freight husiness increases, so as regularly to exceed the capacity of the present locomotives, heavier ones will be put on up to 30 tons. Practically, on any road (except in the case of special inclines), the loss from broken links, smashed drawhars, injured freight, etc., hy switching with a train that a 30-ton locomotive cannot handle, ie greater than the expense of running an extra engine; or, if the grades are light, so that the numher of cars would be too large, an extra train. Freight trains, where there is a large husiness, are consequently run in fleets, the train unit having reached its practical maximum limit.

Alternatives.

Why not alter the rolling stock on the broad-gauge-road? Because there are so many hundred thousand cars that it is impracticable. The principal cost of chauging the gange of a road is the alteration of its rolling stock. The process of reforming tbe cars could not he gradual, because the uew, light and lower cars would either he knocked to pieces hy the other heavier aud higher ones, or require to be run in separate trains, which is impracticable. Tbese roads are at the mercy of the heaviest cars, or the most vicions model that any other and perhaps distant road may have introduced, otherwise they could not bo run through. All new cars had to he heavy enough to resist the momentum of these, and thus the evil has gone on increasing.

Why not adopt the reformed cars on a new road adhering to the wide gauge? Because the great advantage claimed for adhering to the gauge is simply the avoidance of transbipment, aud this could not be gained practically, because the cars of other companies could not he carried unless in separate trains, which is out the question, and the new, light cars could not he run off their own liue with any advantage.

The Cauge Adopted.

Well, admitting all this to be true, aud that a narrower gauge than 4 feet 8½ inches is advisable, why adopt specially tbat of 3 feet? The Denver and Rio Grande Railway was the pioneer of the new movement in the Uuited States, and, so far as known, constructed the first road of 3 feet gauge in the world.

From the experience already had on the Festiniog Railroad of Wales, it was known that the heaviest class of freights—coal, iron, lumher, ores, stone, etc.—could be advantageously carried on a gauge of 2 feet, and even passengers for short distances. But as tbe Denver aud Rio Grande Railway was to exceed 800 miles iu length, to traverse a variety of climates, to have a large passenger busiuess of tourist and health travel, as well as of emigrants and soldiers, and was required to carry many of the lighter and more bulky commodities, and cattle, it was admitted that the gauge should he just as much wider than the gauge of that existing narrow-gauge railroad, whose success, mechanically and financially, was indisputahle, as would permit these new conditions to be complied with.

For the government roads in India, a year's careful and tborough examination of the whole question hy a hoard of experienced commissioners had resulted in a majority of the board voting for a gauge of two feet uine inches, and the remainder for three feet six inches, which the goverument settled by adopting as a compromise the French metre, ahout three feot three inches, for a system of 10,000 miles decided upon for that country. But the roads of India were not to pass through or near a mountain country generally, and a large amount of cotton was to be carried, so that it might he considered advisahle to have a larger car-floor surface than under ordinary circumstances in the United States. Mr. Spooner's experience had suggested two feet nine inches for average conditions in England, while admitting that this might be too narrow for different characters of climates, customs, and prevailiug load. Mr. Fairlie recommended three feet. Norway and the Canada roads had adopted three feet six inches.

The hope, which has since been fully realized, of iuducing throughout the United States an uniform adoption by all narrow-gauge enterprises of the gauge selected hy this company, so that there might he no war of narrow-gauges, also entered into the queetion. It was not thought advisahle to abandon the American style of passeuger car, and upon this plan a three-feet gauge would permit three passengers to eit comfortahly across the width of the car, leaving sufficient space for the passage-way. Lees than this gauge would compel a reduction to two passengers, or the adoption of the English compartment system. A wider gauge would not admit of four, without making it too wide for economy, and besides it was every-day experience that by redncing the proportion of those passengers who conld have seats hy the windows, or hy themselves, it was made more difficult to fill all the seats. On the average, as we have eeen, even three seats are not occupied on wide-gauge roads.

As a resultant of all these varioue elements, the gauge of 3 feet was considered to best eatisfy the largest nnmber of the most important requirements and was adopted. The strong desire of setting an example whicb all the narrow-gauge railroads to he huilt in the United States would find it to their interest to follow, whether iu the East or West, sacrificing as little as possible in the extreme cases of location on the smoothest plains and in the most difficult mountains, aud meeting hest the average couditions of the topography and transportation husiness of the country, had a very considerahle weight in influencing the decision, and it is with great satisfactiou that we are able to anuouuce the thorough success of the new tentative gauge iu this respect. It has commended itself to the judgment of all narrow-gauge engineers, and without exception, so far as known, every narrow-gauge project in the United States has adopted the same width. There will he no war of narrow-gauges. The Uuion Pacific Railroad Company has, during the year, constructed the Colorado Central Railroad west from Denver of the same gauge, —3 feet—on which the cars of the Denver and Rio Grande Railway will pass without transshipment.

That the gauge of 4 feet 8½ inches, which George Stephenson found prevailing in the case of the roade and wagons in the north of England to which he first applied locomotives, should necessarily he the hest all over the world, for a new class of railways, and carriages of a highly improved character, would be indeed singular. While it might have heen suitable for horse-power, aud for an imperfect surface, it would surely have heeu extraordinary had this same width heen the most advantageous for an entirely new machine—the steam railroad; and even had it hcen best for a small, densely, and nniformly populated island of smooth topography, it would not have followed that it was the proper gauge for a vast continent of great variety in the charactor of its surface, population, and development.

In fact it *was* contested from the beginning, —not, however, on the ground of heing too wide, but too narrow. An able engineer, Brunel, claimed that 7 feet was a better gauge for England, and in the support of that claim urged, it is safe to say, with one exception, (that of its beiug a change from the existing order of things,) every argument that has been adduced in latter days to support this in hehalf of the 4 feet 8½ inches gauge as against one still narrower.

Thus it happened that for 30 or more years, during which the war of the wide gauges has heen going on, attention has heen drawn away from the true direction for inquiry, to wit, whether the narrower of the two broad gauges wae not too wide for true economy, and therefore for the greatest efficiency. Two competitive wide systems grew up alongside of each other in England, and to a less extent, thanks to our comparative poverty, in the United States. The results of that long struggle are well known. Now, the narrower of the broad gauges is being seriously challenged in every country; while in the United States, where three feet has heen adopted by the uniform judgment of narrow-gauge engineers, a large number of roads have organized, many of which are under construction and in operation, for sections varying from 12 to 156 miles each. Thus it will he seen that the one admitted deficiency of narrow-guage roads—that they are different from the existing ones, aud prevent interchange of cars for through husiness—is ahout to be removed; that a narrow-gauge system is rapidly growing up, with the latest improvements in rolling stock, which will afford all the benefits of this interchange without many of the disadvautages which accompany it on the old roads. We have explained the reasons which induce the company to adopt the guage of three feet, and show how it has operated on the road thus far, but have refrained from polemical discussion, holding in wholesome veneration the thirty years' war hetween Stephenson and Brunel, with their followers, and will here leave the subject until still further actual experience has enabled us to stato something new.

About Quicksilver Extraction.

Eds: Press:—In your issue of August 23d, you allude to a previous article in your valuable paper of June 14th, from Mr. Kustel, all referring to the reduction of ciuuahar.

With your permission, I propose to tell you some things *I know* about furnaces and the redndction of cinnabar. And I will also take a "California standpoint," which is the point that will in this case lead near where the "truth lies buried." That we have yet much to learn in the reduction of metals, and particularly in the reduction of mercury from its ores, there is no one will deny; but that we have reached a point of progress, far in advance of your ideas as expressed in your issue referred to, I think can be demonstrated. In this article I propose to confine myself to reductiou of cinnahar by the Knox & Osborn furnace, which I know can be relied on, to do all I claim for it, and if it is better than has heen done by older processes, something has been gained for truth and progress. In working ore in large quantities, it is impossible to get exact assay of the whole, for however fair one may be in selecting, he may get ore that will be either above or helow the true average; and suppose a true average was obtained, I have never yet found two aseayers who gave the same result from a blow pipe, or other assay of a few grains; hence I am led to question the correctness of such assays, while hy a retort and fire assay, you take one to five pounds of ore, and if carefully done, you will come at a result near the truth, and be able to show no loss of mercurial vapor, or free mercury, and by an examination of the earth, non-metalic remains in the retort, it can be seen whether the rednction is complete, and if so you will have a closer approximation to the true quantity of metal than hy any other process. And by the same process, I propose to ehow that when this furnace is properly manipulated, there ie no loss of mercury, except at *one point* of which I will speak hereafter,

I will not go into any description of the furnace, as that is not the object of this communication, but will give enough of the proceess to explain the principle on which it works. The ore is put in at the top of the stack, aud, passing down, is drawn out after roasting at the bottom—the fire heing in the passage of the ore downwards drawn across the ore hy the aid of a snction-fan, which suction ie strong enough to prevent the vapors of mercury from penetrating the walls of the furnace, as long as the suction-draft ie continued. Nor can any vapors escape at the charging-pot on top; and should there be any unknown defect in the furnace, the air aud outside gases will penetrate the furuace, but no gases from within the furnace can possibly reach the outside and escape; and the same is true of the condensers. This fact will be patent to any one who will examine this furnace when in operation. Now, the question of the furnace-structure aboerhing the mercury is in part answered ahove, hut I will further say it is physically impossible for any vapors of the furnace to penetrate the masonry while the vapor-channel to the snction-fan ie kept open, and in working it is *never* shut. Nor is this mere theory only, for the masonry of two of these furnaces has heen thoroughly examined wbile undergoing repairs —one, without showing a trace of mercury in the *debris*, while the other showed just a trace, and on an examination of the material from which this furnace was built, it showed the same trace of mercury as the *debris* from the furnace.

The old furnacee of the New Almaden Q. Co., from the foundatione of which so much mercury was waehed, were very different structures from those in use there at the present time, and were very defective as compared with those now in use, which were supposed to remedy tbe leake of tbe old ones, bnt the main waste of these Almaden-furnaces (if there ie waste) will he found under the condensers, for while the furnace is hot enough to expel the vapors of mercury from the ore it will go out of furnace even if there is no suction to draw them out, nor is the relation in the construction and operation of the Almaden furnace and the Know & Osborn furnace so similar that hecause one was known to be defective, it would follow as a sequence that the other must he. In the K. & O. furnace the ore remains in the passage down 72 to 76 hours, at least 60 hours of what at a red heat, which is long enough to extract the last of the mercurial vapors from the ore, and a perfect redncticn cannot be effectod in much less time.

That we get such a reduction an examination of the debris from the "draw" will at all times determine, while to the educated eye of the operative who draws out the *Debris*, the sight of it as it comes from the body of the furnace red hot, is sufficient.

No metal can he lost here except by the neglect of operatives who havo it in charge. This brings us to the outlet of the vapor channel where the condensers are attached, which channel is underlayed with a heavy cast iron plate covered with brick and concrete through which (the iron) it is impossible for vapors or condeused metals to penetrate. From tbis chamber we pass to the iron condeusers, which are air and vapor-tight except at the door for clcaning out where some air constantly goes in, hut no vapor gets out. Even if the door of the condeuser is taken quite away, no vapor comes out. The metal from the condensers as it runs out is received in a wooden trough leading to the receiving pot or reservoir, also of iron. Through these coudensere, trough and reservoir nothing escapee us. And the number of condensers is only regulated hy the number that can be made to pay. We get some mercury in the last condenser we use and eome heyond in the long flue and at the coke chimuey, the final trap we eet for arresting the metal. We helieve the amount of metal escaping by the coke chimney to be very small, and not sufficient to justify the extension of the line of condensers, as the last condenser retains very little, the hulk being found in in the fourth to the eighth of our sixteen condensers. Our wooden flue (of any desired length), is made so tight that the vapors seldom show themselves, conducting the vapors to the coke chimney which is kept wet hy a continual stream of water, and as the vapors come from it, I have stood hy it in the vapors without any ill effects from the mercury, which it would have heen impossible to do if much mercury was present.

That there is some mercnry escaping here, I have no doubt; hut because we catch considerahle mercury at the coke chimney yon argue that we must lose some large unknown amount, the point of which argument we do not perceive, nor do I admit. The amount is large, but think, one-half of one per cent. of what is saved hy the machinery for saving the metal will cover this loss. And of this I am so well satisfied that I will make you a husiness proposition, which I also extend to Mr. Kustel, that I will give you an opportunity to test the vapors that pass the coke chimney, and for all the mercury you extract from them over and ahove one per cent. of the amount saved hy the varions means of condeneatiou employed, will hind myself to pay you ten dollars for each and every pound. Now if you think I am only "gasing" go in and mako some money, while you show the community where the quicksilver goes to, and why there is such a scarcity in the market. The furnace at our own mine (the firet of the kind huilt) has never had a coke chinney to save the "$50 worth" of mercury, saved at the Phenix, per month, and this furnace having run five years and at the same rate of loss as reported saved at the Phenix, there must be $3,000 lying ahout there loose, and we will give you the privilege of securing all of it, and will furnish you the flasks to put it in without charge.

Thie is a paying opportunity for you to upset "the imagiuary 99 per cent." theory, and thue advance tbe cause of true ecience, and prevent your readers from being "humbugged" by meu who are preeumed not to know what they are talking about. Now, ae I have already said, there ie yet much to learn ahout this business, and I feel confident no man will ever learn much of any practical valne without going to the field and into the husiness of reduction on a working hasis, and experiment it out as I have. You can thus not only test your own ideas, hut will have ample opportunity to "prove all thinge and hold faet that wbich is good." Having this practical part in view I invite you to visit us and see the working of this furnace aud explode tbis 99 per cent. husiness on your return.

R. F. Knox.

Jute is principally manufactured at Dundee, Scotland, where there are 50 mills ranging from four to eight stories high. The largest mill employs 5,000 hande, and works up into fabrics 1,000,000 pounds of raw jute per week. The principal consumers of burlaps or jute cloth in the United States, are Californians, who use them for grain bage. Ten per cent. of the value of the California wheat crop is expended in the purcbase of coarse jute cotton and linen bags.

A thousand hoxes of "extra fine new season's Moyune gun-powder green tea, ex-Sarpedon steamship from Cantou," sold two weeks since, in the Euglish metropolis, contained forty to forty-three per cent. of iron filinge and nineteen per cent. of silica, in tbe form of fiue sand, cleverly mixed with and added to the leaves before curing.

Lithographic Stone. — Apprehension has been felt as to the future supply of this necessary substance, as the German quarriee, from which are taken nearly all the lithographic stone used, are becoming exhausted. New beds have, however, been recently discovered in Italy, near the French frontier, and on tbe coast of the Gulf of Genoa.

Fooled.—An Indiana man claims to have succeeded in playing a thorough confidence game upon the potato hugs. He planted a grain of corn in each potato hill, and as the corn came up first, the hugs thought it was a cornfield and started for other scenes.

The result of soundings made in the Atlantic Ocean seems to indicate that the average depth of its hed is not over 12,000 feet, and in few places is it deeper than 15,000 or 20,000 feet—in other words, ahout the hight of Mont Blanc.

THE CHARGE FOR WATER is higher than that for gas in San Francisco; but as the majority of the inhabitants do use gas occasionally, there is much more complaint made of the latter tax.—*Gaslight Journal.*

A PRETTY SPEECH.—The following pretty speech was recently made by a bridegroom:

To-day I shake hands with the past. I live henceforth in future joys. An unknown door is opened, and I enter an abode of beatitude. I am confident of the future. The shadow of the present shall fall upon it even when my bride and I have grown old, and invest it with sunset glories. I may not deserve the good I have won. It gives itself, and if not given, no wealth, genius, beauty, or wit, no gold of earth or gem of heaven is rich enough to purchase it. Loving thee, my bride, my heart shall keep its old memories like the sea-shell its wonted melody. Love's music steals on us like dawning light, which all over the heavens spreads and invests the world with beauty and glory. The road that led on through the unknown future was dark and dreary; but celestial splendor now lights up the gloom; and the fair bride, her spirit-self, a Peri at the gates of Paradise, invites me onward and upward to a life of purest pleasure and duties of beneficence.

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DAVIS' PAIN-KILLER is a purely vegetable combound, prepared from the best and purest materials, and with a care that insures the most perfect uniformity in the medicine; and while it is a most effective remedy for pain, it is a perfectly safe medicine, even in the most unskillful hands.

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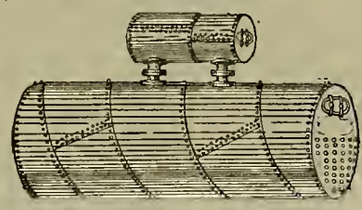

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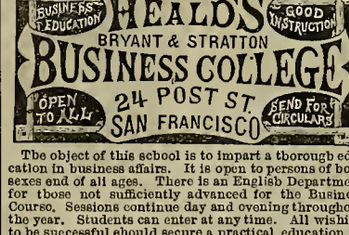

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Dr. Paul M. Brenan, the celebrated Physician, Lecturer and Surgeon, has now permanently established himself in San Francisco; offices, 127 Montgomery street, where he can be consulted free of charge, upon all diseases and weaknesses to which mankind is liable, including Nasal Catarrh, affections of the Head, Chest, Throat, Lungs, and Heart Neuralgic and other nervous diseases. Dr. Brenan is also able, through his thorough knowledge of Physiognomy and Phrenology, to read a man's character at sight, advising him of his principal characteristics, and what path of life it would be best for him to pursue. Phrenological examinations given daily. Correspondence promptly answered.

Private and confidential correspondence may be addressed to lock box 291, post office, S. F.

Offices—127 Montgomery street. Hours, 10 to 12 A. M., 2 to 5 and 6 to 8 P. M.

The Poor prescribed for free every Thursday afternoon. 9v27-3m

Directory.

Menzo Spring---Manufacturer of the Dr.

Bly Artificial Limbs, has removed from 101 Jessie street to 166 Tehama street, near northeast corner of Third and Tehama, and between Howard and Folsom streets. Address Menzo Spring, 166 Tehama st., San Francisco, Cal.

DR. AIKIN, 504 Kearny st., N. E. cor. California st., San Francisco, cures Catarrh, Deafness, Ear Discharges, Deformities, and all Eye, Ear, Lung, Liver, Kidney, Blood, Nerve, Chronic, Special and Men's Diseases. Friendly advice; skillful treatment for all invalids. Medicines supplied. Hours, 10 to 4 and 6 to 8. Call or write. Ladies, married or single, speedily cured of any ill health. 23v26

H. C. BENNETT,

STATISTICIAN.

Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

RICHARD H. STRETCH, Civil Engineer,

City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

GILES H. GRAY. JAMES M. HAVEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,

In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,

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JOHN ROACH, Optician,

429 Montgomery Street,

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Spectacles and Instruments made, repaired and adjusted 22v17-3m

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,

BOOKBINDERS,

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505 Clay street, (southwest cor. Sansome),

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SEAL ENGRAVER,

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Brass and Steel Stamps and Dies, **608** Sacramento street, San Francisco. Orders by express promptly attended to.

J. M. STOCKMAN,

Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry).

N. W. corner Natoma and Fremont streets, S. F. Entrance on Natoma street. 6v23-3m

San Francisco Cordage Company.

Established 1856.

We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.

TUBBS & CO.,

17v26-tf 611 and 613 Front street, San Francisco.

DR. ABORN,

Physician and Operating Surgeon

FOR CHRONIC DISEASES,

213 GEARY STREET, . . . SAN FRANCISCO.

Diseases of a chronic and obstinate character, especially such cases as have for years, or a lifetime, resisted the ordinary modes of treatment, are the class of maladies in the treatment of which Dr. Aborn has become pre-eminent on the Pacific Coast, as well as throughout the Union, and by his success has accbieved for himself an enviable reputation. 23v25-1y

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STEEL PENS.
Sold by all Dealers throughout the World.
19v26-1y

JUST PUBLISHED.

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MAP OF UTAH.

SIZE, 40 BY 56 INCHES; SCALE, 8 MILES TO AN INCH.

Handsomely engraved on stone, colored in counties, and mounted on cloth, showing the Counties, Towns, Rivers, Lakes, Railroads, Mines and Mining Districts throughout the Territory, and all GOVERNMENT SURVEYS made to date. Price, mounted, $8; Pocket form, $5. Mailed to any part of the United States, on receipt of price, by A. L. BANCROFT & CO., 721 Market street, San Francisco, Cal., or by B. A. M. FROISETH, Publisher, Salt Lake City, Utah. 10v25-tf

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OAKEY'S WELLINGTON KNIFE POLISH. Packets, 3d. each; tins, 6d., 1s., 2s., 6d., and 4s. each.
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OAKEY'S GENUINE EMERY, GRAIN AND FLOUR.
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OAKEY'S GOODS SOLD EVERYWHERE by Ironmongers, Grocers, Oilmen, Brushmakers, Druggists, etc. 21v25-1y

PURCHASERS please see advertised in Scientific Press.

The English Wheat Supply.

With regard to comparative production and importation of bread-stuffs in England, the London *Daily Telegraph* of August 11th, says: The average consumption of wheat per head has been found to be—taking man, woman and child together—about a quarter to each individual. A quarter is two sacks or eight bushels, and the amount produced in the United Kingdom may be set down at the average of fifteen million quarters. The average produce to the acre is about thirty bushels, or three quarters and six-eighths of a quarter, and hence it will be seen that if we get seventeen million quarters this season—which is quite likely—there is less bread-stuff to purchase abroad by as much as two million mouths consume. But these rough figures will also show how very largely we must continue to depend upon foreign harvests. To put the matter clearly, a good half of the population of Great Britain is fed now with flour grown abroad, aud could not be fed otherwise. As much as a seventh, perhaps, of the yield of wheat goes back into the land in the shape of seed; so that the number of mouths filled with home-grown bread cannot safely be called a moiety of the population. On the other hand, the processes of agriculture are yearly improving, and more grain is obtained to the acre than formerly. We shall not be far wrong in saying that a good harveet means now-a-days the feeding of half the people with British-grown bread; and a bad harvest, the having to send abroad for at least two-thirds of the wheat and flour which our thirty-two millions of mouths consume.

A PULU PLANT.—One of those singular vegetable productions, with the product of which Californiane have become so familiar, as a substitute for hair in mattresses, may be seen growing in the window of Dr. L. Lanszeweert's drug store, near the corner of Fourth and Harrison streets, in this city. This is one of two plants that were recently brought from the Sandwich Islands by Mr. Wm. R. Frinks. The other was taken to Woodward'e Gardens, but we believe, has not yet ehown any signs of growth. A specimen of this plant wae sent to the Academy of Sciences of this city a few years since, but it never showed any growth, and we believe Dr. Lanszeweert is the first who has succeeded in this effort.

HIPPOPHAGY IN FRANCE.—According to *Le Monde*, there are now as many as forty shops or stalls, in the city of Paris alone, devoted to the sale of horse meat as an article of food; and during 1872 there were, in round numhers, 10,000 horses, 900 asses, and 50 mules consumed by the inhabitants. The animals are prepared for the market in the usual way, and the meat sells for about half the price which is commonly asked for beef. The horses are in all cases subjected to careful examination by official inspectors. It is also stated as an interesting fact that, so far from hippophagy declining, it ie decidely on the increase, the figurcs showing that nearly two and a half million pounds of equine meat were sold in 1872, as against half that quantity in 1860.

THE COINAGE at the San Francisco mint for the month of August was unusually large, reaching the sum of $2,131,000, of which $110,000 was in trade dollars. The work of adjusting each trade dollar is equal to the work on a $20 piece, the adjustment heing as fine as on the more valuable coine, and therefore the work is equal to the coinage of $4,221,000, in $20 pieces.

THE ENGLISH SPARROW.—There is much talk of introducing the English Sparrow into this city, but opinions conflict as to whether the step would be beneficial or otherwise iu its results. Although it eats the grubs and worms which infest vegetation, it is said to prefer wheat and oats to the parasites, for which reason the birdis regarded by English farmers as a pest. Other people aver that it is a useful check upon insect life uoxious to vegetation.

CALIFORNIA TOBACCO, raised near Gilroy and cured by the Culp process, is spoken of as excellent in quality. Laborers are now cutting and curing the crop of Florida Tobacco in a field west of Gilroy. The *Advocate* states that the officers of the company are confident that they will sell their cigars at good figures as fast as they cau manufacture them. The enterprise has now passed its experimental stage and its success is a fixed fact.

THE *Resources of California* for August contains a vast fund of information concerning our State, prominent among which is a detailed description of "Southwestern California" by Prof. Knowlton. The article referred to is lengthy but readable, and gives a very good idea of the country spoken of. The selected matter in this issue of the paper has been judiciously collected, and all pertains to the welfair and progress of different parts of the State.

San Francisco Metal Market.

WEDNESDAY, Sept. 3, 1873.

The Metal market continues quist, with no changes to note since our last Review. There has been somo inquiry for Nails, which have been selling at $5.75@$8 keg for the various sizes.

IRON.—			
Scotch Pig Iron, ₱ ton	$52 50	@	— —
White Pig, ₱ ton	52 50	@	— —
Refined Bar, had assortment, ₱ lb	— —	@	— 4
Refined Bar, good assortment, ₱ lb	— —	@	— 4½
Boiler Nos. 1 to 4	— 05½	@	— 06
Plats, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 6	@	— —
Other Irons for Blacksmiths, Miners, etc.	— 5	@	— —
COPPER.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O.Nail's Pat	— 55	@	— —
Sheathing, ₱ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	12 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₱ lb	— 40	@	— 42½
STEEL.—English Cast, ₱ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 15	@	— 17
ZINC	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5¾	@	— 8

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

Prices of Leather of different kinds do not ohange. The month has opened more favorably to dealers, though we have only had two days' indications on which to form an estimate. The usual Fall changs has set in, and mors frequent inquiion is noticed, with prospects of improvemsk. As we have before stated, the tendency for the last month has been for the better, but the sales, while frequent enough to keep the market tolerably firm, do not seem as yet to have influenced rates to any great extent.

City Tanned Leather, ₱ lb	26@28
Santa Cruz Leather, ₱ lb	26@29
Country Leather, ₱ lb	25@28
Stockton Leather, ₱ lb	26@29
Jodot, 8 Kil., per doz	$50 00@$54 00
Jodot, 11 to 19 Kil., per doz	66 00@ 85 00
Jodot, second choics, 11 to 16 Kil. ₱ doz	55 00@ 70 00
Cornellian, 12 to 16 Ko	57 00@ 67 00
Cornellian Females, 12 to 13	48 00@ 54 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumcrvills, 15 Kil	60 00@ — —
Simon, 18 Kil., ₱ doz	60 00@ 62 00
Simon, 20 Kil. ₱ doz	65 00@ 67 00
Simon, 24 Kil. ₱ doz	70 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₱ lb	1 00@ 1 30
California Kip, ₱ doz	40 00 to 60 00
French Sheep, all colors, ₱ doz	3 00@ 15 00
Eastern Calf for Socks, ₱ lb	1 00@ 1 25
Sheep Roans for Topping, all colors, ₱ doz	9 00@ 13 00
Sheep Roans for Linings, ₱ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 4 50
Best French Calf Boot Legs, ₱ pair	5 00@ 6 25
Good French Calf Boot Legs, ₱ pair	4 00@ 4 75
French Calf Boot Legs, ₱ pair	4 00@ — —
Harness Leather, ₱ lb	30@ 37½
Fair Bridle Leather, ₱ doz	48 00@ 72 00
Skirting Leather, ₱ lb	30@ 37½
Welt Leather, ₱ doz	30 00@ 50 00
Buff Leather, ₱ foot	19@ 22
Wax Side Leather, ₱ foot	17@ 19
Eastern Wax Leather	—@—

GENERAL MERCHANDISE.

Bags and Bagging do not recover from the downward tendency begun some time since. The Oil trade is also quite weak, with little doing. The Demand for Cured Meats is strong, and Provisions generally are firm.

BAGS.			
Eng. stand. Wh't	14¼	@	14½
Dutric's Mach'e Sewed, 22 x 36	—	@	13
Gilroy 1¢	13½	@	—
do, 22x36, do W	13	@	—
do. 22x40, do	13½	@	—
do, 22x40	13¾	@	—
do, 24x40	15½	@	—
Flour Sacks ½s	13	@	15¢
" ¼s	8¼	@	9
Stand. Gunnies	—	@	30
" Wool Sacks	—	@	65
" Barley do	—	@	15½
Hessian 15-in.gds	—	@	11½
do 60	—	@	10¾
Burlaps, yard	10¼	@	10¾
CANNED GOODS.			
Asst'd Pie Fruits in 2½ lb cans	3 00	@	—
do Table do	—	@	4 00
Jams & Jellies	4 00	@	4 50
Pickles ½ gl	—	@	3 50
COAL—Jobbing.			
Australian, ₱ ton	—	@	10 00
Coos & Bay	8 50	@	10—
Seattle	— —	@	11—
Cumberl'd, cks	— —	@	— —
do bulk	21 00	@	22 50
Mt. Diablo	— —	@	8 50
Lehigh	14 25	@	— —
Liverspool	11 00	@	12—
West Hartley	12 00	@	14—
Scotch	10 00	@	11—
Scranton	10 00	@	— —
Vancouver's Isl.	12 00	@	14—
Charcoal, ₱ sk	75	@	—
COFFEE.			
Sandwich Island	19¼	@	—
Costa Rica per lb	22	@	—
Guatemala	20	@	21
Java	24	@	24¾
Manilla	19	@	20
Ground in cs	30	@	—
Chicory	10	@	—
FISH.			
Pac. Dry Cod, new cases	8	@	7
Eastern Cod	9¾	@	9¾
Salmon in hhls	8 00	@	9 00
do ½ hhls	4 50	@	5 00
do 2½ lb cans	2	@	—
do 1 lb cans	3 75	@	4 00
do 1 lb cans	2 25	@	—
Do Col. R. ½b	4 50	@	5 00
Pick. Cod, bbls	22 00	@	—
do ½ bbls	11 00	@	—
Box on Smoke	—	@	—
Herr'g, box	40	@	50
Mack'l. No. 1, ½hls	10—	@	10 50
" Extra	—	@	12 50
" in kits	2 50	@	3 00
" Ex mess, 4	25	@	4 50
" Ex mess, ½hs	—	@	13 00
NAILS.			
Assorted size, ₱	5	@	8 —
NAVAL STORES.			
Pitch, per lb	7	@	8
Oakum pr bale 50 lb	4	@	4 50
Rosin	6 00	@	6 50
Anchors	8	@	8½
Chains	7	@	7½
OILS.			
Pacific Glue Co. Neat F'ts No. 1	—	@	—
Pure	1 25	@	—
Castor Oil, No 1	1 40	@	1 45
do do No. 2	1 30	@	1 35
Cocoa Nut	—	@	—
Olive Inguiol	5 00	@	—
do Possel	4 75	@	—
Palm	9	@	—
do Bagioalupi	—	@	—
Linseed	95	@	1 00
China nut	82½	@	85
Sperm, crude	1 25	@	—
do bleached	1 90	@	—
Coast Whales	37½	@	40
Polar, refined	55	@	—
Lard	90	@	92½
Coal, refined Pet	37½	@	40
Oleophine	37½	@	40
Deve's Brit'n	42	@	45
Long Island	37½	@	40
Eureka	37½	@	40
Downer's kero'e	50	@	62½
Barre Kerosene	30	@	—
Downer Karose'o	50	@	52½
Gas Light Oil	37½	@	40
PAINTS.			
Atlan. W. Lead	11½	@	12
Whiting	1½	@	1¾
Putty	—	@	4
Chalk	—	@	1
Paris Whits	2½	@	—
Ochre	2½	@	3
Vonstian Red	3	@	3½
Red Lead	10½	@	11
Litharge	10	@	11
RICE.			
China No. 1, ₱ lb	6¼	@	—
do 2, do	5¾	@	6
Japan	6	@	7½
Siam Cleaned	—	@	—
Patna	7	@	—
Hawaiian	5	@	8
Carolina	10	@	10½
SALT.			
Cal. Bay, per ton	12 00	@	15—
do Common	5 00	@	8 00
Mexican	14 00	@	15 00
Carmen Island	14 00	@	30—
Liverpool fine	22 00	@	—
do coarse	21 00	@	21 50
SOAP.			
Castile ₱ lb	10	@	13½
Local brands	4½	@	9
SPICES.			
Allspice, per lb	15	@	15
Cloves	—	@	40
Cassia	27½	@	—
Nutmegs	1 12	@	1 15
Whole Pepper	—	@	26
Gr'nd Allspice	—	@	1 00
do Cassia do	—	@	1 50
do Cloves do	—	@	1 25
do Mustard do	—	@	1 25
do Ginger do	—	@	1 00
do Pepper do	—	@	1 00
do Mace do	1 20	@	1 30
SUGAR, ETC.			
Cal. Cube per lb	11	@	—
Circle A crushed	11	@	—
Powdered	—	@	11¼
Dry granulated	10¾	@	11
Extra do	10¼	@	—
Hawaiian	7½	@	9½
Golden C	9¾	@	—
Refinery grade	7	@	—
Cal. Syrup in bls	52½	@	—
do in ½ bls	55	@	—
do in kegs	40	@	—
do Hawaiian	20	@	22½
TEA.			
Oolong, Canton, lb	19	@	25
do Amoy	28	@	50
do Formosa	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	80
do Moyuns	60	@	1 00
Gunpo'der, Cant.	30	@	42½
do Pingsuey	50	@	90
do Moyune	65	@	1 25
Y'ng Hy., Canton	28	@	40
do Pingsuy	40	@	70
do Moyune	65	@	85
Japan, ½ chests, hulk	30	@	75
Japan, lacquered hxs, 4½ and 5 lbs	45	@	67
Japan do, 3 lb hxs	45	@	80
do pl'n hx, 4½ lb	35	@	65
do ½ & 1 lb paper	30	@	55
TOBACCO—Jobbing.			
Bright Navys	50	@	60
Dark do	45	@	50
Dwaf Twist	57	@	62½
12 inch do	57	@	62½
Light Pressed	65	@	75
Hard	60	@	80
Conn. Wrap'r	40	@	50
Penn. Wrapper	35	@	45
Ohio do	30	@	40
Virgi'a bulk'g	30	@	35
Fine ot che'g, r	8 50	@	9 25
Fine cut chewing, hucks	75	@	90
Banner fine cut	8 75	@	9 25
Eureka Chla	8 00	@	8 50
TURPENTINE.			
Eastern	67½	@	70

New Incorporations.

The following companies havo filed certificates of incorporation in the County Clerk's Office, San Francisco:

THE COLUMBIA RIVER SALMON CO., Aug. 29.—Object: To conduct and carry on the fish business in the Columbia River, State of Oregon: to construct all works necessary for the use of the Company, for the purpose of canning salmon, packing the same, to buy and sell other kinds of fish, and to acquire such other property as may be necessary for the husiness of the Company. Trustees: Adolph Maillard, Albert W. Mann, Frederick Clay, John Sroufe, Adolph Weske. Capital stock, $50,000, in shares of $10 each, of which 3,000 shares have been subscribed.

CO-OPERATIVE COAL M. CO., Aug. 30.—Object: To mine for coal and purchase timber lands in this city, State and Oregon. Trustees: Wm. Sherman, Wm. A. Stuart, Albert Bushmore, James A. Mars, T. A. Mudge. Capital stock, $3,000,000, in shares of $100 each, all of which has been subscribed.

Meetings and Elections.

SOUTH EUREKA M. Co., Aug. 30.—Trustees: L. P. Drexler, Joseph Marks and H. C. Kihhe. Subsequently Mr. Marks was chosen President and T. F. Cronise Secretary.

GREAT BLUE GRAVEL RANGE M. Co.—Directors: M. D. Plummer, William Highy, W. H. Cummings (President), J. T. Bahcox and Winslow Hall (Superintendent). W. H. Wstson was elected Secretary and Treasurer.

ALTA M. Co.—Directore: Charles Jones (President) O. B. Land, W. F. Myers, H. Knap and Wm. H. Watson (Secretary). Mr. R. N. Van Brunt was chosen Treasurer.

SUCCOR M. & M. Co.—Trustees: Chas. Jonee, F. N. Shattuck, E. J. Moore, Gustave Sutro and A. Block.

SOUTH EUREKA M. Co.—Trustees: Joseph Mcrks, H. C. Kihhe and L. P. Drexler.

MEADOW VALLEY M. Co.—Ely District. Aug. 28. Directors: Geo. W. Beaver (President), J. D. Fry (Vice President), R. F. Morrow, Oliver Eldridge, A. J. Bowie, J. H. Dohinson and Richard Wegener. Secretary, J. W. Colhurn; General Superintendent, D. M. Tyrrell.

SENATOR M. & M. Co.—Aug. 27. Directors: J. E. de ls Montagnic, Jno. O. Hanscom, W. F. Myers, Nathaniel Page, Sampson James. Secretary, Henry Boyle; Superintendent, H. V. S. McCullough. The shaft on this mine is now down 400 feet in pay-ore.

HOWARD HILL M. Co.—Directors: David Fay, J. W. Gashwiler, J. W. Colemon. Secretary, Lewis Kaplan; Superintendent, J. T. Bradley.

OCCIDENTAL M. Co.—Directors: Edward Barron (President), J. W. Mackay, J. G. Fair, J. C. Flood aud W. S. O'Brien. Secretary, Chas. E. Elliott; Superintendent, J. G. Fair.

LUMBER MARKET.

CARGO PRICES OF REDWOOD.

Rough, ₱ M	$20 00
Rough refuse, ₱ M	16 00
Rough clear, ₱ M	22 50
Rough clear refuse, M	22 50
Rustic, ₱ M	35 00
Rustic, refuse, ₱ M	24 00
Surfaced, ₱ M	32 50
Surfaced refuse, ₱ M	22 50
Flooring, ₱ M	30 00
Flooring, refuse, ₱ M	20 00
Beaded flooring, ₱ M	32 50
Beaded floor, refuse, M	22 50
Half-inch Siding, M	22 50
Half-inch siding, ref, M	16 00
Half-inch, Surfaced, M	25 00
Half-inch Surf. ref., M	18 00
Half-inch Battens, M	22 50
Pickets, rough, ₱ M	14 00
Pickets, rough, p'nted	15 00
Pickets, fancy, p'nted	25 00
Shingles, ₱ M	3 00

PUGET SOUND PINE —Retail Price.

Rough, ₱ M	25 00
Fencing and Stepping, M	37 50
Fencing, 2d quality, ₱ M	30 00
Fencing, ₱ lineal foot	1c
Flooring and Step, ₱ M	30 00
Flooring, narrow, ₱ M	32 50
Flooring, 2d quality, M	25 00
Laths, ₱ M	3 50
Furring, ₱ lineal ft	¾

REDWOOD—Retail.

Rough, ₱ M	25 00
Surfaced, ₱ M	35 00
Rough Pickets, ₱ M	18 00
Rough Pickets, p'd, M	20 00
Fancy Pickets, ₱ M	30 00
Siding, ₱ M	27 50
Tongued and Grooved, surfaced, ₱ M	42 50
Do do refuse, ₱ M	27 50
Half-inch surfaced, M	40 00
Rustic, ₱ M	42 50
Battens, ₱ lineal foot	1c
Shingles ₱ M	3 50

Our Agents.

OUR FRIENDS can do much in sid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by londing their influence and encouraging favors. We intend to send none hut worthy men.

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THE MINING AND SCIENTIFIC PRESS.—We commend it especially to the miners of Colorada.—*Denver (Col.) News.*

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Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Alpine Gold Mill and Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Puckerville Mining District, Amador County, Cal.

NOTICE.—There are delinquent upon the following discribed stock, on account of assessment, No. 5, levied on the 21st day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Banks, T C	41	100	$50 00
Felton, C N	25	100	50 00
Gashwiler, J W	28	100	50 00
Gashwiler, J W	82	250	125 00
Ives, G J	30	50	25 00
Luther, T M	26	100	50 00
Richardson, E A, Trustee	1	500	250 00
Richardson, E A, Trustee	2	500	250 00
Richardson, E A, Trustee	3	500	250 00
Richardson, E A, Trustee	4	500	250 00
Richardson, E A, Trustee	5	500	250 00
Richardson, E A, Trustee	6	500	250 00
Richardson, E A, Trustee	7	500	250 00
Richardson, E A, Trustee	9	500	250 00
Richardson, E A, Trustee	10	500	250 00
Richardson, E A, Trustee	12	500	250 00
Richardson, E A, Trustee	13	500	250 00
Richardson, E A, Trustee	14	500	250 00
Richardson, E A, Trustee	15	500	250 00
Richardson, E A, Trustee	16	500	250 00
Richardson, E A, Trustee	17	500	250 00
Richardson, E A, Trustee	20	500	250 00
Richardson, E A, Trustee	34	50	25 00
Richardson, E A, Trustee	35	50	25 00
Richardson, E A, Trustee	36	50	25 00
Richardson, E A, Trustee	38	100	50 00
Richardson, E A, Trustee	39	100	50 00
Richardson, E A, Trustee	42	100	50 00
Richardson, E A, Trustee	45	250	126 00
Richardson, E A, Trustee	46	250	125 00
Richardson, E A, Trustee	47	200	100 00
Richardson, E A, Trustee	48	50	25 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of July, 1873, so many shares of each parcel of such stock as may be necessary, will he sold at public auction, at the office of the Company, No. 438 California street, San Francisco, California, on Wednesday, the 17th day of September, 1873, at the hour of 1 o'clock P. M. of such day, to pay the delinquent assassment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. au30

California Silk Manufacturing Company—

Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of August, 1873, an assessment of Five Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at his office, No. 569 Market street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the first day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. D. M. BOKEE, Secretary.

Office, 569 Market street, San Francisco, Cal.

The Confidence Mining Company—Location of works, Tuolumne County, State of California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment (No. 1) levied on the 4th day of August, 1873, the several amounts set opposite the uames of the respective shareholders as follows:

Namee.	No. Certificate.	No. Shares.	Amount.
H E Halsey	8	100	$175 00
J L de Eguirtales	9	200	360 00
H Hampton, Trustee	82	250	437 50
H Hampton, Trustee	37	100	175 00

And in accordance with law, and an order of the Board of Directors, made on the 4th day of August, 1873, so many ehares of each parcel of such stock as may he necessary, will he sold at public auction, at the office of the company, on Monday, the 22d day of Septemher, 1873, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with coste of advertising snd expenses of the sale.

H. HAMPTON, Secretary.

Office—217 Sansome Street, San Francisco, California. se6

Cincinnati Gold and Silver Mining Company. Locstion of Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stoca, on account of assessment levied on the 7th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Namos.	No. Certificate.	No. Shares.	Amount,
Clapp, R W	30	50	2 50
Curtiss, Jesse	21	100	5 00
Curtiss, Jeese	22	100	5 00
Curtise, Jesse	23	50	2 50
Hinckley, G E	36	26	1 25
Hinckley, G E, (not fissued)		500	25 00
Woods, A	44	1000	50 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will he sold at public auction, at the office of the Company, room 14, No. 331 Kearny street, San Francisco, California, on the 1st day of Septemher, 1873, at the honr of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office, room 14, No. 331 Kearny street, San Francisco, Californis. au23.

POSTPONEMENT.—The above salo is hereby postponed until Monday, the 8th day of Septemher, 1873, at the same hour and place. By order of the Board of Directors. WM. SMALL, Secretary.

Commercial Coal Mining Company of San

Francisco. Location of principal place of business, City and County of San Francisco, State of Californuis. Location of works, Santa Cruz County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessmcnt levied on the 9th day of July, 1873, the several amounts set opposito the names of the respective shaholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alexandre, J	52	50	$25 00
Crocker, A E	135	25	12 50
Crocker, A E	137	25	12 50
Crocker, A E	138	25	12 50
Crocker, A E	139	25	12 50
Crocker, A E	140	10	5 00
Crocker, A E	141	10	5 00
Crocker, A E	142	5	2 50
Crocker, A E	143	100	50 00
Crocker, A E	144	50	25 00
Forrester, Jamcs	4	100	50 00
Forrster, B	132	5	2 60
Forrester, B	147	25	12 50
Hauson, S B	128	10	5 00
Harrop, S	138	20	10 00
Lindsey, Catharine	135	38	16 50
Thompson, D H	90	55	27 50
Thompson, D H	91	20	10 00
Thompson, D H	92	26	12 50
Thompson, D H	93	100	50 00

And in accordance with law and an order of the Board of Directors, made on the 9th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will ho sold at public auction at the office of the Company, No. 402 Montgomery St., San Francisco, room No. 23, on the 8th day of Septemher 1873, at the hour of 12 o'clock M. of said day, to pay said delinqnent assessment thereon, together with costs of advertising and expenses of salo.

S. B. HANSON, Secretary.

Office—No. 402 Montgomery street, San Francisco, room No. 23. ag28

Day Spring Gold Mining Company—Lo-

cation of works, Kelsey Quartz Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees, held on the fourth day of August, A. D. 1873, an assessment of five cents per share was levied upon the assessable stock of said company, payable immediately in U. S. gold coin, to the Secretary, at the office of the company, No. 302 Sansome street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the tenth day of September, A. D. 1873, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made heforo, will be sold on Wednesday, the first day of Octoher, to pay delinquent assessment, together with costs of advertising and expenses of sale.

C. F. BROWN, Secretary.

Office—302 Sansome street, San Francisco, Cal. au8

Notice—The Annual Meeting of the

Stockholders of the Cerbat Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held on Monday the eleventh day of August, 1873, at the office of the company, 307 Montgomery street, San Francisco, California, at 1 o'clock, P.M.

T. E. JEWELL, Secretary.

jy26td

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Confidence Mining Company---Location of

principal place of business, San Francisco, Cal. Location of works, Tuolumne county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fourth day of August, 1873, an assessment (No. 1) of one dollar and seventy-five cents ($1.75) per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No 217 Sansome street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the fourth day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors. H. HAMPTON, Secretary.

Office, 217 Sansome street, San Francisco, Cal. au5

Eureka Mining and Smelting Company—

Principal place of business, San Francisco, Cal. Location of works, Eureka, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 315 Sansome street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. F. BEACH, Secretary.

Office, 217 Sansome street, San Francisco. au25

Excelsior Silver Mining Company—Prin-

cipal place of business, 640 Washington street, San Francisco, Cal. Location of works, Yellow Pine District, Nye County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 18th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ashley, S J	174	50	$22 50
Bulletti, C	21	100	45 00
Bulletti, C	81	50	22 50
Bulletti, C	111	100	45 00
Bulletti, C	110	100	45 00
Baldwin, M M	175	50	22 50
Burke, E	176	50	22 50
Boden, John H	178	50	22 50
Catanich, Peter	179	100	45 00
Cadenasso, G	83	50	22 50
Cadenasso, G	not issued	230	103 50
Docato, Joseph	163	25	11 25
Ferretto, G	163	50	22 50
Ferretto, G	198	50	22 50
Ferretto, G	199	180	81 00
Grosette, John	46	100	45 00
Gorman, John	not issued	280	126 00
Gabrielle, A	185	50	22 50
Henderson, James	14	25	11 25
Henderson, James	43	20	9 00
Henderson, James	107	20	9 00
Henderson, James	127	100	45 00
Henderson, James	not issued	115	51 75
Henderson, Edward	15	25	11 25
Henderson, Edward	30	20	9 00
Henderson, Edward	105	20	9 00
Henderson, Edward	128	100	45 00
Henderson, Edward, not issued		115	51 75
Hicks, Thomas	209	280	126 00
Jackson, Walter	not issued	280	126 00
Jury, Louis	not issued	280	126 00
Lauricelle, Raffelle	121	300	135 00
Larkin, Frederick	183	25	11 25
Larkin, Frederick	207	75	33 75
Larkin, Frederick	208	180	81 00
Linari, G	194	25	11 25
Linari, S	195	25	11 25
Macaggi, G	not issued	280	126 00
Marchella, D S	197	50	22 50
Macey, Albert	22	25	11 25
Macey, Albert	not issued	255	114 75
Murray, Wm	28	10	4 50
Magueral, S	161	25	11 25
Magueral, S	205	75	33 75
Magueral, S	206	180	81 00
Malatesta, N	196	50	22 50
Maggio, F	192	25	11 25
Onesti, G	188	125	56 25
Onesti, G	not issued	155	69 75
Pardini, N	182	50	22 50
Pardini, N	not issued	230	103 50
Penella, G	85	100	45 00
Reade, William	167	50	22 50
Reade, William	168	50	22 50
Reade, William	203	180	81 00
Robinson, T B	172	50	22 50
Robinson, T B	173	50	22 50
Rittori, A	181	50	22 50
Rittori, A	not issued	230	103 50
Silvestri, A	191	25	11 25
Silvestri, A	not issued	255	114 75
Volker, C J	185	100	45 00
Whiting, Henry H	190	100	45 00
Whiting, Henry H	not issued	180	81 00
Smith, A	16	25	11 25
Smith, A	177	50	22 50
Smith, A	not issued	205	92 25

And in accordance with law, and an order of the Board of Directors, made on the 18th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 640 Washington street, San Francisco, California, held on the 20th day of September, 1873, at the hour of 8 o'clock P. M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.

Office—640 Washington street, San Francisco, California. ag21

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 29th day of August, 1873, an assessment (No. 3) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the twelfth day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the twenty-ninth day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. au9

Greenhorn Gold Mining Company—Lo

cation of principal place of business, San Francisco Califonia. Location of works, Grass Valley Mining District, Nevada County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 11th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Gashwiler, J W	23	50	$75 00
Gashwiler, J W	24	50	75 00
Gashwiler, J W	35	100	150 00
Richardson, E A, Trustee	60	1000	1500 00
Mackintosh, W, Trustee	46	500	750 00
Mackintosh, W, Trustee	47	500	750 00
Mackintosh, W, Trustee	48	500	750 00
Mackintosh, W, Trustee	49	500	750 00
Mackintosh, W, Trustee	50	500	750 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of July, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, California, on Wednesday, the 10th day of September, 1873, at the hour of 1 o'clock P. M. of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, California. au20

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D. 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the 4th day of October, 1873, and the day of sale of delinquent stock is hereby postponed until Monday, the 27th day of November, 1873. By order of the Board of Directors. HENRY PICHOIR, Secretary pro tem.

Office, No. 603 Washington street, San Francisco, Cal. San Francisco, Sept. 1, 1873.

REMOVAL.—Office of Homiguera Mining Company is removed to office of L. L. Robinson, No. 603 Washington street, corner Montgomery, San Francisco, Cal.

HENRY PICHOIR, Secretary pro tem.

Hasloe Mill and Mining Company—Locа-

tion of works, Genlry's Gulch, Mariposa County, California. Principal place of business, San Francisco, Cal.

Notice is hereby given that at a meeting of the Directors, held on the 13th day of August, 1873, an assessment (No. 2) of Seventy-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, room 14, No. 408 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, Room 14, No. 408 California street, San Francisco, California. au19

Ida and Rhoda Lewis Consolidated Min-

ing Company. Principal place of business, San Francisco, California. Location of works, Walapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of the above named company, held on the twenty-eighth (28th) day of August, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Tuesday, the thirtieth (30th) day of September, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the twentieth (20th) day of October, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office—Room No. 12, Express Building, San Francisco, California. ag30

Kincaid Flat Mining Company—Principal

place of business, San Francisco, Cal. Location of works, Kincaid Flat, Tuolumne county, Cal.

Notice is hereby given, that a meeting of the Board of Directors, held on the 6th day of August, 1873, an assessment of Four Dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 8th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. H. CORNELL, Secretary.

Office 217 Sansome street, San Francisco, Cal. au13

Lemon Mill and Mining Company---Locа-

tion of Principal place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka county, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of August, 1873, assessment of Fifteen cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Corporation, No. 608 Merchant street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the seventeenth (17), day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 8th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, No. 608 Merchant street, San Francisco, California. au16-tw

Lady Esten Tunnel and Mining Company

—Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the eighth day of August, 1873, an assessment (No. 6) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 12th day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of September, 1873 to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. au9

Land Purchasers Association—Office, No.

425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of this corporation, held on the 26th day of August, 1873, an assessment of ten dollars per share (being the 37th monthly installment on the subscription to the stock) was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.

Office, No. 425 Kearny street, San Francisco, California.

McMahon Silver Mining Company---Loca-

tion of Principal Place of Business, San Francisco, California. Location of Works, Schoel Creek District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 4th day of September, 1873, an assessment (No. 5) of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 320 California street, room No. 8, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 25th day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the Twenty-seventh day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. GEO. R. SPINNEY, Sec'y.

Office, 320 California street, San Francisco, California. sep6

Manhattan Marble Company of California

—Principal place of business, San Francisco, California. Location of works, Oakland, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of one dollar per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 25th day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

O. M. BOKEE, Secretary.

Office—319 Pine street, San Francisco, California. au23

Notice---the Annual Meeting of the

Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held at the office of the company, 307 Montgomery street, San Francisco, on Saturday the 9th day of August, 1873, at 1 o'clock, P. M.

jy26td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Phenix Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 2d day of July, 1873, an assessment of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 6th day of August, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the 25th day of August, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange. jy3-d&s

POSTPONEMENT.—The day for deeming Stock delinquent on the above Assessment is hereby postponed until Thursday, the twenty-first day of August, and the day of sale of delinquent Stock until Friday, September 5th, 1873. By order of the Board of Trustees.

au9 CHAS. S. HEALY, Sec'y.

POSTPONEMENT.—The day for deeming Stock delinquent on the above assessment is hereby postponed until Friday, September 5th, 1873, and the day of sale of delinquent Stock until Saturday, September 20th, 1873. By order of the Board of Directors.

au23 CHAS. S. HEALY, Secretary.

State of Maine Mill and Mining Com-

pany. Location of principal place of business, San Francisco, California. Location of Works, Amador county.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 23d day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buffington, J M, Trustee	84	260	13 00
Burr, Platt Trustee	49	20	1 00
Burr, Platt Trustee	50	20	1 00
Burr, Platt Trustee	51	20	1 00
Burr, Platt Trustee	55	50	2 50
Congdon, H B	35	20	1 00
Congdon, H B, Trustee	38	100	5 00
Congdon, H B, Trustee	39	100	5 00
Marks, S L	12	240	12 00
Marks, S L	21	500	25 00
Morse, A C, Trustee	44	100	5 00
Morse, A C, Trustee	45	100	5 00
Morse, A C, Trustee	45	100	5 00
Morse, A C, Trustee	48	100	5 00

And in accordance with law and an order of the Board of Directors, made on the 23th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the auction rooms of John Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the 22d day of September, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON, Sec'y.

Office, No. 306 Montgomery street, San Francisco, California. sep6

Sapphire Silver Mining Company.—Lo-

cation of principal place of business, No. 438 California street, San Francisco, California. Location of works, Gold Hill Mining District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 5th day of September, 1873, an assessment (No. 2) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 30th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, Cal.

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California. Principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 6) levied on the 4th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wallace Everson	5	200	$30 00
Thomas Derby	59	500	75 00
Thomas Derby	70	200	30 00
A Rosenfield	34	500	75 00
A Rosenfield	35	500	75 00
E A Denicko	49	2000	300 00

And in accordance with law, and an order duly made by the Board of Directors, so many shares of each parcel of such stock as may be necessary will be sold at public auction, at the office of the Company, No. 113 Leidesdorff street, San Francisco, Cal., on Wednesday, the seventeenth day of September, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. WILLIAM STUART, Secretary.

Office, No. 113 Leidesdorff street, San Francisco, Cal. se6

Office Rising Star Mining Company—Lo-

cation of works, Nevada County, California.

Notice is hereby given, that the annual meeting of the stockholders of the Rising Star Mining Company, for the election of Directors and transaction of such business as may be presented, will be held on Thursday, the 4th day of September, 1873, at 3 o'clock P. M., at the office of the company, room 37, New Merchants' Exchange, California street, San Francisco, California.

ag22 s&s-2w J. M. BUFFINGTON, Secretary.

Stanislaus Water Company—Location of

principal place of business, 526 Kearny street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
M A Wheaton	10	55,250	$1000 00
M A Wheaton	72	10,000	200 00
John Burcham	17	25	50
John Burcham	18	50	1 00
John Burcham	19	75	1 50
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2 00
E Tripp, Trustee	25	100	2 00
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
E Tripp, Trustee	51	100,866	1009 25
S W Newhall	36	57	1 14
A E McGregor	38	82	1 64
E A Richardson, Trustee	55	55,250	1125 00
D E Hayes, Trustee	56	25,500	510 00
Charles Elliot	63	10,000	200 00
Charles Elliot	64	10,000	200 00
Charles Elliot	65	9,998	81 40
Charles Elliot	66	20,000	400 00
S C Field, Trustee	58	12,000	240 00
S C Field, Trustee	59	6,000	120 00
S C Field, Trustee	60	7,886	3 97

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 526 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON O. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said company, held on the 4th day of August, 1873, an assessment (No. 5) of fifteen (15) cents per share was levied upon the capital stock of the company, payable immediately in United States gold and silver coin, to the Secretary of said company, at his office, 113 Leidesdorff street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of September, 1873, shall be delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.

Office—113 Leidesdorff street, San Francisco, Cal. au8

Table Mountain Alpha Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Table Mountain District, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 8th day of August, 1873, an assessment (No. 1) of 12½ cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 438 California street, up stairs, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 7th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. T. R. CRONISE, Secretary.

Office, No. 438 California st., San Francisco, Cal. au13

Umpire Tunnel and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., or to W. A. Beal, President. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, California.

Union Gold Mining Company—Location of

principal place of business, San Francisco, California. Location of works, Howland Flat, Sierra County, Cal.

Notice is hereby given, that at a meeting of the Directors held on the 12th day of August, 1873, an assessment (No. 7) of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Room No. 22, Merchants' Exchange Building, California street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 15th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

ALFRED K DURBROW, Secretary.

Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal. au6

Washington Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Mariposa County, California.

Notice is hereby given, that at a meeting of the Board of Directors held on the 11th day of August, 1873, an assessment of two dollars per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Friday, the 10th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office—Room 13, No. 318 California street, San Francisco, California. au13

Machine Builders.

ESTABLISHED 1851.

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First and Fremont streets,

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Steam Engines and Boilers,

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Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

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MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

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Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1863.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
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Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

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JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

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PACKING, for new and old Cylinders.

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RAILROAD AND OTHER IRON

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Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

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HAMMERED IRON

Of every description and size.

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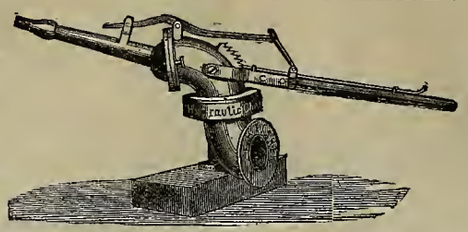
Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE

IS THE

Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

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MINING STEAM PUMPS.

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114 Beale Street, - - - - - - - - - SAN FRANCISCO.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

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IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

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☞ These are WARRANTED equal to the BEST.

5v37-3m

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LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v15qr

To Capitalists and Hydraulic Miners.

PATENT SELF-CLEANING SLUICE.

This new and useful invention is designed to collect all the gold as fast as it is set free from the dissolving earth, and conduct it into a receptacle of mercury or safety pocket, under lock and key, from whence it may be removed in a few moments, without either checking the flow of water or interfering in the least with the washing.

The invention, if properly placed in our rivers, will also collect the gold which is yearly traveling down their channels, thus affording an annual income with a trifling expense for attending.

For further particulars address

DR. J. B. BEERS,

2v27tf 230 Kearny street, San Francisco.

Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND-POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices. Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

A. J. SEVERANCE & CO.

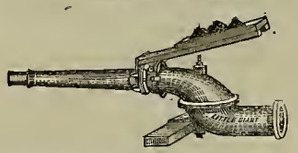
Office, No. 315 California street, Rooms 16 and 17.

24v26-tf

PURCHASERS please say advertised in Scientific Press.

Machinery.

TO HYDRAULIC MINERS.



I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

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I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

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R. HOSKIN, Dutch Flat,
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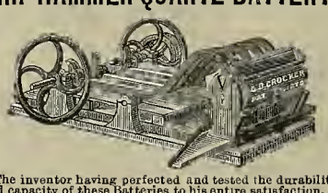
Dutch Flat, August 1, 1873. 6v27-2m

CROCKER'S PATENT TRIP HAMMER QUARTZ BATTERY.



The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

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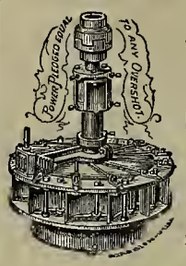

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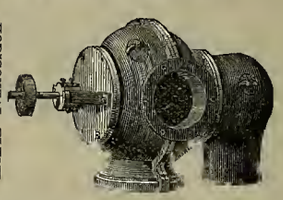
Especially adapted to our Wheels.

Also, THE "HUBBARD" COMBINED REAPER AND MOWER.



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Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23.3m

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ROCK DRILLS

—AND—

Air Compressors.

The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Shafting, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

They are to be used on the St. Gothard Tunnel, Switzerland; Tunnel 13 miles long. We refer to the following gentlemen and works:

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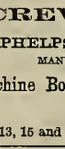

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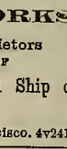

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ADVANCES MADE

On all kinds of Ores, and particular attention

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Assayer and Metallurgical CHEMIST,

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SAN FRANCISCO, CAL. 7v21-3m

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Chemical Apparatus and Chemicals,

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We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco

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WORRING TEST MADE BY ANY PROCESS —TESTING OF PROCESSES.

Plans furnished for the most suitable Process for Ores.

Assaying in all its Branches.

Analysis of Ores, Minerals, Waters and all other substances.

☞ Special attention paid to the mining and metallurgy of Quicksilver. 26v11-6m

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

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2v25-3m E. G. DENNISTON, Proprietor.

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Vessels, Apparatus, Sheet, Wire, Etc., Etc.

For all Laboratory and Manufacturing Purposes

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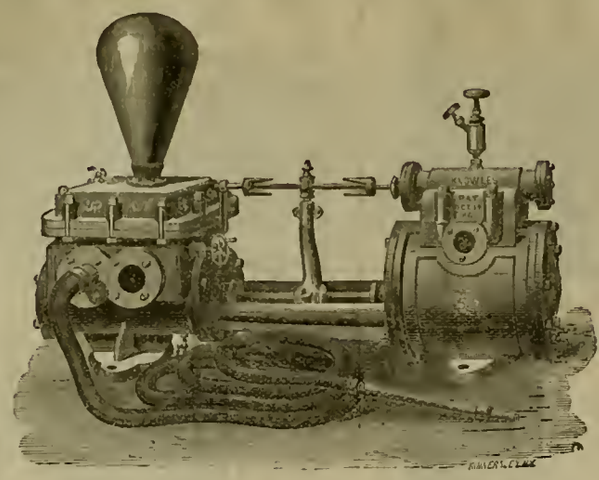
KNOWLES' PATENT STEAM PUMP.



☞ It has no Cranks or Fly-Wheel, and has no dead points where it will stop, consequently it is always ready to start without using a starting-bar, and does not require hand-work to get it past the center. Will always start when the steam cylinder is filled with cold water of condensation.

CENTRAL PACIFIC R. R., OFFICE OF THE GEN'L MASTER MECHANIC, SACRAMENTO, Cal., January 14, 1873.

A. L. FISH, Esq., Agent of the Knowles Steam Pump, San Francisco—Dear Sir: In reply to your inquiry as to the merits of the Knowles Steam Pump, in use upon this road, I will say that it gives me great pleasure to report that they have performed their work well whenever called upon. In no instance have they failed. We have now over 30 of them in use on this road as fire engines, and pumping water for shop and station use. I consider the Knowles Steam Pump the best in use, and prefer it to any other. Yours truly, A. J. STEVENS, General Master Mechanic.

U. S. NAVY YARD, NEW YORK, June 3, 1871.

MESSRS. KNOWLES & SIBLEY, 92 and 94 Liberty street, New York—Gentlemen: In reply to your note of 31st, requesting my opinion of your Steam Pump, etc., as suggested from my experience with them in actual service, I have to state that I have used your pumps, and entertain the most favorable opinion of their great merit and usefulness, and for every purpose believe them to be superior to any others, and have so recommended and adopted them. They have given complete satisfaction in all cases that have come under my observation.

Yours very respectfully, WM. W. W. WOOD.

A. L. FISH, Agent Knowles' Steam Pump—Dear Sir: In answer to your inquiries, we state that the highest award for Steam Pumps at the Eighth or last Mechanics' Fair in San Francisco, was a FIRST PREMIUM and Diploma, awarded to the Knowles Patent Steam Pump, as published in the Official List September 23d, 1871.

A. S. HALLIDIE, President Board of Managers.

W. H. WILLIAMS, Sec'y Board of Managers Eighth Industrial Exhibition, M. I.

WE BUILD AND HAVE CONSTANTLY ON HAND

The Largest Stock of Pumps in the World,

And for Every Conceivable Purpose.

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A. L. FISH, Agent,

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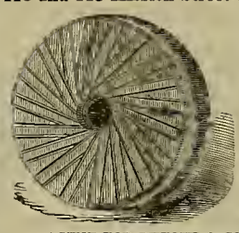
JOS. WAGNER,

113 and 115 Mission Street.....SAN FRANCISCO.



MANUFACTURER OF

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—AND—

Portable Mills.

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Especially adapted for GRINDING QUARTZ.

AGENT FOR DUFOUR & CO.'S CELEBRATED

Dutch Anchor Bolting Cloths.

BOLTING CLOTHS MADE UP.

Eureka Smut Machines, Bran Dusters, Mill Irons, Spindles, Bails, Drivers, Steps, Regulating Screws, Silent Feeders, Pulleys, Proof Staffs, Hoisting Screws, Balls and Pins, Conveyor Flights, Plaster and Leather Belting.

Mill Picks, Mill Picks Dressed, Mill Stones Repaired and Rebuilt.

Mill Stones Balanced with FELLENBAUM'S PATENT BALANCE, of which I am sole proprietor for California, Oregon, and Washington Territory. 15v26tf-2am

The California Powder Works

No. 314 CALIFORNIA STREET,

SAN FRANCISCO.

Manufacturers and have constantly on hand

SPORTING,

MINING,

And BLASTING

POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other pompound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

☞ BUY BARBER'S BIT BRACE. ☜

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom,

SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks

Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. GEO. D. WYMAN,

5v27-3m Superintendent.

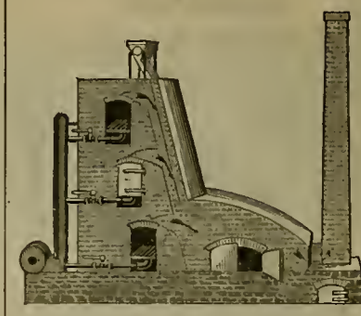
JOS. THORNHILL, 1612 Mason Street, near Green. O. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORKS such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the best can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

OAKLAND

SMELTING AND REFINING CO.

Is now ready to receive Lead Bullion and separate the Silver and Gold therefrom, and Refine the lead on reasonable terms, and have the same ready for delivery within thirty days from its receipt.

Their works are situated at Melrose, on the line of the Railroad, three and a half miles easterly from Oakland.

The Bullion will be received at the works, directly from the cars, free of expense.

OFFICE:

Northwest Gorner Broadway and Twelfth Street,

OAKLAND, CAL.

SEXTUS SHEARER,

President.

July 18th, 1873. 4v27-tf

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 23v26 1y

NICKEL PLATING.

The San Francisco Nickel Plating Company

Are prepared to plate articles of all descriptions, of any metal, Cutlery, Liquor Flasks, Pistols, Guns, Swords, Bridle Bitts, Pole Crabs, Hub Bands, Dash Rails, and all articles of household hardware plated at short notice, and warranted. Nickel Plate never tarnishes or corrodes, always retaining its polish until the article is worn out. Office at the KIMBALL MANUFACTORY WORKS, Cor. Fourth and Bryant Streets. 12v26-3m

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 111 DRUMM STREET,

San Francisco.

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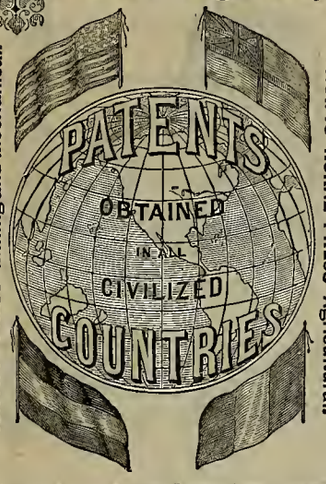
Scientific Press Patent Agency.

SCIENTIFIC PRESS—Mining and Mechanical.



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DEWEY & CO.,

Publishers, Patent Agents, and Engravers,

No. 338 Montgomery st., San Francisco, Cal.

Office of Dr. Lane, Surgeon and Physician, also Fire, Life and Accidental Insurance Agent, Mendocino City, Cal., August 28, 1873.—Messrs. Dewey & Co.—Gentlemen: The Letters Patent have been received, also the copies of Specifications, for all which many thanks. Since I received my patent I get more letters and circulars from patent agents and brokers than is essential for practical purposes. One I just received from * * * *****, who claims to have an office near you; and, taking his word for it, would suppose him the only man capable of obtaining a foreign patent. All right! I shall make it a principal point to see you as soon as I arrive in the city. Yours truly, N. W. Lane.

A Table of Convenient Dates for Advertising Assessments

Add a true copy of the NEW CODE CONCERNING THE LEVYING AND COLLECTING OF ASSESSMENTS OF CORPORATIONS will be furnished FREE on application at our office.

Also, BLANKS for making out Assessment Notices, Delinquent Sale Lists, and all information desired regarding the advertisement of assessments. Special attention given to assisting Secretaries to advertise legally and correctly—by giving them the benefit of our thorough experience in mining advertising. Extra copies of advertisements printed to mail to stockholders whenever desired. Call at our office, or send word to our special mining advertising agent.

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No. 338 Montgomery, S. E, Cor. California, diagonally across from Wells, Fargo & Co.'s.

HINTS FOR INVENTORS. We will send on receipt of stamp for postage, FREE, our 52-page Circulars containing 112 Illustrated Mechanical Movements; a digest of PATENT LAWS; information how to obtain patents, and about the rights and privileges of inventors and patentees: list of Goverment fees, practical hints, etc., etc. Address DEWEY CO., Publishers and Patent Agents, San Francisco.

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☞ GO WEST, YOUNG MAN! GO WEST! Gold by the Bushel! Silver by the Ton!

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THE FAR WEST,

The Great Treasure Chamber of America.

All about its Resources, Mines, Railroads, Lands, Indians, Climate, and Developments Illustrated and Described in

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for $1.50 a year. With $10 Premium Chromo,

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SUPPLIES ALL

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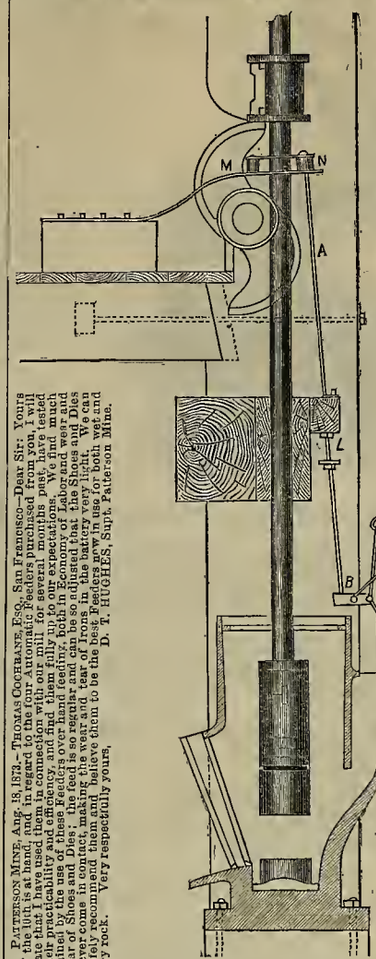
BY THE

Year, Month, or Number.

COCHRANE'S ORE FEEDER FOR QUARTZ MILLS



Patterson Mine, Aug. 18, 1873. Thomas Cochrane, Esq., San Francisco—Dear Sir: Yours of the 16th is at hand, and in regard to the four automatic Feeders you put in my mill for several months past, have tested their practicability and efficiency, and find them fully up to our expectations. We find much state that I have used them in connection with our mill for several months past, have tested saved in the item of labor, and the wear and tear of Irons in the battery. The Feeders never come in contact, making the wear and tear of Irons in the battery less than when fed by hand. We safely recommend them and believe them to be the best Feeders now in use for both wet and dry rock. Very respectfully yours,

D. T. HUGHES, Sup't Patterson Mine.

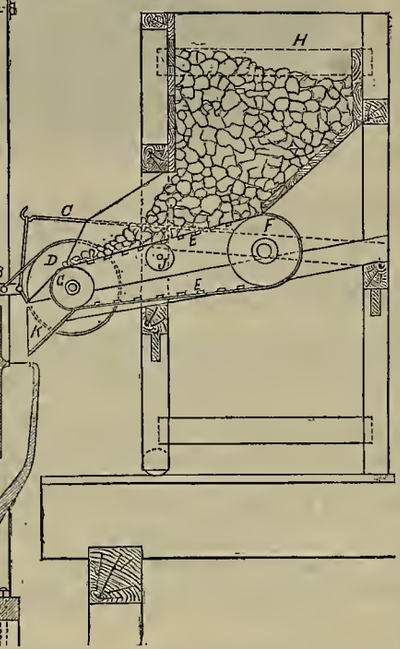
HENDY'S
LATEST IMPROVED
Patent Self-Discharging Sulphurets
AMALGAMATORS & CONCENTRATORS.

Over 500 have been put in use.

REFERENCES:

Empire Mill (8 Concentratore) .Grass Valley, Nevada Co.
North Star M. & M. (4 Concentratore).....Grass Valley.
Sierra Butte M. Co.....Sierra Co.
Independence M. Co.....Sierra Co.
Plumas Eureka M Co.....Sierra Co.
Oneida M. Co.....Amador Co.
Phœnix M. Co.....Amador Co.
Keyetone Mill (2 Concentrators).....Amador Co.
Black Bear M. Co.....Klamath Co.
St. Lawrence Mill.....Georgetown, El Dorado Co.
St. Patrick Mill (4 Concentratore)...Newcastle, Placer Co.
Julian Mill (6 Concentrators).....Newcastle, Placer Co.

They are also in use in many other parts of the coast.



JOSHUA HENDY, Office and Works, 32 Fremont st., San Francisco.

GIANT POWDER.

Patented May 26, 1868.

THE ONLY SAFE BLASTING POWDER IN USE.

GIANT POWDER, NO. 1,

For hard and wet Rock, Iron, Copper, etc., and Submarine Blasting.

GIANT POWDER, NO. 2,

For medium and seamy Rock, Lime, Marble, Sulphur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, etc.

Its EXCLUSIVE use saves from 30 to 60 per cent. in expenses, besides doing the work in half the time required for black powder.

☞ The only Blasting Powder used in Europe and the Eastern States.

BANDMANN, NIELSEN & CO.,
General Agents, No. 210 Front Street.

20v22-3m16p

PROPOSALS FOR MATERIAL
FOR A PORTION OF THE
New City Hall Building

Office of the Board of City Hall Commissioners, corner of Leavenworth and McAllister streets, San Francisco, July 19, 1873.

SEALED PROPOSALS, For Furnishing certain material for a portion of the New City Hall Building and Hall of Records, will be received at the office of the Board, until 12 o'clock, noon, of WEDNESDAY, the 1st day of October, A. D. 1873, for the following:

ROLLED IRON JOISTS.
WROUGHT IRON GIRDERS,

All according to Specifications, Schedule, Plans and Drawings, to be furnished by the Board.

No Bid will be entertained unless made on the "Printed Forms of Proposal," and accompanied by a bond with two good and sufficient sureties, in a sum equal to 10 per cent. of the total sum of the tender, conditioned for the due entering into the contract of the party to whom it may be awarded.

The Bids must be endorsed for the Material proposed to be furnished, and addressed to the Secretary of the Board.

The Specifications, Schedule, Plans and Drawings can be seen, and all further information obtained at the office of the Board, where also Forms of Proposal will be furnished to intending bidders.

The Board reserves the right to reject any or all bids.

Payments will be made monthly, in "City Hall Warrants, of 15 per cent. of the estimated amounts due, and the remaining 25 per cent. when the contract is completed.

The expense of advertising will be charged pro rata to the successful bidders.

P. H. CANAVAN,
JOS. G. EASTLAND,
CHAS. E. McLANE,
Board of City Hall Commissioners.

ee6-4t

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THE PACIFIC CRYPTOGRAPH.

The only complete Cipher Book Published. Letters can be communicated in messages of ten words. Especially prepared for operators in Mining Stocks, Superintendents of Mines, Bankers and Brokers.

Price, Thirty Dollars a Pair.

All kinds of Ciphers made to order.

Address, J. G. BLOOMER,
1m Aug20d&w . P. O. Box 394, San Francisco

ORE BAGS FOR SALE

IN QUANTITIES TO SUIT.

Apply to

CROSS & CO.,

-d&stf 316 California street, San Francisco.

PROPOSALS

To Construct Alterations and Improvements to Hospital Buildings and Grounds.

Clerk's Office, Board of Supervisors,
San Francisco, Sept. 2d, 1873.

In accordance with Resolution No. 4368 (New Series), of the Board of Supervisors, sealed proposals will be received in open session of the Board on Monday evening, September 8th, 1873, from 7½ to 8 o'clock, to furnish materials and construct alterations and improvements to the City and County Hospital Buildings and Grounds in the block of land bounded by Potrero Avenue, Nebraska, Nevada and Sierra streets, in strict accordance with the plans and specifications.

The work to be done in a good and workmanlike manner, and to be completed in all respects to the satisfaction of the Committee on Public Buildings, under the superintendence and supervision of a Superintendent appointed by the said Committee, and of Mr. S. H. Williams, Architect, Room 61, Merchants' Exchange Building, where the plans and specifications are now open for inspection.

Notice.—Bidders will state a specific sum for which the entire work will be completed in accordance with said plans and specifications, with the understanding that no bid will be entertained from any person who is not recognized and known as a Builder. A good and sufficient bond to the full amount of the contract price, if awarded, will be required for the faithful performance of the contract.

In order to preserve uniformity and to facilitate the award, the Board have resolved to receive no bids unless made upon blank forms prepared by the Committee, and a certified check for the sum of One Thousand Dollars, deposited by the bidder with, and made payable to the Clerk of the Board, conditioned if the proposal is accepted and the contract awarded; and if the bidder shall fail or neglect to execute a written agreement and give the bond required within six days after the award is made, then, and in that case, the said sum shall be paid into the City and County Treasury, by said Clerk, as liquidated damages for such failure and neglect.

Blanks furnished by the Clerk.

The Board reserves the right to reject any or all bids, as the public good may require.

JNO. A. RUSSELL, Clerk.

se6-1t

STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

10v27tf No. 32 FREMONT STREET.

Purchasers please say advertised in Scientific Press.

W. T. GARRATT & CO.

CITY
Brass and Bell Founder,

Corner Natoma and Fremont Streets,

MANUFACTURERS OF

Brass, Zinc and Anti-Friction or Babbet Meta

CASTINGS,

Church and Steamboat Bells,

TAVERN AND AND BELLS, GONGS,

FIRE ENGINES, FORCE AND LIFT PUMPS.

Steam, Liquor, Soda, Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder and Copper Rivets, etc. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles. HYDRAULIC PIPES AND NOZZLES for mining purposes. Iron Steam Pipe furnished with Fittings, etc. Coupling Joints of all sizes, Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

☞ Highest Market Price paid for OLD BELLS, COPPER and BRASS. 6-tf

W. T. GARRATT, JAMES HILLMAN, W. T. LITTLE.

N. W. SPAULDING,

Saw Smithing and Repairing

ESTABLISHMENT.

Nos. 17 and 19 Fremont Street, near Market.

MANUFACTURER OF

SPAULDING'S

Patent Tooth Circular Saws.

They have proved to be the most durable and economical Saws in the World.

Each Saw is Warranted in every respect.

Particular attention paid to construction of

Portable & Stationary Saw Mills.

MILLS FURNISHED AT SHORT NOTICE
At the lowest Market Prices.

HALLIDIE'S

Patent Endless Wire Ropeway.

Covered by Numerous U. S. Patents.

IMPORTANT TO

Mining Companies, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found **more economical, advantageous and reliable** than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

Eureka, Nevada, July 10, 1872.

T. M. Martin My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. O. GOODWIN.

Emma Hill Consolidated Mining Co.,
Little Cottonwood, Utah,
Superintendent's Office, Sept. 28, 1872.

T. M. Martin, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a cure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no water or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, San Francisco.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

Wire of all kinds and descriptions, furnished at lowest rates. A. S. HALLIDIE, 113 and 115 Pine St.

MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

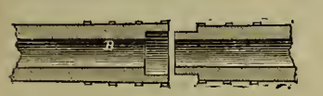
SAN FRANCISCO, SATURDAY, SEPTEMBER 13, 1873.

VOLUME XXVII. Number 11.

Wooden Water Pipes.

We preecnt thie week illnstrations of the wooden pipe which the Waehington Water and Gas Pipe Company have been manufaotnring for several years, at Olympia, Washington Territory, nnder the Wiekoff patent. Fignre *A* gives a view of the oxterior of the fioished pipe. Figure *B* is a sectional drawing, showing the mode of connection.

In selecting the wood nsed in making the piping the greatest care is exercised. The red fir of Puget Sound hae been employed, as it is one of tho moet lasting kinds of timber known. In testing different timbers of the Paeific Coast at Mare Island, the Government officers prononnced this red fir to be superior to oak in point of dnrability. Again, it is a matter of great importance to take only the body of the tree, helow the limbs, and to remove all sap wood. Logs thns eelected, and cut at the proper eeason of the year, are eawed into lengths of eight feet, and bored with the Wickoff augur, which leaves the core intact. Thie core is in tnru hored for a emaller pipe, and its core for a etill emaller, if the size of the original log admits, thns ntilizing timber which woold be loet if treated in the ordinary way—an economy of labor ae well ae of material.



When hored, the log is dressed in a lathe to a frustrum of elight inclination, to allow wronght iron hoope to be driven tightly on, ae seen in the cut, when the pipe ie required to stand a greater pressnre than the wood alone will resist, the number of these bande being proportioned to the head of water from which the pipe is snpplied. Thne the necessary strength can be calculated and the bands adjnsted to a nicety. Before heing banded, or as a finishing procese, when handing ie not needed, the pipe is thoroughly seasoned in a steam chamber, and finally coated with asphaltum. This protects the outside, while the inner eurface is left hare, it heing a well known fact that wood constantly in presence of water will not decay. It is the variation from wet to dry and back again that corrodes the fibre. It is claimed that hy this treatment the wood is actnally rendered more lasting than iron. In caee mineral or saline water he present in the soil, timber would certainly have the advantage over iron. Iron pipee in presence of waters impregnated with corrosive ealts, rapidly rust and hecome closed up. This difficulty is a great annoyance in Bostou, where nnprotected four inch pipe became clogged in seven years.

Among the advantages of wooden pipes are the ease and rapidity with which they may be laid, from the simplicity of the joint, as indicated in onr cut; facility for tapping, an auger being the only tool necessary; and, most eesential of all, cheapness. In regard to this latter point, the company'e agent in this city has been instructed to eell at one-half the price per lineal foot of iron pipe of equal hore, for the present. We may add that the plan ie far from being an experimental one. Elmira and other towne in Westeru New York have long been eupplied with pipes made in the manner described, which have proved entirely satisfactory in every respect. Wood wae nsed for piping centuries ago; it is the peculiarity of construction, and tho nse of the wonderful Wickoff auger, that are the dietinctive featnree of the Washington Company's product. Teets made in thie city, Anguet 23d, were deemed eo eatiefactory hy the officers of the Spring Valley Water Company that they have agreed to permit the wooden pipe to be ueed in eonnection with their mains, a fact in itself a snfficient endorsement.

Our Beet Sugar Interest.

The *Bulletin* saye our "beet sugar interest is not in a very flattering condition at present," owing to the low price of cane sugar; the removal of the import duty on certain deecriptions of eugar; the high price of fnel, ete. The drawbacke meutioned are no doubt eomewhat discouraging to the sugar interest generally; hut not more so to beet than to cane sugar; for the factory at Sacramento has fully demonetrated the fact that beet eugar can be made in this State cheaper than cane sngar—in fact that it would continne to be a success, even if all deecriptions of raw sugar were to be admitted duty free.

Indeed, we understand that one of the largest refining companies in this city hae become eo well convinced of this fact that it has already purchased a large quantity of land, on which it proposes, at an early day, to commence raising the sugar heet, with the view of changing the entire establishment from a cane eugar refinery to a heet sugar mannfactory and refinery. We have faith to helieve that the time is not far distant when the eugar product of California will equal in value that of her wheat product.

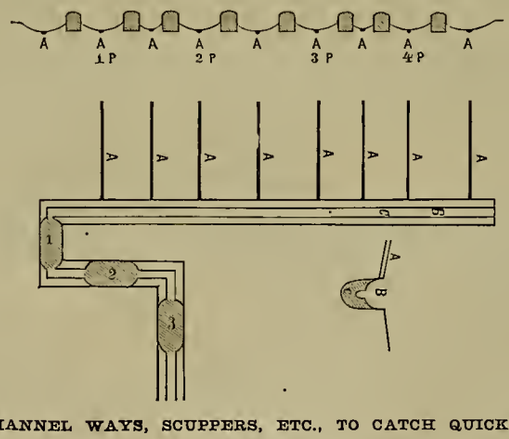
The New Mines on Trout Creek, Montana, are creating great excitement. Trout Creek ie a stream emptying into the Missoula River, four miles ahove the month of Cedar Creek. The miners who fonnd the diggings turned up a nugget of $7.50, and are eaid to he taking ont dirt averaging 25 cents to the pan. The discovery was made about twelve milee above the mouth of the Creek. Mining is also heing done on several of the tribntaries of the Trout, all of which put in above the new discovery. The local papere think the uew digginge will beat the campe on Cedar Creek—the last stampede.

The discovery ie reported of an immense copper lodge in the southern part of Utah Territory. It is eaid to crop out 3,000 feeet in length.

Suggestion to Millmen.

The accidental loss of qnicksilver nnder pans and eettlere and the wastage of the eame are well-known facts. "Valverde," onr San Dimae, Mexico, correspondent, writee us that to remedy this in his mill he built channels nnder the pans and settlere, of mortar, and polished them smooth—four parallel roade, eo to speak, one under each pan and between the timbers, with a curvature of five inches. These are united in one common channel (much deeper, of course), and containing several hasins ("piletas"), so that any qnicksilver which escapee from the pansor settlere falls into the ehannele, and hy reaeon of the fall rune into the large channel where it ie canght in the "piletas."

The accompanying cut shows the very simple plan described. *A A A*, etc., are the guttere of channels rnnning into the deep channel *B;* 1, 2, 3 are "piletas" or recesees to catch the qnicksilver, and are twelve inchee deep. The pan timbere shown are rounded off on top to ehed water or quickeilver, with chsnnel ways to run the eame to the large chaunel,



CHANNEL WAYS, SCUPPERS, ETC., TO CATCH QUICKSILVER.

made of lime, and polished off emooth; one inch fall to two feet; 1 *P*, 2 *P*, etc., show the location of 1st pan, 2d pan, etc. The emall cut to the right is a cross section in which *A* is the gutter, *B* the deep chanuel and *C* the "pileta" or scupper; *c* is the gutter of *B*. "Valverde" saye that he started up the mill in March and on the fourth run a settler burst with 2,000 pounds of qnicksilver, a large part of which would have escaped but for the precautious adopted. The loss hy weight was seven pounds and that splashed over the sides, which he hae since extended. The mine helonge to the Durango Mining Co., of New York. The first rnn was 100 tons of $85 rock—represeuting 86 per cent. of the assay. They are now rnnning on $140 ore and 100 tons or more of $250 rock.

Extensive placer mines are reported as have ing heen found in northeastern Arizona, and are said to extend over a district 40 milee equare. The country ie well timhered and watered. Bodies of anthracite coal have also heen diecovered. The prospectors will shortly return to thie city, when we will probably learn more of the eection referred to.

Cinnabar ore hae heen found on land belonging to Mre. Clark, ahout five miles from Benicia on the road to Suisun in Solano county.

Mine Swindles in Utah.

The operations of unscrupnlous epecnlators in mining property, in Utah, are doing, and have done, more harm to the mining interests of the Coast than can well he computed in dollare and cente. We have had the odinm of a good many ewindling traneactione in thie State and Nevada, hnt Utah bears off the palm. Not that the men there are more diehonest than elsewhere, bnt a clase of people seem to have gone to the Territory for the exprees pnrpose of putting up jobs on unsnspecting individnals. We have had onr eye-teeth ent, further weet, hut Utah ie eo much nearer the great centers of capital than we, that it is a glorions field for the clase of men to whom we refer. The nndoubted richness of some of the mines in that Territory has attracted the attention of capitaliste everywhere and the conseqnence is that, for eome time, investments in Utah mining property were heavy. The mines there need capital to develop them like those of all mining conntriee, and they were eo successfnl in getting it in many instancee, that unfair meane were employed hy nnscrupulons men to indnce inveetment.

The real reeidente of the Territory, who have ite interests at heart, no douht, deplore the existence of theee facts more than any one, except thoee who loee their money; hnt still there is a class of nomadic epecnlatore roaming ronnd Salt Lake, who have no means to live on bnt their wits, who strive in every way to get the beet of any one they can. What better field could there he for thie class of people than in a new and rapidly developing mining conntry, within eaey reach of railroads, and where capital wonld be likely to come. They make intangible locations, lay ont imaginary mill-sites, hnild mille and furnaces on paper, and wagonroads the same way, and with these and a few stolen specimens of ore, ae a etock in trade, begin their nefarione businese. Very few people from the East know anything about mince, and theee ecampe are very glad they do not. They fix np some planeible etory to get their money, aud then walk off with their epoile.

Hardly a week passes that we do not hear of some sharp operation in mines, either great or small. The lateet news of thie kind is, that a euit has been institnted for $50,000, in which the plaintiff alleges that he was induced by gross mierepreeentatione to buy 300 feet of the Left Bower lode in Tintic, for which he paid $30,000. Defendants are alleged to have ehown ore which they eaid had heen taken from the said lode, and assaying from $250 to $2,000 per ton. Plaintiff allegee that in fact there was no vein as represeuted; that no ore had been taken from the Left Bower, and that the lode was and is entirely worthless.

This is an old story in terse legal phrase. We do not know anything about thie partienlar case, hnt there are many similar onee which we remember. The strangest part of all this is, that none of the ewindlere are ever published.

They all get off one way or another. If the courte had as little mercy on them as minere' committeee have on jnmpers and horse thieves, the community would be better off and the mining intereste more prosperone. The fewer of these harpiee there are in a distriot the faeter that district will he developed. They never do an honeet day's work, bnt loaf aronnd seeking whom they may devour, and bring the whole businees of mining into discredit. We hope Utah will have luck enongh to get rid of some of them in a manner which will set a wholeeome example to the others.

CORRESPONDENCE.

Notes of Travel in Lincoln County, Nevada.

[By Our Traveling Correspondent.]

Silver Peak S. M. Co.

This is also an incorporation, with its principal office in San Francisco, and working under the laws of the State of California. Mr. John Nelson is Superintendent of this company. The mine and works are located about 1½ miles east of the town of Pioche. The mine is bounded by the Vulcan on the west and the Mocking Bird on the east. The formation of the country rock in this mine is quartzite on both eides, and ehows a true fissure vein, running east and west, and pitching south at an angle of 60°. They are developing the mine by an incline ehaft following the dip of the ore body, which is eunk to a depth of 215 feet. Over thie ehaft ie erected fine hoisting worke, completed July 27th, thie year. Although they only cost $8,771.29, including coet of machinery, transportation, timber and cost of putting up, they will be able to develop this mine from 800 to 1,000 feet with an engine of 35 horsepower. Milbng ore wae first struck in this mine at a depth of 160 feet; at this point a stope is opened to the weet, and at a depth of 210 feet a stope is opened to the eaet and one to the west. In these stopee the ore body ehows from 24 to 48 inches thick; fthe ledge between the walls is from 4 to 6 ft. thick. There are about 100 tons of ore upon thie company's dump that, it is eetimated, will mill $70 per ton. 60 tons of ore, worked in May last from this mine, at the Meadow Valley mills, netted $3,956. Only 18 men are employed at this mine.

Havana Mine.

Located east of, and next adjoining the American Flag mine. This is an original location, dating back to Oct. 14th, 1869, and contains 1,200 feet in the claim, running east and west, and like nearly all other locatione in thie district, dipe to to the south, but probably a little more vertically than any other, at present about 80°. This mine is owned by John Wileon, John N. Craig, John C. Lynch, John Baker, John R. Clark, John R. Wilson, Wm. J. Kelly, and Cheeley & Jones of San Francisco. Tbe mine is being developed by an incline shaft following the ore body from the surface, the present depth of which is 260 feet, at which point—owing to the disadvantage of working by windlass to any greater depth—they commenced drifting on the ore body to tbe eastward about the 7th of August. Here an immenee ledge is exposed, that is 15 feet between the walls. The hanging wall is of quartzite, and the foot wall is a conglomeration of granite, porphyry, and quartzite. In thie east drift they are taking out about 4 feet wide of ore, following the foot wall; how much more of the whole ledge matter is ore, is as yet unknown. Along tbis foot wall, a fine clay gouge of 2 or 3 inches in thickness is found, causing the ore to be very easily extracted. They have now upon their dump about 50 tone of ore that will aesay on the average $200 per ton, and it is eafe to eay will mill $150 per ton. At preeent they are employing four men. There appears to be no waete whatever in tbis mine, but it ie all first-class ore.

Sumner Mine.

Thie location was recorded in May, 1872, and is owned by Meeere. M. Shuetrich, James Toland, Henry Segenaud, Louie Solomon and B. J. Ashim & Co. The company claim 1,400 feet of a ledge running east and west, dipping to the south at an angle of sbout 50°, and located on the most northerly spur of this district, and within 200 yards of the Star Reetaurant in the city of Pioche. The development upon this mine consists of an incline ehaft eunk on the dip of the ledge to a depth of 150 feet. At this point they have a ledge about three feet thick, between regular walls of quartzite and limestone, the latter forming the foot wall. About 20 inches of this ledge is ore of a low grade, assaying about $40 per ton. In the last 20 feet of sinking the ore has increased in value from $26 to $40 per ton. A contract to sink this ehaft 50 feet deeper has been let, at $8.50 per foot. Before that depth ie attained they will be able to know whether to erect hoisting works or not, for its further development. It looke as though it would develop into a valuable mine.

Meadow Valley Warm Springs.

L. H. Callaway, proprietor. Thie popular bathing resort of Eastern Nevada, is located about one mile north of Panaca, and 1¼ miles east of Bullionville. This spring looks more likes a small lake, from which about 400 inches of water flow, the analysis of which givee considerable iron, with traces of sulphur and eoda. It is soft water, which is contrary to all otber eprings in this section of Nevada. The waste of this epring serves to irrigate some 75 farms, and furnishes the water for all the mills at Bullionville, some 5 in number. The facilities for bathing at this epring are second to none on thie coaet, for both bath and plunge. My advice to every one passing this way is to give Mr. Callaway a call.

Bullionville and its Mills.

Bullionville ie located eome 12 miles nearly eouth of Pioche. Thie locality is almost entirely supported by the mills of the different mining companies operating at Pioche. This place contains about 400 inhabitants but usually when all tbe mills are in operation, there are at least 500. There are located at or near this place 5 mills, only 4 of which are in operation at this date (Aug 15th); one other, not above enumerated, known ae the Amador Tunnel Co's. mill, is located 3 miles dietant in the direction of Pioche. The

Raymond & Ely Co's Mills,

Two in number, one a 20-stamp and the other a 30-stamp mill, are euperintended by Mr. T. D. McMasters. They are each run by eteam, and have all the usual appurtenances for reducing oree that are used in and around mills of their capacity. They employ about 75 men, and reduce about 110 tons of ore every 24 hours. The ores are now brought from the mines at Pioche, to this place, by the Nevada Central R. R. (narrow gauge) and have been since some time in June last. The Chicago, or

American Flag Mill,

Is also located at this place. This mill is run by steam, contains 15 stamps, and has a capacity of reducing 25 tons every 24 hours. This mill is dry crushing, and is superintended by A. T. Moore, and is at present running on custom ore. It gives employment to eome 18 men.

Nevada Central Railway,

W. H. Raymond, President; H. C. Chapin, Secretary and Paymaster; Joseph W. Nesbitt, Superintendent. This road runs from Pioche to Bullionville. Length of line, 21 milee; gauge, 3 feet; maximum grades, 200 feet; curves, 15°. The road was built for the ore traffic,—to supply the mills at Bullionville,—and is now in euccessful operation, doing all the business that can be done with its present equipment, which will be increased in a short time. Both care and engines have been ordered from the manufacturere. The company has, in connection with the road, a foundry at Bullionville, where they are prepared to do all kinds of milling and mining work.

Bristol District

Is northwest from Pioche, and distant about 25 milee by the road, although on an air-line it is not over 18 milee, and located on the border of Nye County, Nevada, and five milee southeast of the town of National, Nye County. This mining district was first located in the latter part of 1870. There are some 75 locations taken up, all of which have had sufficient work done upon them to hold them, and three of that number are now working more or less men. The Hercules, the Ontario and the

Sultan Mine.

This latter location, the most prominent of the district, contains 1,000 feet, running in a nortb and south direction. The owners are W. H. Raymond, Lewia Sultan, H. Jacobs, Samuel McMasters and C. W. Roeden. The country rock of this district is limestone; it looks like decayed white marble. The oree are base, requiring to be smelted; and contain lead, galena, eilver, antimony and iron, in about the following proportions: 18 per cent. lead, from five to eight per cent. galena, from $80 to $120 per ton in silver, a large percentage of antimony and about three per cent. of iron.

The development on this mine consists of an incline shaft sunk on tbe dip of the ledge, which ie at an angle of 35° to a depth of 125 feet, at tbe bottom of which the ledge showe an average width of 18 feet.

They are working by windlase. In sinking this shaft to its preeent depth some 400 tone were extracted, and are now on their dump. The lowest estimate set upon the eilver value of each ton is $90. At preeent, working seven men. Thie district is well timbered (speaking in the language of a Nevadian), but water in quantity is not nearer than the town of National, five miles away. The minee look well for permanency, and improve with every foot of depth sunk upon them. The next mine of importance adjoining the Sultan is the

Hercules Mine.

J. C. Warren, of San Francisco, is President; I. T. Milliken, Secretary; and C. L. Roe, Superintendent. This corporation claims 3,800 feet of locations, comprising the Hercules, Wabaeh, Copper Glance and Bizano, or Cave Mine.

This mine is being developed by a tunnel run in on the ore body to the north, a distance of 250 feet. At a point in this tunnel, 125 feet from the mouth, they rose up, following the ore chimney on an angle of about 45° to within 50 feet of the eurface. At this point the ore body had a downward tendency, eo a vertical ehaft or winze was sunk to a depth of 25 feet, or back again to the level of tbe tunnel. The ores from this mine are of a fine emelting character, are quite soft, and contain a large percentage of yellow oxide of lead. Five hundred and twenty-five tons of ore from this mine worked at the National furnace, at the town of National, paid an average of $80 per ton in silver, beeides the lead, some 18 per cent. There are some 450 tons on their dumps tbat it ie estimated will go at least $100 per ton in silver. At present they are working 11 men.

Coal Mines.

As fuel is the next great important item to water in a mining district, it may not be uninteresting to your readers to know that one of the largest semi-bituminous coal beds is within 80 miles of Pioche. To more thoroughly describe the locality of this coal deposit, I will state that it ie in the Waeatch Range, within four miles of the town of Kanarah, Iron Co., Utah Territory, 80 miles nearly east of Pioche, and 300 miles nearly eouth of Salt Lake City. The Utah Southern Railroad will run within three miles of thie coal mining belt, when completed. These mines are the property of J. R. and Charlee Duff, of Pioche, Nevada.

There are four separate veins, varying from two to ten feet thick, that lie horizontally, or nearly so. Commencing at the lower strata of coal of two feet thick, it rests on a bed of shells (oyster, etc.,) and clay. Above this layer of coal is a stratum of eandstone and shells, six feet thick, then another layer of coal three feet thick, then, still above this, another layer of five feet in thickness of sandstone and shells. The third vein of coal comes next, three feet thick, then a thin deposit of about twelve inches in thickness follows, and above that a vein of coal ten feet thick. Two tunnels have been run in upon this coal deposit, at a distance of three-quarters of a mile from each other; one tunnel is in 50 feet and the other 150 feet. These tunnele are six by eeven feet in the clear. No drifting has been done, but the tunnels reveal a continuous body of coal all the way. Everything taken out is coal of first quality. Capitalists at Salt Lake City are now negotiating for an interest in the mines. About 15 miles west of this coal deposit, in another range of mountains, known as the Harmony Range, exists one of the finest and probably most extensive deposits of

Magnetic and Hematite Iron Ore

Known in the United States. There are five ledges taken up and owned by Duff Bros. These deposits are similar in character to gold and silver ore bodies, having regularly defined walls running northeast and southwest, and pitching to the northwest, and at an angle of about 85°. The croppings are from 10 to 30 feet wide on these ledgee. Three of the locations above mentioned are of hematite, of whicb Bessemer eteel is manufactured; the other two are magnetic iron ore. The country rock on botb sidee is granite. Sufficient work is being done on the mines to hold them, and a United States Patent has been applied for. Timber is found on the mountains eurrounding, and a fine spring of water running from thie iron deposit. Fluxes are also obtainable in any quantity on the grounds claimed.

L. P. Mo.

Little Cottonwood Mines.

EDITORS PRESS:—As the season of 1872 wae conspicuoue for the sale and transfer of mining property, thereby reaping to the proprietor and oftener to the speculator a rich harvest of greenbacks for a little toil, so the summer of 1873 has been a proeperous one to the inveetors and partiee developing the mines of this district. Little Cottonwood has certainly made a remarkable advance in the development of existing minee, and the diecovery of new ones: thie also during a year of almoet unprecedented dullnese in mining industry. It is suppoeed that most of the readers of the MINING AND SCIENTIFIC PRESS are aware of the situation of Little Cottonwood. But for the benefit of those who are not, I will state tbat the distance from Salt Lake City is 25 miles by wagon road and 28 by rail. The Wasatch and Jordan Valley Railroad connecting at Sandy station with the Utah Southern Railroad for Salt Lake and all points eaet and weet, tbe narrow-gauge road is finished to a point within six miles of Alta City, and is expected to be completed to thie place by the fall of the present year, though this is somewhat doubtful.

Business.

The business of Alta was never in a more flourisbing condition than at present. The bnsinese houses coneist of six large atores, three drug stores, four billiard halls, two breweries, two bakeries, three saw mills, two livery etables, about thirty saloons, three hotels, ten restaurante, two meat markets at Alta, and one at Grizzly Flat; one assay office, and the inevitable telegraph and newepaper, both of which do a good businese.

The Mines

Are all that can be desired both in permanence and quality of ore, with the exception of perhaps the Emma which has been fairly robbed to pay a dividend on a capital of five times what the mine would warrant; still the mine is a good one and keeps up a steady production of from 10 to 20 tone daily of first-clase ore and about 100 tons of second-claes, which is concentrated to about 10 tons of an average value of 250 ounces per tou in silver, and from 40 to 60 per cent. lead.

The Flagstaff,

Situated west of the Emma on the same on the hill, is developed to a depth of between 600 and 700 feet, and ships 125 tons a day, of an average value of $150 in silver, besidee from $20 to $118 in gold. The ore carries from 20 to 40 per cent lead, and a small percentage of antimony.

The Last Chance Mine

Situated above the Emma, aud near the summit of the Emma Mountain, produces a fair quantity of ore, averaging 80 to 90 ounce of silver to the ton.

The Montezuma mine is in the same group as the Laet Chance, and producing similar ore; the shipments amount to about 40 tous per week.

The Savage mine, in the same group, is of the same character of ore, and producee from 10 to 15 tons per day.

The Hiawatha Mine

Is particularly intereeting for the beauty and richness of its ores, aseaying from $600 to $1,450 per ton. Carbonates of copper and lead, witb half decompoeed galena from the chief part of the ores, all beautifully intermixed through the vein. It belongs to the eame group and company as the Savage and the others.

The Victoria and Imperial

Consolidated Mining Co. have a large force extracttng ore, and developing their mine; and a new strike made in the tunnel not known to belong to any mine, appearing on the surface. The ore aseaye high in both lead and silver, and if found to be a real vein, will be one of the most valuahle discoveriee of the present season. The otber mines of the group are all nroducing good quantitiee of ore except the Imperial which will shortly be reached by the tunnel, and will then be tested for ore at a depth of about 550 feet from the surface.

The Silver Belt Tunnel has etruck a body of milling ore in the Skipper mine, averaging from $40 to $60 per ton; it is the intention of the company to erect a mill for the reduction of tbeir ores.

The Vallejo Tunnel and Mine ehips about 10 tons per day of excellent ore and the South Star about the same quantity. Both of theee minee are eituated on Emma Mountain between the Emma and Flagstaff minee.

The Davenport is looking splendid and ehips from 20 to 25 tone per day of ore worth from $200 to $250 per ton.

The Mathilda is close to the Davenport, ehips 10 to 12 tons daily of ore similar to tbe Davenport ore.

The Oxford and Geneva Tunnel has 350 tone of ore on the dump ready to ehip ae eoon as the road ie finished to the mine. The ore ie worth about $135 per ton in silver and a small amount of gold.

The Wellington Mine

Ships from 15 to 20 tons a day; the ore averages from 80 to 170 ounces of eilver and 48 to 70 per cent lead.

It will be seen by the foregoing that the mines have been purchaeed in groups and are now being worked ae groups under one management. Thus the Silver Belt group comprises five mines, the Victoria and Imperial has four minee, the Windsor Utah four, and so on. These can generally be worked through one tunnel, and experience hae proved it to be cheapest in the long run to tap the mines deep with long tunnels, thereby affording drainage to the minee and saving the expense of hoisting the ore.

J. H. MORTON.

Alta City, Aug. 25, 1873.

Treasure Hill, White Pine.

Treasure Hill being tbe principal locality where the precious metals eent from White Pine are discovered, shall alwaye receive through our columns its sbare of attention. A visit during the paet week revealed the mining interests to be in good condition and ore plentiful, particularly in the Edgar mine. Work in the 150-foot level ie being pushed ahead with all epeed, and reveals immense quantities of ore with a splendid prospect of continuance. The later workings ehow tbe theory advanced in the *News* some time ago to be a correct one, which was, that the ore body could be traced into the Hill, and the main vein be found on the eaetern instead of tbe western slope. The main drift from the Edgar shaft is now being followed in good ore toward and under tbe workings of the Hidden Treasure, and, as progrees ie made, the vein ehowa a decided pitch downward. We were allowed to eee the result of several blasts at the time of our visit, it being nearly eix o'clock, and the shifts in the act of relieving each other, which gave ue a better idea of the immense amount of pay ore being taken out at this time. The usual average of 30 tone per day is being ehipped from the mine, and the amount could easily be doubled without much extra exertion. As Capt. Turner, the Superintendent, has just returned from below we anticipate renewed activity, and a probability of another mill being started on the product of thie fine property. The mines of the Eberhardt & Aurora Company are still looking well, and continue to produce the usual amount of fine ore. The Peerlese Chamber, particularly, showe no eigns of diminution, but, on the contrary, gives rise to great hopes of its permanency aa an ore-producing locality. The contract for crueh-ing ore for the company entered into with the Stanford mill, is nearly completed, and, by the firet of next month prospecting will be vigorously pushed ahead on other portione of the mines to enable the company to open ore bodiee sufficient to supply the new mill, now in course of erection, during the winter monthe. The Diamond Drill ie being steadily run on Chloride Flat, with no important results as yet, though great faith is expressed in its ultimate success as an ore finder. Should it be demonstrated that mineral exists at tbe spot where the drill is being worked, the fact would accrue to the advantage of all ownere of locatious in tbe vicinity, and the number of men employed be doubled at once. Every day adds additional proofs of the existence of an ore-channel running through Treasnre Hill, at a deptb which will sooner or later be discovered; then we can look for permanency in White Pine District. The various business housee on the hill are pursuing the even tenor of their way and are doing a good businese, and all bopeful of the future.—*White Pine News.*

SCIENTIFIC PROGRESS.

Ozone—New Discoveries.

The ghost of Schönbeiu has been caged at last. For a ecore of years this mysterious agent, half material and half spiritnal, perplexed the adepts in chemistry, and evoked theory after theory in the vain endeavor to arrest it and subject it to law. All that its discoverer accomplished was to demonstrato a shadowy existence for it, and to deviso some chemical tests of its presenco. In the *London Lancet*, for August, is an editorial article giving a short sketnh of its history, and explaining the mode in which Professor Odling and Sir Benjamin Brodie, among others, recently succeeded in bringing it among tho tangible substances in chemistry. It appears that Schönbeiu's investigations were entirely qualitative, and that he never attempted weighing and measuring. By passing electricity through pure, dry oxygen, there is a contraction of volume, amounting as a maximnm to one-twelfth of the original measure. That the residual gas posesses certain peculiar oxidizing properties, different from pure oxygen, and that it has a pecnliar ndor, was everything that conld ho said of it. Chemiste had to contend themselves by guessing that it was an allotropic form of oxygen. Its name—ozone—simply indicated that it had a smell—nothing more. But the quantitative experiment, just mentioned, furnished the key to more definite reaults. When the oxygen thus ozonized by electricity was heated, the gas was restored to ite original volume, and again became pure oxygen.

Now, the problem was to abstract the ozone from the ozonized oxygen, and thue determiue its volume. Advantage was taken of the affinity of the ozone for mercnry, and by shaking the gas and the metal togeter, the latter wae oxidized by abstracting the ozone, and pure oxygen was left ae the residue. But the surprising feature of the process was that there was no diminntion of volume in the gas by the abstraction of ozone. The myeterioue agent had occupied no space. The same result precisely attended the nee of iodide of potassium and other agente capable ot being oxidized by ozone.

It was at thie embarrassing etage of investigation that Professor Odling came forward with what has since proved to he the trne explanation nf the apparent absurdity—the true theory of ozone. He pointed ont that these experiments could only be explained by assuming that ozone was a more condensed form of oxygen, and that when mercury or iodide of potassium was oxidized by it, those snbstances really removed only a portion of oxygen—that portion, in fact, which had previously been condensed. He suggested that, whereae ordinary oxygen contained two atoms in each molecule, ozone might contain three in a molecule of equal volume.

If this ingonione theory he correct, it ie obvions that ozone ehonld be half as heavy again ae oxygen—should have, in fact, a epccific gravity of 24, ae compared with hydrogen. The verification was not long in coming. Soret, iu 1865, lighted on a substance—oil of tnrpentine—which had the property of absorbing, not one atom, bnt the *whole molecule* of ozone. Following the imaginary illustration used before, he found that, if the 92 volumee of ozonized oxygen were treated with oil of turpentine inetead of mercury, the volnme wae reduced to 76, ehowing that 8 volumee of oxygen wbich had disappeared during the formatiou of the ozone must have combined with 16 more volumee of oxygen to form 16 volumee of ozone, and that ozone wae therefore really half as heavy again as oxygen. Soret also determined the deneity of ozone by a method of diffusiou, with eubstantially the eame result.

Following up the enqniry, Sir Benjamin Brodie, after several years of labor and stndy, has confirmed the foregoing theory. He diecovered that chloride of tin and hyposulphite of soda, ae well ae oil of turpentine were capable of absorbing the whole of the ozone and the resnlte all agreed in giving for ozone a density of 24. It is surmised that not ouly will their be discovered some ready applicatious of the agent to practical purposes, but that it will open the door to new viewe on the subject of chemicul constitution.—*Pacific Medical and Surgical Journal.*

Artificial Milk.—From the reports in circulation it would seem as if science were ehout to make cows superfluous. Artificial milk has been prepared by a French chemist from sugar, dried whites of egge, carbonate of eoda, olive oil and water. By substituting gelatine for the whites of eggs, and with less admixture of water, cream is obtained. Another chemist, Gaudin, in diecussing the preceding suggeetion, gives his testimony ae to depriving fate of all the unpleaeant odor by mere eubjectiou to an appropriate temperature. He also states that very good artificial milk can ho prepared from bones rich in fat, by purifying this fat by meane of super-heated steam and combuing the fat thus obtained with gelatin. Thie milk is, he saye, almost like that of the cow; and when kept, acquiree first the color of sour milk, then that of cheese. The gelatin in it represente the caseine; the fat, the butter; the sugar, the sugar of milk. It serves for the preparation of coffee and chocolato, of soups and creame of excellent flavor, and its voet is but trifling.

Agassiz's Plan of Teaching at Penekese.

The chief aim of the school is shortly pnt in these few words. Obeerve for yourselves. Agassiz made all the studente nnderstand before coming that books were not to he nsed as we use them in our schonls; that thore were to he no recitations, no ordinary routine of any kind. Hard work is the condition on which one remaina here, bnt this work is strictly in the way of nbservation and the collection of specimene. 'Never mind abont namee,' says our master every day; 'etudy the thing. You have nn right to know the name until yon are at least familiar enough with the object to describe it.'

Behold, then, tho Anderson School at work. Perhaps there is a lecture or two after breakfast; if so, the little boy whoee business it is will blew a horn iu due time and yell 'Lecture' between the blasts at the top of his voice. One or the other or both these efforts bring the fifty together. Glance over them a moment. Yon never saw a school just like it before. There are faces old, aud young, and half-way, also. Thero are gray hairs uot a few. Thero are those who have already spent yoare in seientific etudy, and those again who are far bohind them in all save earneetness. Of late active work has snperseded lectures to a great extent, eo we will say they have not, and bctake ourselvee to the laboratory. What a buzz! Most settle down at their tablos to work—some stroll off for specimens. All follow their own sweet will as to what they should do, only they must do something, and that something mnst accord with the plans of tho school. One is diesecting a fish, another a bird, another a turtle. Here one ie husy watching the movemente of a jelly fish; there another has forgotten this world in that strange other one which the microscope nnveils. A botanical group ie gathered over a dish of eea-weed. All day yesterday and the day before wae that same gronp over that same dish, for the stndy and classifieetion of the algæ is no play. The long shelves above the tables are already loaded with epecimens, dried in alcohol, which the students are to carry to their own schoole, ae nnclene for future amnsement.

Out doors they are bnsy, too. Sea animale are interviewed in their owu homes, and forthwith it is bruited abroad how they keep honee. Tho little birds yield, perforce, their precions secrets, not liking at all to be watched. Here a student is netting butterflies; there another ie hammering a boulder. Down in the ehallow cave two or three are wading about with dipnets. Esch is husy about that which he likee, for specialism is encouraged.—*Inter-Ocean.*

An ominent French astronomer asserts that the only correct theory of the planetary system is, that beeides the planete Mercury, Venus, the Earth and Mars, there exiets between the Sun and Mercury a ring of asteroide, whose total mass is about equal to the mase of Mercury. At the same dietance from the sun as the earth there exists a second ring of aeteroide, whose mass exceeds the teuth part of that of the earth; the total mass of the small planets situated betweeu Mars aud Jupiter exceeds one-third of the mass of the earth; and the masse of these last two groupe are complements to each other. Ten times the mass of the group near the earth, also three timee the total mass of the small planets between Mare and Jupiter, form a sum equal to the mass of the earth. The laet conclusion depends upon the distance between the earth and the sun, as ascertained hy the transits of Venus, the measnrement of the distance being generally admitted by astronomers to be as accurate ae is attainable.

M. Chary has recently made experimente with the view of utilizing cinders which have dropped through the grate. He auggeets passing condeneed air over red-hot cinders, whereby carbonic oxide is formed, which gives a flame of eeveral feet in length, well adapted for boiler heating. The greateet difficulty lay in the nltimate removal of the refuse cinders. From his ehort experience in thie dirccticn, he calculates that 2 kilometree of cindere, sorted by hand, giving a heating effect equal to that obtained by 1 kilometre of coal. It has been argued that the mode of separation wae of the greateet practical importance. The wet proces was not to be recommended, on acconnt of the extensive drying grounds required, and the fact that after all the piecee had to be used in a damp etate. A current of air has heen suggested as an agent for separating, or, as it were, winnowing the bits. Another authority on the subject states that the amonnt of incombustible matter in the cinder amounts to 1.15 per cent. by volume, or 26.7 per cent. by weight.

Transplanting the Cornea.—Dr. Wolf, of Glasgow, reports, in the Glasgow *Medical Journal*, the case of a man whose coruea was adherent to the lcwer lid, in consequence of a burn. He dieseeted off the lid, and sutnred on the raw surface the cornea of a rabbit, taken off while the animal was under the influence of chloroform. The operation resulted in usefnl eyeeight. A second case in given, eomewhat eimilar, the reault of which wae equally favorable.

Schwalbe has found that if oil of mustard be added to cow's milk, in the proportion of one drop to 1.1 dram, the milk doee not coagulate, even after being kept for a considerable period; but that the caseine is transformed iuto albumen. If thie discovery, says *Les Mondes*, is confirmed, it will be of considerable importance in the printed fabric industry.

MECHANICAL PROGRESS.

The Railway of the Future.

Railroadiug has hitherto taken most of its lessons in improvement from England. Our necessities for transportation were so great that the most we could do for many years was to build a line with a single track and sidings. Terrible disasters and public clamor at length combined to induce the leading companies to build double tracks, although a large majority of the American lines etill have only single tracks and sidings. The inventiou and nniversal introduction of the magnetic telegraph along railways were of great nse in facilitating operations, nbviating collisions, and increasing the general speed. Gradnally the rail has been improved by the nse of steel, the road beds have been ballasted with stone, locomotives built for alpine grades, inclined planes and etasionary engines increased, the passengor care improved, coal eare built of iron, bridges built of iron, and arrangements made to enable engineers to scoop up a full supply of water from a tank, running at full speed, without etopping at the water statioue.

And now, American railroading, prosperoue, rich, powerful, takes leave of the European model and strides ahead on a new path. The leading company in Ponnsylvania is now building quadruple tracks to separate its way bnsiness from the throngh bueiness, and so increase the general epeed of all. Thero ie nothing like thie in England. It is a step forward for ourselves, and our impression ie that it will be a great succees. Let the reader think of a railway, carrying eight raileall the way through from Philadelphia to Pittsbnrgh, and he will have an idea of what the American railway of the fulnre ie likely to be. Not only will all the general roadway have to be donbled, bnt the width of the bridgee and tunnels increased, and new sidinge built at convenient pointe.

Theee arrangements will go far to eolve the problem of how to increaee toe epeed of traine with eafety, at which so many have been working. But, in all probability, higher speed than any attainable even in this way, will be demanded and in eome way obtained. The giant railway, with an enormous rail and an engine of twelve feet driving wheel in diameter, is not a dream, but a possibility. And if a train can be driven a hundred miles an hour with snch meane, the capital can he had to build a road and make the experiment. With such a line, we could breakfast in Philedelphia and snp in Chicago on the eame day. And the jonrney from Philadelphia to New York wonld not occupy an hour. The National railway promises to do it in two houre. All these things are among the neceesities of our vast conntry, with its great distances and diverse interests. And the money spent in tryiug theee experiments would not be squandered, but applied to a very useful purpose. In the meantime the qnadruple tracks will very mnch enhance the rapidity of traneit.

Steel Tires for Railway Wheels.

A new process for making eteel tires is employed at the great mannfactory located at Crowe, England. In this process, as described, the steel is caet in the form of truncated conee, the emallest end to form the outeide of the tire. While still hot, it is introdnced to the horizontal steam hammere. Theee consist of a couple of enormous massee of iron, each running on a little track, and moved back andforth by means of piston and rod, and by a large eteam cylinder behind each, the eteam valve of each of which cylinders ie operated by a common lever. By paeeing through two sets of these hammers the steel is thoroughly worked np, and leaves it in the form of a thick disk. Carried from these, it paeees to an upright hammer, with a eharp, conical end to the etriking part. This eoon forcee a hole through the disk, which, being turned ronnd and round, and over and over, becomes a thick ring. Again heated, it goes to another hammer. This hammer has a very heavy anvil, with a peculiar slope to one side, from which projects a stiff horn; upon this horn tho ring is hung. The face of the striking pert ie formed to the elope of the rim and flange of the wheel, and, as the workmen manipulate the wheel under ite blows, elipping one portion after another of the rim up to receive the stroke, the whole tire gradually expande to the requisite diameter, and ie ready to be turned on the inside and driven on to ite wheel.—*Stove and Tin Trade Journal.*

Mr. Wood, the engineer of the Tees Iron Works, Middlesbrough, and Mr. Joseph Woodward, of Darlington, whose patent has been acquired by the Tees Scoriæ Brick Company, are each busily etriving to bring to perfection their respective eyeteme of utilization of elag. Mr. Woodward confinee hie attention exclusively to the manufacture of bricks, and for some time past he has been exerting himself to reduce the weight of the brick, eo ae to give it a better chance in the market ae compared with ordinary clay bricks. In thie effort he has been largely snccessfnl. Some bricks made last week at the Clay Lane works, of Mr. Thomas Vaughan, did not weigh over eix pounds each, while an ordinary olay brick varies in weight from six to nine pounds. If bricks of this epecific gravity can be uniformly produced from elag, the success of Mr. Woodward'e eystem appears to he assured.—*Colliery Guardian.*

Danks' Puddling Machine.

In the ordinary pnddling furnace it takes abont two hours to puddle a charge, but the Danks machine does the eame work in less than fifteen minntes. Beeidee thie, the quantity of iron under manipulation is much greater —the hall puddled in the Danks furnace weighing 10 cwt., whereas in the nsnal pnddling furnaco, the rule ie to puddle four halls together of one cwt. each. The consnmption of coal per ton of puddled ball has now been redneed to 15 cwt. at the Teesside works—that is, where molten metal is put into the furnace; but if cold metal ie nsed, it requires 20 cwt., or thereahouts. There is a difference of four to eight cwt. per ton as compared with the consumption of fuel in the ordinary furnace. Some of the resnlte obtained at theee worke by the Danks machine are quite nniqne in the metallurgy of Cleveland. Only a few daye ago, pnddled bar made in the rotary furnace wae rolled into an angle 75 feet long, the angle being three inches by three, by three-eighte. A rail made last week from the eame iron wae exposed to a most severe test, and peesed the ordeal triumphantly. The rail was placed between uprights—the bearings being three feet three inchee apart—and tested with a weight of 648 pounds, giving it one blow of 10 feet, and four blows of 18 feet. On measuring the rail afterwards, it hent just nine inchee, and did not ehow the least sign of fracture. It is important to bear in mind that this rail wae made without piling, an operation calculated to produce lamination, and deteriorate the durability of the rail, although it is a neceesary part of the preeent mode of manufacture. The reheating of piled bare also reqniree a good deal of labor, which is hero altogether obviated. Compariesns made at the Teeeside worke show that the Danks mschine effects a saving ae compared with the ordinary pnddling process of 8 to 10 per cent. of the pig metal put into the furnace. If theee resnlte are borne ont by the experience gained at the other worke above mentiond, there is no room for donbt, that the daye of ordinary hand puddling are very nearly done.—*Newcastle Daily Chronicle.*

International Bridge.—The river piers for this bridge across the Niagara at Buffalo have all been completed except one. In preparing for thie last pier it was found that the river bed wae covered with eome 10 feet of gravel, which it was necessary to remove. The removal has been completed and work begun on the foundation of the pier. It is expected that it will be finished in about four weeks.

The bridge acroee the main river will be 1,968 feet long. Beginning at the Canada shore, there will be three spans of 190 feet clear, then three epans of 240 feet, then the draw spen, which will have two clear openings of 160 feet each, then another span of 190 feet will bring the bridge to Squew Island. Acroee the island the distance is about 1,200 feet, and then there is another bridge across Black Rock Harbor 517 feet long. In this last bridge there ie a draw span with two clear openinge of 90 feet each.

The euperetrnctnre will be the Pratt trnee and is being bnilt at the Phœnixville Bridge Worke. A novel plan is pursued in placing the iron epane upon the piers. They are bnilt upon a framework over a number of pontoons, which act in the manner of a dry dock. The pontoons are carefully dropped between the piers, and when in position water is let into them, and the iron trues ie eettled into ite exact place on the piere.

Experiments are bearing ont the thonght that at no distant day eteel will enter very largely into the construction of marine machinery. The great eaving in weight will be one of its best recommendations, but for the present it is not quite clear as to how the treacherous natnre of much of thie materiel can be controlled, so as to insure a uniformity of etrength throughout a large mass. A material known as "Whitworth Compreeeed Metal" has recently been experimented with, giving excellent results. It ie claimed that thie metal, jndiciously employed, combines the tonghness and uniformity of the best malleable iron, with the tenecile and crushing etrength of the beet manufactured eteel.

The lateet method of eonsuming coal duet has been propoeed by a New Jereey projector. It is more particnlarly designed for locomotivee, and consiets in throwing the anthracite dust upon a fire eterted, and to the extent of one-half the fuel reqnired, kept up with bituminone coal. The tender is to he mede in two parte for the two kinds of fnel; the fire is to be made at firet wholly with the bituminous, and so maintained until the steam-gauge ehowe 100 pounde preseure in the boiler. The anthracite dust is then thrown into the furnace with a shovel in inetalmente alternate with the othcr.

In every car on the Counecticut River Railroad there ie exhibited a placard, which ie changed on leeving every station, recording the name of the next etation, and etating whether it connects with any and what other lines. It must he a very convenient practice, if it doee not cauee delay.

The Amee Company, of Chicopee, have nearly completed one of their largest eize lighthouse lanterns, for Cape Fairweather, Oregon. It ie 20 feet high and 16 feet in diameter.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Sept. 11, 1873.

NAME OF COMPANY.	IN MINE.	IN MINE.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co							
Alpha Consolidated	300	6000	24	20	1		
Alta	3600						
American Flat		30000	4				
Arizona & Utah	1900	18000	1¾	1½			
Bacon Mill & Mining Co.	65	24000	2¾	2½			1/16
Baltimore Consolidated		24000	6½	6			1/16
Belcher	1046	104000	71½	63			2
Best & Belcher	224	22400	5	4⅜			½
Bowers	20	5000					
Buckeye		16000					
Bullion	2500	25000					
Caledonia Silver M. Co	5000	20000	25	18½			
Central	150	10800	11	7	5		
Central No. Two	100	20000	6	5½	3		
Chollar-Potosi	2800	28000	39½	37			1/4
Confidence Silver M. Co	130	23960	8¼	6¾	2		
Cons. Gould Mill Quartz	34½	20000	2¼	2	1		
Consolidated Virginia	1160	23500	101	95	2		
Cook & Geyer	1500	24000					
Crown Point G. & S. M. Co	2000	20000	90	85			8
Daney	2000	24000	1⅜	1⅛			1/16
Dardanelles	1200	24000					
Eclipse	20	25000	4⅞	4⅝			1/16
Empire Mill & M. Co	75	50000	8	3½			1/8
Exchequer	400	8000	8	7¾			1/8
Flowery	3000	12000					
Franklin		20000					
Globe	1200	18000	14	11½			¼
Gould & Curry S. M. Co	400	16000	29¼	25½			¾
Hale & Norcross	184	100000	4⅞	4⅜			1/16
Imperial							
Indus	2000	30000					
Insurance			10c	10c			
Jacob Little							
Julia Gold and S. M. Co	2000	30000	2	1¾			¼
Justice	3000	21000	8	5½			¼
Kentuck	95	30000	11	10			2/16
Knickerbocker	1200	24000	9¼	3½			4/16
Lady Bryan							
Mollenas	3600	36000					
Mint Gold & S. M. Co	1600	50000	50c	25c			10c
Nevada	3000	40000					
New York Cons. Co	3600	36000	1				1/16
Occidental	800	10000	2¼	2			1/16
Ophir Silver Mining Co	1400	16800	85	45			34/16
Overman Silver M. Co	1200	12800	8¾	7			¾
Phil. Sheridan	1200	24000					
Pioton	2000	20000	25c	25c			
Rock Island		24000	50c	37½c			
Savage	800	16000	49	39¾	3		
Segregated Belcher	160	6400	34	32			4
Segregated Caledonia		10000					
Senator Silver M. Co		24000	30c	10c			2¾
Sierra Nevada		20000	14¾	10½			2¾
Silver Hill		54000	17	12½	3		
South Overman		24000					
Succor Mill and M. Co	7600	22800	1½	2¼			¾
Sutro		24000	2	2			
Trench	20	50 0	3½	3½			
Tyler	2200	33000	55c	55c			
Union Consolidated	803	20000	4	1			2¾
Utah		24000					
Woodville G. & S. M. Co	1400	28000	1½	1⅛			¼
Yellow Jacket	1200	24000	53	46½			
NEVADA.							
Adams Hill		50000					
Alps Silver Mining Co	800	30000	50c	25c			¼
Amador Tunnel & M. Co							
American Flag M. & M		30000	4½	3½			½
Arkansas	300	30000					
Belmont			1¼	75c			3/6
Bowery		30000	25c	25c			¼
Chapman Mill & M. Co		30000					
Charter Oak S. M. Co	1000	20000					
Chief of the Hill		30000		75c			¼
Chief East Extension		36000					
Columbus M. & M. Co	10000	50000					
Condor		25000	50c	20c			
El Dorado South			4	2¾			1/16
Eureka Consolidated		50000	13	12¾			½
Excelsior		12000					
Harper Silver Mining Co		30000					
Heroes	1000	30000	3½	2½			½
Home Ticket							
Huhn & Hunt S. M. Co	3600	30000	75c	75c			5/6
Ingomar Silver M. Co	1000	40000	25c	20c			5c
Ivanhoe		30000					
Jackson		50000	25c	17½c			7½c
Jnniata Consolidated	5000	50000					
K. K. Consolidated			5	5			
Kentucky Gold & S. Co	1000	30000	3¾	2			
Kinston	1000	30000					
Lehigh	1000	30000					
Lillian Hall	1000	15000					
Lonise	2400	30000					
McMahon	1000	30000					
Marion		30000					
Meadow Valley	24022	60000	16	13¾			2
Mooking-Bird	1200	30000					
Monitor Belmont			40c	30c			
Murphy	2000	60000					
Newark Silver M. Co	800	32000	1½	1¾			2/16
Pacific Tunnel & M. Co							
Page & Panaca S. M. Co	2400	40000	75c	50c			¼
Peavine	1000	30000	15c	15c			
Phoenix		20000	25c	25c			
Pioche Silver Mining Co	1000	20000	5½	4⅝			1/16
Pioche West Extension		35000					
Pioche-Phœnix		40000	1	1			
Portland							
Raymond & Ely	5000	30000	73½	67½			5/6
Silver Peak		30000	1	1			¼
Silver West Consolidated							
Standard Mill and M. Co							
Star Consolidated	1800	50000					
Starlight	6900	25000					
Sterling		30000					
Spring Mount		35000					
Spring Mountain Tunnel		20000					
Ward Beecher							
Washington and Creole	200	30000	2¼	2			¼
Yellowstone							
CALIFORNIA.							
Alpine	1200	12000					
Bellevue	8000	20000					
Calaveras Gold M. Co	3200	20000					
Cederberg Gold M. Co		24000	3½	3½			
Consolidated Amador							
Cottonwood Creek		20000					
Dunderberg M. & M. Co							
El Dorado Ind. Quartz M							
Eureka Gold Mining Co	1650	30000	20	19			1
Gillis		24000					
Independent Gold M. Co	1800	25000	1¾	1⅜			½
Keystone Quartz		10000					
Mt. Jefferson	1500	25000					
Oakville Quartz M Co							
Rye Patch			7⅛	6¾			⅜
St. Lawrence M. & M. Co							
St. Patrick	1800	20000					
Tecumseh	3000	30000					
Yule Gravel	400	10000					
IDAHO.							
Empire		25000	4½	3½			1
Golden Chariot	750	10000	26½	19			1½
Ida Ellmore	1200	10000	5	4			2¼
Mahogany G. & S. M. Co	720	10000	10	8¾	1		
Minnesota Gold & Silver	1070	20000	19	17½			
Red Jacket			2¼	2			¾
South Chariot	660	20000	3	2¼			¾
War Eagle	1000	10000	1¾	1			¾
WHITE PINE.							
General Lee	1000	20000					
Mammoth Silver M. Co	1800	36000	25c	25c			2½c
Noonday	1000	20000					
Orig. Hidden Treasure	800	21333	7	4¾	3		
Silver Wave							
Ward Beecher		24000					
UTAH.							
Deseret Consolidated	2400	30000					
Wellington		50000					
OREGON.							
Virtue	M2300	20000					

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business.
Arizona & Utah M. Co.	Nevada	6	50	Sept 8	Oct 13	Oct 31	J. Maguire	419 California st
Alpine G. M. & M. Co.	Cal.		50	July 21	Aug 25	Sept 17	J. F. Lightner,	438 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 23	C. F. Balcom,	426 Montg'y st
American Flat M. Co.	Washoe		50	July 22	Aug 26	Sept 16	G. W. R. King,	411 California st
Belmont M. Co.	Nevada	1	1 00	Aug 15	Sept 20	Oct 13	O. H. Bogart,	411½ California st
Chapman M. & M. Co.	Ely District	4	25	July 28	Sept 2	Sept 26	Frank Swift,	415 Montg'y st
Confidence M. Co.	Cal.	1	1 75	Aug 4	Sept 4	Sept 22	H. Hampton,	217 Sansom st
Cons. Gold Mill Quartz M. Co.	Nev.	1	75	Aug 4	Sept 3	Sept 29	R. Wegener,	414 California st
Charter Oak S. M. Co.	Ely District.		25	July 16	Aug 25	Sept 15	G. W. R. King,	411 California st
Caledonia S. M. Co	Nevada.	5	2 00	July 11	Aug 21	Sept 11	R Wegener,	414 California st
South Eureka M. Co.	Nevada	5	20	Aug 30	Oct 6	Oct 27	T. F. Cronise,	438 California st
Empire M. Co.	Idaho	4	3 00	July 16	Aug 26	Sept 22	C. F. Balcom,	426 Montg'y st
El Dorado South Cons. M. Co.	Nev.	1	1 50	Aug. 6	Sept. 12	Oct. 2	Wm. Willis,	419 California st
Eureka M. & S. Co.	Nev		20	Aug. 21	Sept. 22	Oct. 13	T. P. Beach,	217 Sansome st
Equitable M. Co.	Utah	3	10	Aug 8	Sept 12	Sept 29	C. S. Healy,	Merchants' Ex
"420" M. Co.	Nevada.	8	12½	July 25	Aug 28	Sept 16	H. C. Howard,	523 Montgomery st
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Golden Eagle M. Co.	Cal.	1	10	July 15	Aug 18	Sept 8	R. Stevenson,	305 Montgomery st
Huhn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 7	Oct 23	T. L. Kimball,	419 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	C. S. Neal,	419 California st
Ida Ellmore M. C.	Idaho.	10	1 50	July 25	Aug. 29.	Sept. 20	Wm. Willis,	419 California st
Jacobs M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener,	414 California st
Julia O. & S. M. Co.	Washoe	15	75	Aug 5	Sept 8	Sept 27	A. Noel,	419 California st
Knickerbocker M Co.	Am. Flat.	6	1 00	July 24	Aug. 26.	Sept. 15	Henry Boyle.	Stevenson's Bld'g
Lady Franklin G. & S. M. Co	Cal.		50	July 1	Aug 15	Sept 15	J. S. Luty,	507 Montgomery st
Lady Emma M. Co.	Cal	4	15	Aug 20	Sept 20	Oct 13	A. D. Carpenter,	605 Clay st
Lady Easter M. Co.	Utah	4	10	Aug 8	Sept 12	Sept 29	C. S. Healy,	Merchants' Ex
Mint G. & S. M. Co.	Washoe		10	Aug 20	Sept 24	Oct 16	D. A. Jennings,	401 California st
Mammoth S. M. Co.	White Pine.		10	July 29	Sept. 1	Sept. 22	J. L. King,	411 California st
New York Cons M. Co.	Nevada	5	25	Aug 4	Sept 6	Sept 25	H. O. Kibbie,	419 California st
O. H. Treasure M. Co.	White Pine.		1 00	July 31	Sept 6	Sept 30	D. A. Jennings,	401 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 19	Sept 26	Oct 23	C. E. Elliott,	419 California st
Peavine S. M. Co.	Ely District	5	25	Aug 28	Oct 4	Oct 28	C. F. Balcom,	426 Montg'y st
Phoenix S. M. Co.	Eureka, Nevada		25	Aug 5	Sept 11	Oct 2	J. Maguire,	419 California st
Page & Panaca S. M. Co.	Ely District	4	50	Aug 12	Sept 16	Oct 3	L. Kaplan,	Merchants' Ex
Rose Cons M. Co.	Nev.	1	10	Aug. 5	Sept. 9	Sept. 30	S. Phillips.	408 California st
Savage M. Co.	Washoe.		5 00	July 24	Aug. 27	Sept. 15	E. B. Holmes.	Cr. Cal.& Sansome st
South Chariot M. Co.	Idaho.		50	July 29	Sept 8	Sept 29	J. L. King,	411 California st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A. Jennings,	401 California st
Succor M. & M. Co.	Washoe	6	75	July 31	Aug 30	Sept 22	W. H. Watson,	302 Montg'y st
St. Lawrence M. Co.	Cal.	2	1 00	July 25	Aug. 28.	Sept. 16	R. B. Noyes.	411½ California st
Tecumseh G. S. & C. M. Co.	Cal		25	Aug 1	Sept 5	Sept 30	J. F. Hermann,	418 Kearny st
Tyler M. Co.	Washoe.	2	25	July 25	Aug 28	Sept 13	A. K. Durbrow,	Merchants' Ex
Union G. M. Co.	Cal		7	July 15	Aug 15	Sept 15	A. K. Durbrow,	Merchants' Ex
Yellow Jacket M. Co.	Washoe.	16	5 00	July 10	Aug 15	Sept 15	G. W. Hopkins,	Gold Hill
War Eagle M. Co.	Idaho	2	2 50	Aug 13	Sept 22	Oct 13	C. F. Balcom,	426 Montg'y st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings,	401 California st

Other Companies (not on the Lists of the Boards.)

Auburn O. M. Co.	Placer Co., Cal.	5	1 00	Aug 9	Sept 15	Oct 6	R. Wedgener,	414 California st
Buena Vista Vineultural Society.	Cal		5 00	Aug 5	Sept 8	Oct 1	N. Selmer,	409 Battery st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C. E. Elliott,	419 California st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C. E. Elliott,	419 California st
Cederberg First Sth. Ext. M. Co.	Cal.	4	5	July 31	Aug 30	Sept 19	J. N. Webster.	506 Montg'y st
Carson Cons. M. Co.	Nevada	1	10	July 28	Aug 30	Sept 22	A. D. Carpenter,	605 Clay st
Clear Lake Water Co.	S. F.	3	40	July 30	Sept 4	Sept 22	S. J. C. Swezay,	3 & 5 Front st
Cherokee Flat Blue Gravel Co.	Cal.	30	5	July 23	Aug. 26.	Sept. 15	H. Pichoir.	603 Washington st
Day Spring G. M. Co.	Cal		5	Aug 4	Sept. 10	Oct. 1	C. F. Balcom,	Gold Hill
Excelsior S. M. Co.	Nevada		45	July 18	Aug 18	Sept 20	W. A. Kollmyer,	610 Washington st
Europa M. Co.	Nevada	1	25	Sept 2	Oct 4	Oct 21	R. B. Noyes,	411½ California st
Empire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakins,	230 Kearny st
Hasloe M. & S. Co.	Cal	2	75	Aug 13	Sept 18	Oct 6	J. W. Tripp,	408 California st
Homecaster M. Co.	Lower Cal.		3 00	July 29	Sept 5	Oct 27	J. H. Applegate,	729 Montg'y st
Kincaid Flat M. Co.	Cal		400	Aug 6	Sept 8	Sept 29	R. H. Cornell,	217 Sansome st
Lucky G. M. Co.	Cal.	1	10	Aug. 6	Sept. 8	Sept. 29	R. B. Noyes.	411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 13	G. R. Spinney,	320 California st
Maxcpa S. M. Co.	Ely District	2	50	Aug 15	Sept 19	Oct 8	M. F. Lane,	320 California st
North Bloomfield Gravel M. Co.	Cal	27	1 00	Aug. 22	Sept 26	Oct 14	Thos. Derby,	320 Sansome st
North Star G. M. Co.	Cal		4 00	Aug 13	Sept 17	Oct 8	D. A. Jennings,	401 California st
National M. Co.	Nevada		50	July 31	Sept 5	Sept 29	B. B Minor,	411½ California st
Pacific Coast Wrecking Co.	S. F.		5 00	Aug 5	Sept 12	Oct 6	G. S. Pratt,	204 Montg'y st
Pride of the Mountain M. Co.	Nevada		10	Aug 25	Sept 30	Oct 20	T. W. Coulburn,	419 California st
Red Branch G. & S. M. Co.	Cal	1	5	Aug 16	Sept 26	Oct 20	F. D. Cleary,	Merchants' Ex
Santa Cruz Coal M. Co.	Cal	3	5	Aug 19	Sept 23	Oct 11	L. Kaplan,	Merchants' Ex
Sanderson G. M. Co.	Cal.	6	15	Aug. 4	Sept. 1	Sept. 17	Wm. Stuart.	113 Leidesdorff st
Seattle Coal & Trans'n. Co.	Oregon		2 00	Aug 4	Sept 15	Sept 25	H. L. Hutchinson,	537 Market st
San Jose M. Co.	Nev.	3	5 00	July 24	Aug. 25	Sept. 25	A. Carrigan.	107 Front st
Summit M. Co.	Cal.	4	25	July 21	Aug 26	Sept 15	Geo. Davidson,	734 Montgomery st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 31	L. Franconi.	314 California st
San Marcial S. M. Co.	Mexico		1 50	Aug 22	Sept 26	Oct 16	C. F. Schulze,	426 Montg'y st
Umpire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakin,	230 Kearny st
Washington M. Co.	Cal		2 00	Aug 11	Sept 16	Oct 10	T. B. Wingard,	318 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Baltimore Cons. M. Co.	Ely District	D. T. Bagley,	401 Califorula st	Annual	Oct 2
Cosala S. M. Co.	Mexico	Chas. Baum,	510 Battery st	Annual	Sept 15
Eureka M. & S. Co.	Nevada	T. P. Beach,	217 Sansome st	Annual	Sept 29
Providence G. & S. Co.	Cal	Wm. H. Knight,	321 Montg'y st.	Annual	Sept 15
Victoria & Imperial T. & M. Co.	Utah	W. H. Watson,	302 Montg'y st	Annual	Sept 11

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	F. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	5 00	Sept 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Sept 12
Cederberg G. M. Co.	California	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Casset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Sept. 6
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Aug 20
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Sept 10
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Aug 14
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Coburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	G. McFadden.	402 Mont'gry. St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. O. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r,	M't. & Sac. sts.	2½ per cent.	April 1
Giant Powder Co.	S. F.	H. Pichoir,	Cor. Mont'g. & Wash. sts	1½ per cent.	Sept 15
German Savings & Loan Society,	S. F.	Geo. Lette,	526 California st.	9 6-10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st.	9 6-10, 8 & 4 per cent.	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No 6 Post st	9.75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Lonisa sts.	½ per cent.	April
Pioneer Land & Loan Association,	S. F.	H. Kofahe, Ch'r.,	405 California st.	1 per cent.	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	C. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 percent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

THE City of Mexico is excited over the discovery of gold mines bstween that place and Tolina. A company has besn formed to work the old Valinciana mins near Guanajuato, and heavy machinsry has hesn added to pnmp out the shaft.

CALIFORNIA'S birthday was celebratsd on the 9th inst. in this city, and gsnsrally throughout the interior. That date was the 23d anniversary of her admission to the Uuion. Appropriate speeches and fsstivities were observed by the pioneers in different parts of the Stats.

Our Weekly Stock Review.

THURSDAY EVE., Sept. 11, 1873.

The stock market this week has not been unusually lively, hut a fsw stocks have fluctuated snough to kcep it from getting as dull as has been ths cass of lats. The lowness of ths water in the Carson river reduces the hullion production of the Comstock, hy stopping some of ths mills and rsducing ths uumher of stamps on others. As a consequence some of the mines have been compelled to lessen their ore production and discharge some of their men. Ore is, howevsr, accumulating on the dumps of thc mines, and when the wet season comes along again, the mines will do better and the Stock market prohably liven up again.

The injunctiou on the Raymond & Ely mine has heen raised and ths mine is again at work. A dividend of $3 per shars or $90,000 was distrihuted this week, the first sincs last Fcbruary. This mine has had a good deal of troubls in legal mattsrs ever siucs it has proved itsslf worth something, as is usually the case. Ths way the injunction on ths Raymond & Ely, spoken of ahovs, was ohtained hy the Kentucky Company, is explained hy the Pioche *Record* as follows:

"It will be remsmbered by our readers that there is and has heen for a very long time a suit pending in the District Court of this county, hrought by the Raymond & Ely Company against the Kentucky Company, in which an injunction was granted against the latter company, and which is still in force, the suit not having coms to trial. The Kentucky Company at one time contemplated removing this suit from the State to the Federal Court, but as both companies heing foreign corporations, the conclusion was arrived at that the case could not bs rsmoved, neither could any action be brought hy the Kentucky Company against the Raymond & Ely, for the same reason. The Ksntucky Company, however, heing a foreign corporation, might bring an action in the Fsderal Courts against any number of citizens of this State who wsrs found in possession of or working miuing grounds claimed by it. The present action is therefors not brought against the Raymond & Ely Company as defendants, but is an action against the employés of ths company in possession. The Kentucky Company has thus adopted this method of doing indirectly what it could not do directly."

Howsvsr, the Kentucky peopls knowing that ths stoppage of the Raymond & Ely, for a month, would cause soms troubls and distress to a numher of men, the Judge of the Supsms Court modified ths rsstraining order to taking a bond, which was executed in this city, hy Messis. Robt. Morrow and Wm. Sharon, in ths sum of $500,000 each. This hond will cover all hullion taksn out in the time—Oct. 6.

Ophir has been ths leading feature on the market this wesk, it having jumped up and down in a wonderful manner under the influencs of contradictory reports as to ors discoveries.

Ths Minnesota mine (Idaho) has declared a dividend of $1.50, aggregating $30,000, the sams as declared last month. This mine is in the same district as the Golden Chariot, which pays also this mouth $3 per share, or $30,000. It is said that the Mahogany, in the same viciuity, will shortly pay dividends. Belcher pays this month $5 per share, or $520,000, and Crown Point $4, or $400,000.

A suit is Dow being tried in the Fourth District Court, which is of intorest to hrokers, as the decision involves ths legality of transactions occurring every day. On the 7th of last April, Isaac Levy purchased, hy H. Schmiedsll, Trustee, 20 shares of Meadow Valley stock, which Schmiedell endorsed aud handed to Levy. On the 8th of April, Lsvy lost the certificate and he advsrtised ths loss. In the meantime the certificate was found by soms nnknown person, who sold it, and on the 19th of May it reached B. F. Sherwood and came into his possession. He presented it for transfer to the Msadow Valley Co., hnt they said Mr. Levy had represented it as lost and that a duplicate had beeu issued to him. As the company refused to make the transfer, Mr. Sherwood sued them to compel them to recognize his claim, he having purchased it in the usnal way. The company say they ars not responsible, as the stock was not transferred on the books by the parties who hold it hefore Mr. Sherwood got it. The decision is waitcd for with interest.

THE Mineralogical Notss on Utah, Califoruia aud Nevada, on auother page of this issue, and continued from page 133, were published by Professor Sillimau in the *American Journal of Science and Arts*.

THE taxahls property in Salt Lake City is valued at over $7,000,000.

MINING SUMMARY.

THE following is mostly condensed from Journals published in the interior,in proximity to the mines mentioned.

California.

AMADOR COUNTY.

FINE CLEAN UP.—Sattor Creek *Independent*, September 4: The Consolidated Amador Mining Co., after a run of 28 days, cleaned np a little over $28,000. The mill has only been running 20 stamps the past mouth, and we consider this n very clever return for them. The rock now being worked will ran over $21 to the ton. A few mines in the county are more ably managed than this, and hnt few richer. The machinery and works are all in fine order.

THE GOOD HOPE.—Work on this mine, loeated near Jackson, is being pnshed rapidly, and Mr. Poters, the principal owner, is confident that within the next forty ft. he will find good paying rock. It is the intention of the compauy to erect a fine 20-stamp mill soon.

KEYSTONE MINE.—*Independent*, Septsmber 5: This mine had a very handsome clean-up last week, bat we did not learn the amonat. Never before has the work beeu moro successefully pushed than at prosent, In the lower levels the rock looks fine, and improves in richnsss. The hanging walls are very firm and heavy, and the foot walls are splendid. The sulphurets are exeeedingly rich, and are being worked to advantage. No mine in the State has a moro flattering futare and but few are better managed.

KEYSTONE.—Suttor Creek *Independent:* Never before has the work been more successfully pushed than at present. In the lower levels the rock looks fiae, and improves in richness. The hanging walls are very firm and heavy, and the foot walls are speudid. Tho sulphurets are exceedingly rich and are being worked to advantage.

BUTTE COUNTY.

MOAR QUARTZ.—Bntte *Record*, Sept. 6: We learn that Messrs. Plum & Maddox, of Forbestown, have struck some very rich quartz, in an extensive vein, 600 ft. from the rich ledge of Roberts & Co. They exhibited some rich specimens, which proves the richness of the lead. Forbestown promises to become one of the best quartz mining localities in the State.

PLACER COUNTY.

RICHER YET.—Placer *Herald*, Sept. 3: The Crater Hill mine, owned by the St. Patrick Company, is undoubtedly the best quartz mine in this district. The ore, thus far, from this mine has yielded on an average about $42 per ton, and what is most flattering, the deeper they get the richer and more extensive the ledge becomes. The main shaft is now down ahont 215 ft. deep, and in the bottom the ledge is about 28 or 29 inches thick, and yields more gold per ton than at any other point. The St. Patrick Company have spent freely of their immense meaus in thoroughly and systematically developing the quartz mines of this section, and it is with much pleasure that we chronicle their success.

SHIKE. — *National:* Recently, at Newton Flat, the O'Neill brothers strnck what is supposed to he the back channel in their tunnel, or side drift, and found it to be extremely rich. In a short time they washed out $24 in heavy coarse gold. The claim will, doubtless, prove to be one of the richest on the north side of the valley.

NEW CANAL.—The capacious new canal which the company, at Devil's Elbow, are constructing for the purposs of taking the water of Rock Creek directly to the mouth ot the tunnel, is nearly completed. Those who have not visited that locality recently would he surprised at the amount of work which is heing done.

SIERRA COUNTY.

GOON PAY.—Mountain *Messenger*, Aug. 30: We learn from reliable authority, that the Bunker Hill claim at Little Grizzly, formerly known as the Democrat, pays $6 for every car load taken out. The claim paid well years ago, hut was supposed to he worked out and was abanhoned. The company have got the claim opensd in good shape, and it hids fair to he one of the best claims in the county.

MINE SOLN.—The Pioneer tunnel at Sebastopol, has bsen sold to Mr. Billings. The tunnel was started in 1856, and work has been prosecuted on it intermittently since then. Many thousand dollars have heen expended and a long tunnel run, but pay was not reached.

PROSPECTING.—A company have commenced runniug a tunnel to prospect the ground under Saddle-back. They have commenced work near Merideth's upper sawmill, near the Eureka and Poker Flat trail.

SIERRA COUNTY.

EAST FORK M. Co.—Mountain *Messenger*, Sept. 6: Several hundred ft. above the river the ledge has been tapped and considerably developed. In this working the ledge is as much as 30 ft. wide, and rock taken from any portion of the prospect works well. Quite a quantity of rock has heen takeu out and saved tor the time when a mill shall he erected. The Company is now engaged in runniug a lower tunnel, 140 ft. of which is already completed and it is hoped to tap the ledge in ahout four months, more or less. The lower tunnel is nearly all in a kind of hard bluish rock lying between the foot wall and the ledge, and nearly all of it blasting rock. The tunnel is heing pushed along a well defined foot wall, hy following which, it is expected to strike the ledge, of which there seems every prospect, the wall tending gradually inward for some 50 ft., and quite sharply for the last 20 ft. of tunnel run.

The Rocky Point Ledge is sitnated about two and a half miles above town on the East Fork. The ledge, where it has been tapped, shows about 15 ft. of as solid and fine a looking body of ore as one often sees, with well defined and smooth walls, both foot and hanging. Drifts have heen run along both walls, and a shaft sunk by the foot wall, and all these developments show the ledge solid and samples taken from every point reached on the ledge, prospect exceedingly well. Mr. Picket, the present manager of the work, has started a tunnel some 15 ft. above the river, and appearances indicate that the ledgo will be reached after running 40 or 50 ft. more of tunnel, which is progressing satisfactorily, and is being heavily timbered and constructed in the most substantial manner.

NEVADA COUNTY.

GOLD TUNNEL MILL.—*Transcript*, Sept. 7th: The mill, which is a new one, has 10 stamps, and is arranged for working by water power. The wheel is 30 ft. in diameter, and, with plenty of water, is capable of running a battery of 20 stamps, but at this season of the year the supply of water is very limited, and only sufficient could be obtained to run five stamps. The company, however, are not allowing the waters to remain idle, as the stamps are running day and night. The machinery of the mill and all the appurtenances work smoothly, no jarring or grinding, showing that everything is eveuly adjusted. The hoisting works are run hy steam, and are situated ahont 200 ft. above the mill.

LOWELL HILL is situated about 8 miles northeast of Little York, and about 18 miles from this city. It has a population of about 200, and the nnmber of men employed is 75 or 80. Mining is mostly done in this locality by drifting. The gold is mostly coarse, and occasionally some very large nuggets are found.

THE SWAMP ANGEL Co., whose claims are located on this hill, have very rich diggings, and employ 5 men. A few days since, while drifting, they took out a specimen worth $33, another worth $12.64. Out of the 40 ounces which they cleaned up only 3 ounces were fine gold, the remainder being nuggets, ranging in value from $30 to $5. This company is now husily engaged in building sheds and dumps, in order that mining on their claims may not be interrupted during winter.

HILL & Co. come next, and having cleaned up $1,700 a short time since, are now running another hed-rock tunnel, in order to get to the hottom of the rich-paying chaunel in the center of the hill.

MCCAM & Co. have commenced a main tunnel, for the purpose of striking the channel, and expect to have it completed hy the first of May next, when they will be sure to reap the reward of their labor.

MACKIN & Co. struck a fine prospect just previous to the water failing them, and have since been workiag all the time in drifting and fitting up for winter.

Nevada.

BRISTOL DISTRICT.

SULTAN.—At a depth of 140 ft. the ledge dipped from the shaft, but yesterday they struck it agaia, and from appearances, richer than ever. The specimens sent into town yesterday strongly resembled the richest ores found near the surface in the celebrated Bowery mine, well known to all old residents of Pioche.

CAVE.—Work is progressing as usual, and ore is heing coustautly placed on the dump.

ELY DISTRICT.

RAYMONN & ELY.—Pioche *Record*, August 31: The ore in the upper levels is looking very well. There are 7 stopes of first-class ore hetweeu the 4th and 5th, on the west side. The work of sinking the shaft for the 10th statiou has been commenced, and a progress of 15 ft. has heen made. A connection has been made with the Hermes shaft at the Raymond & Ely's 6th level. Two drifts are being ran on the 9th level—one south, to cut the ledge at right angles at a distance of 115 ft. from the shaft; the other southwest, to cut the ledge at a distance of 200 ft. from the shaft. About 75 ft. of the former and 40 ft. of the latter have heen completed. The last bullion shipment was valued at $41,000.

SILVER PEAK.—The sinking on the incline continues. Since the new machinery hegan work a progress of 30 ft. has been made, 10 ft. having heen sunk in the last week. The ore in the hottom of the shaft is very good. Ahout 70 tons have heen shipped during the month. The assays of ore taken from the hucket were: On the 26th, fine, $103.62; coarse, $427.04. On the 28th, fine, $72.26; coarse, $106.81. On Saturday the ore samples gavo $169. The bullion returns will he made on Monday.

MEADOW VALLEY.—The appearance of the mine is favorable, aud ore is being taken out of No. 3 shaft from the 6th, 7th, 8th and 9th levels. Work at No. 7 has been discontinued. This, however, we are informed is probahly a temporary suspensiou only. Work at No. 5, the machinery on which was damaged some time ago, will he resumed to-day.

PIOCHE.—There is no change in the nnmher of men workiug, nor in the quantity of ore taken out. During the past week 80 tons of ore have heen shipped to the mill. Crushing was commenced on the ore from this mine on Wednesday. The whim on the new shaft is now completed, and a new contract having heen let, the work of sinking will be resumed on Monday.

WASHINOTON & CREOLE.—Aa drifting is continued, east and west the ledge continues to improve. A drift is also being run to the south. The stopes are looking much better than during the previous week. From aeven to eight tons of oro are taken out daily, and there are now ou the dump 400 tons. This ore is of the same grade as tho last milled, which gave $90 per ton. Milling will begin between the first and fifth of September.

SPRING MOUNTAIN TUNNEL.—Work still continues in sinking on No. 3 ledge, hnt without material change—having left the ledge in order to give the shaft a more uniform conrse. The work will bo continued in this condition for some time longer, when, shonld the vein not straiten up and resume its coarse, a cross-cut will he commenced at the 150-foot level to expose it, when it is believed good ore will be found, as nll signs point in that direction.

NEWARK MINE.—This mine is employing 70 men. Have had milled this month 20 tons of first-class ore, and are taking ont and shipping to mill daily 20 tons from the 500-foot level. The 400, 600 and 700-foot level drifts are heing driven south from the main shaft, to cut the ledge as fast as possihle. The veiu will be cut at all three points withiu 40 days.

SAMANTHA.—This mine has bsen opened by a shaft sunk on the ledge to the depth of 115 ft. At this point the ledge is about 4 ft. wide, and shows 2 ft. of rich ore on the hanging wall. Assays of average rock rauge from $150 and $300.

AMERICAN FLAG.—Rnnning the mill on ore from this mine. The mine continues in about the same condition as when our last report was made. Shaft 700 ft. deep and sinking rapidly, working the nsual force of men.

CHAPMAN.—Running on a vein of ore which looks very promising. It is a vein of chloride ore, ahout 10 inches in width, in a ledge three ft. wide. The drift is being run east from the 420-foot level.

CHIEF OF THE HILL.—A progress of 20 ft. has heen made in the west drift on the 210-ft. level. The stopes have as favorahle an appearance as usual, and some ore is being taken out all the time. There are now on the dump 97 tons of ore.

CHIEF EAST EXTENSION.—A good qnality of ore is heing taken out from the 225-ft. level. The quantity is ahout the same as usual. There are now 25 tons of ore on the dump, and this will soon be shipped to mill.

ALPS.—Resumed work yesterday on the drift in the 300-ft. level. The winze sinking on the vein from the 164-ft. level is down 54 ft. in good milling ore. The vein at this point is from 3¼ to 4 ft. wide.

LOUISE.—A drift is being run from the 200-ft. level ou a small vein of very good ore. This vein has now continued the same for a distance of 75 ft.

PEAVINE.—The new shaft is down 55 ft. Taking out some fair ore from the old works.

BOWERY.—The work of sinking on the shaft is all that is going on in this mine at present.

BNOOKLYN.—No change worthy of note. The vein in the winze maintains its size and average quality of ore.

HAVANA.—Drifting west from the bottom of the shaft. Ore the full width of the drift. Looks extremely well.

MONTANA.—Face of the drift in the 175 ft.-level in spar and quartz; making fair progress.

PORTLAND.—The sinking continues and a small qnantity of ore is heing taken out.

PIOCHE WEST EXTENSION.—A drift is being run to the south, a progress of 100 ft. having been already made.

VULTURE.—The shaft is all ore, some of a very high grade.

SPRING MOUNT.—The only work going on in the mine is the sinking on the shaft.

MAZEPPA.—Working the usual force of hands and sinking the main shaft.

THE CAROLINE MINE.—Pioche *Record*, Aug. 30: The Caroline lode was located in the year 1868, and is one of the very oldest locations in Ely Mining District. On Panaca Flat and vicinity there are only two locations of anterior date, viz: the old Panaca and Mammoth. The Caroline was located under the original mining laws of the district, which, as is well known, are somewhat different from the usual forms of location in the mining camps of the State, in separate locations of 200 feet each, thus: Discovery, 200 feet—No. 1, east. 200 feet; No. 1, west, 200 feet; No. 2, east, 200 feet; and so on. The property known as the Caroline Mining Company was purchased hy its present owners in 1872, and consists of the Discovery claim, No. 1 east and No. 1 west, 600 feet in all. The ledge on the surface is fully ten feet wide, and crops out boldly, being the only place on Panaca Flat where any croppings were to he seen. Assays of the croppings gave from $25 to $50 to the ton in silver. The original locators sunk a shaft 70 feet deep on the ledge on the Discovery claim, following the foot wall, which was principally shale and slate, the usual formation of the Flat near the surface. No material change in the character of the ore had occurred at that depth. The ledge dips to the southward at an angle of 80 degrees. Above the shaft, and lying against the hanging wall, there are two ft. of yellow decomposed ore, which has never heen drifted into. Extreme assays from this body of ore, on the surface, range from $80 to $174 per ton.

On No. 1 east, a shaft was sunk by the discoverers on the lsdge to the depth of forty feet. In this shaft the ledge showed even hetter than in the discovery shaft.

After the parchase of the property hy the present company, the ground waa surveyed and a perpendicular working shaft started, calculated to cut the vein at a depth of 350 feet. The shaft ia a double one, each compartment four hy four in the clear, thoroughly timhered, and in every respect an excellent and creditable piece of work. It was snnk with a windlass 225 feet, when the company concluded to erect hoisting works and open the mine on a larger sud more vigorous scale.

The hnildings comprise the main edifice, ample in size and substantisl in structnre, and a large hlacksmith shop, fitted np with every appnrtenanco for work ou a large scale. The ongine is of tweuty-five-horse power. Mr. Farrell, the engineer, informs ns that with the present machinery he can sink the shaft 1,000 ft., and from a depth of 800 ft. can easily bring to the surface 60 to 70 tons of ore per day.

Tho shaft is now down 250 ft., and making excellont progress, the ground heing favorahle for working. Within the last few feet they have struck into the quartzite, and another 100 feet will, undonbtedly, reach the ledge, when the probability of striking one of the richest deposits of ore ever found in Ely District is as near a certainty as anything can be that is yet unseen. Not a doubt exists in the mind of the Superintendent and owners of the Caroline that the rich body of ore struck hy the Newark in drifting up the hill is the Caroline ledge, and nnder the present efficient management the fact, if so, will soon be demon strated. They are working short honrs, and driving the work of sinking the shaft with all possihle speed. Ahout 650 ft. above ths hoisting works is the main tank of the Floral Spring Water Company, and it is the intentiou to shortly lay a pipe from the tank to the works, thsreby rendering the danger from fire absolutely *nil*. No hettsr prospects for a first-class mine exiets to-day in Ely District.

WASHOE.

BELCHER.—Gold Hill *News*, Sept. 6: The ore breasts on the 1000-ft. level are yielding splendidly. The ore stopes on hoth the 1200 and 1300-ft. levels are looking and yielding remarkahly well. The winze from the 1200-ft. level, 205 ft. from the north line, is down 32 ft., the entire distance in fine ore. The main south drift, on the 1300-ft. levsl, is in 335 ft. south of the north line, and still continues in good ore. The east cross-cnt from the drift is in 50 ft. in fiue looking quartz, with occasional spots of good ore. The south winze from the 1300-ft. level is down 56 ft., still showing good ore. The cross-cut west from the bottom of this winze is in 28 ft., the last 4 ft. in very rich ore. The main incline is down 70 ft. helow the 1300-ft. level, the rock in the bottom blasting quite hard, and the sinking making good progress. The station for the 1300-ft. level is opened, and a drift is being run to cut the ore body and connect with the main south drift from the Crown Point mine on the same level.

SUTRO.—Considerable work is being done on it at the present time, the proprietors expending their money freely in practically opening and testing their mine. They are sinking a new working shaft, which is now 90 ft. deep, in a fine ledge 5 ft. in width, assays from which run all the way from $12 to $100 per ton. It widens gradually as greater depth is attained, and when 10 ft. deeper, or 100 ft. in all, the company propose openiug a station and drifting on the ledge.

GOULD & CURRY.—Daily yield, 50 tons of ore, which is mostly extracted from the second and fourth station levels. The ore is hanled to the mills and reduced as fast as extracted. The cross-cuts east on the 1500-ft. level have developed quite a large body of low grade ore, which is gradually increasing in value as the development progresses. The body of ore recently developed in the east cross-cut from the main south drift on the 1600-ft. level, south of the incline, shows a gradual and very promising improvemeut. A considerable flow of water is coming from the face of the cross-cut, which has not yet reached the east clay wall. The east ore vein will undoubtedly be reached in a very short time.

CROWN POINT RAVINE.—From the main west tunnel at the 250-ft. level the company have drifted 90 feet south, the last 60 feet being in solid, hard-blasting quartz. This, as ascertained hy a cross-cut at this point, is 15 feet wide and assays from $3 to $74 per ton. It is as well defined a body or streak as has been found on the Comstock, and is very likely to lead into something much more extensive and valuahle. A drift, run north from the main west drift, is in ahont 50 feet, and judging from the stringers of fine looking qnartz met with and increasing as the drift goes ahead, the prospects are good of finding just as good a hody of metal-bearing quartz as is found in the south drift. Water gives little or no trouble, and the work goes ahead finely.

BALTIMORE CONSOLIDATED.—The main south drift at the first station is still driven energetically ahead, the face continuing in fair grade ore. Work on the second station is making fair progress with uo change of interest to note. No work is heing done in the face of the main drift at the third station at present. Both the north and south drifts from the main tunnel at that station are being pushed vigorously ahead, runuing nearly parallel with the course of the ledge. Cross-cutting the ledge from these drifts will he commenced in a very few days.

CROWN POINT.—Daily yield, 400 tons of ore. The north and middle winzes from the 1,400-ft. level are pushed steadily downward as fast as the decrease of water will permit, the hottom of both in good ore. The drain of water from the east cross-cuts from the main south drift on the 1,400-ft. level continues up to the full working capacity of the pumps. The main south drift at the 1,500-ft. level is heing driven

[Continued on Page 176.]

A Pertinacious Oak.

EDITORS PRESS:—Though not much accustomed to drawing, I have attempted to sketch a curiosity existing in my immediate vicinity.

It is a "Live-Oak Teee." A *live* oak tree; that is, an oak tree *alive*; though the entire top was cut off, and the "atuh" was deeply girdled with an axe in September or October, 1870; nearly three years ago. I send you my sketch herewith, and I also send you hy mail of same date, a green twig and half grown acorns, and a dry chip, each and all taken from the same tree.

The top is now over fifteen feet high and about ten feet across, and is a mass of limbs and green foliage, apparently as fresh and vigorous as any tree near it.

Mr. Zimry Haun, on whose farm the tree stands, assured me that he did the work with full intent to kill the tree. The top of the tree was cut up for firewood, and the stuh (ahout ten feet high) was deeply girdled before he left the ground.

Now, the chips taken from the girdling are, ae you see "hlack as your hat and dry as a hone." The hark has peeled from the lower part, several inches, as ahown in the drawing. The gap in the hark is at least one foot, and in some places much more than that.

The gash is from 1¾ to 4 inches deep, and the chips left in the bottom of the gash are, as you see, about four inches long.

I present this question to our Botanists. How does the Live-Oak tree grow? Is it endogenous or exogenous? Please illustrate and explain in your valuable PRESS, and send one copy to "Live Oak School," near Gilroy, for the benefit of the class in Botany.

The body of the tree is over two feet in diameter, and growing larger ahove the girdling; helow, the stump is dead and worm-eaten. A. S. DENT.

Live Oak School House, Aug. 23d, 1873.

We have caused to he executed an engraving which will very clearly illustrate the condition of growth of the tree above described. It is a curioaity, hoth as regarda ita appearance and the facta counected with its present condition and growth. We have seen the live-oak—as the California evergreen oak is called—when entirely denuded of all its limhs, and the clean stump left four or six feet high, throw out a perfect profusion of limbs as indicated in our engraving, presenting a rather heautiful appearance; hut we have never observed it where the tree was completely girdled, as in this instance.

We account for it in this wise: The limhs are simply from dormant buds, that, hut for the heading hack of the trunk of the tree, would never have been forced into growth. Its pertinacity in maintaining life is simply owing to the fact, that though the girdling was deeply made in some places, it was not so all around, the depth of the gash heing only 1½ inches, a part of the way. Now, the universally received theory of the motion of sap in trees is this: The sap rises wholly through the alhurnum or sap-wood, as it is called, and after being elahorated hy the leaves—which are the lungs of trees and vegetahles—descends hetween the alhurnum and the liher or inner hark, and forms a concentric ring or layer of new wood upon the preceding year's formation.

The evergreen oak of California has a large proportion of alhurnum or sap-wood, in distinction from the "heart wood;" and if this sap-wood is not entirely cut through in every part, hy the process of girdling, enough ie left to furnish the trunk with sap sufficient, not only to maintain life for two or three years, bnt to cauee a rank growth of foliage, and the more so from the fact that all the sap that does ascend ie kept ahove the girdle, causing a more than ordinary growth there, at the expense of that portion of the trunk helow.

Unless the girdle is grown over—as it sometimes is—in the course of three or four years, the tree usually dies, hardly any species of tree, except the willow and sycamore in some instances, heing ahle longer than that to maintain its vitality, after a deep girdling.

Variation in Animals.

All are familiar with the very important modificatione produced by crossing animals, and most people are aware that methodical eelection may also effect material changee in their characterietics. But the fact that nnconscioue or occasional selection will also eometimes produce most remarkahle results is not eo geuerally known.

One of the most remarkahle resnlts from unconscious eelection ie noticed by Darwin, as having oecurred in Masssachusetts, in 1791, in which an entirely new and permanent breed was suddenly and unexpectedly originated. Tbe record is given as follows: "A lamb wae born having short, crooked lege, and a long back, like a turnepit dog. From this one lamh the *Ancon*, a eemi-monstrous breed, wae produced, most remarkahle for ite power to trausmit its character. Its chief value arose from the fact that the Ancons could be easily enclosed, not being able to leap over even a very low fence. When crossed with other breeds they rarely assumed an intermediate character, their progeny closely resembling one or the other parent. They were also remarkable for keeping by themselvee and apart from other herds. Thie breed hae now, however, become extinct, having been supplanted hy Merinos.

Another instance of uuconscioue selection is found in the Manchamp variety of tbe Merino, which originated from a Merino ram lamb, on the Manchamp farm in France, in 1828, but which was first hrought into special notoriety at the Paris Exposition of 1851. The original ram wae remarkahle for ite very long, straight and eilky wool, very similar to the Cashmere. The animal itself wae aleo quite differeut in shape from the nsual Merino. Iu 1830, M Graux, the then owner of the farm named, ohtained by this ram, one ram and one ewe-lamb, posseseing all the characteristics of the aire. For several subeequent years careful eelection and "vigoroue weeding" wae attended to, nntil qnite a flock was produced. For two or three years the lambs were of two kinde, tbe one producing the curled, elastic wool of the Merino, only a little longer and finer; tbe other like the new hreed. At last, by care and skill, a flock was obtained combining the fine, eilky, fleece, with a emaller head, broader flanks and more capacions cheat than tbe Merino.

A REMARKABLE GROWTH.

The pure Manchamp wool is still songht for in the European market as a most deeirahle combing wool, by reason of its superior strength as well as the length and fineneee of its fiber. It ie employed to mix with the cashmere in the manufacture of shawls and other goods. It commands a price in the French market fully 25 per cent higher than the beet Merino.

Our attention has heen more particularly called to the ahove facts at this time from having been reminded of the very remarkahle fleece to which puhlic attention was called in this State eome two years ago, as having been found in a lot of ordinary wool eent to this city for grading and ehipment. This fleece, if we are not mistaken, presented very mnch the characterietics of the one taken from the animal from which the Manchamp breed was prodnced, and eo much interest wae manifested in it tbat efforts were made to ascertain from what particular locality it was received, with the view, if possible, of identifying the animal which produced it. The inquiry, however, wae unsuccessful. It ie more than probable that the animal which produced it may have been a eport of nature, eimilar to that which resulted, from after care and selection, in the Ancon or Manchamp breede.

These are examplee which California sheep breeders will do well to keep hefore them, as it is now well understood that the natural tendency of the climate of thie State ie to greatly improve the fineness and texture of wool. Indeed thie State poeeessee equal and perhaps greater advantages for the succeesful growth of fine and valuable woole than the lands from whence fine-wooled sheep are imported. It has been stated tbat there is a decided tendency here to eradicate in a great measure the peculiar featuree of ordinary stock, even without the care and attention nsually bestowed in crosebreeding, which etock-growere generally give. When eheep raisere have been hreeding for numbers only, it ia noticed that tbe wool of their flocks hae eteadily improved in quality and quantity, and there ie very little doubt that were proper care and attention given to tbe matter, important and permanent improvements in hreede might be attained, which, if possessed of valuable featuree, ought to be preserved.

In reference to the general laws of variation, tbe late Prof. Rowlandson, of this city, relates a somewhat remarkable case, which occurred some twenty-five years ago upon his own premises, in Ireland. He took from England to his farm in Irelaud, two very handsome Chinese sowe and placed them with a pure, black Neapolitan hoar; the progeny were many-colored, but chiefly a dun color, striped brown down the aidee, and similar to many varieties found native in the islande of tbe Pacific. He kept only a black eow which very much resembled the sire, and proved a remarkably fine animal, poeeessed of very acute inetincte—especially that of smell—in tbie and many other repects resembling the wild rather than the domesticated hog.

MANUFACTURE OF IRON.—The Portland (Oregon) *Bulletin* saye: "A company has been formed for the purpose of manufacturing iron from the ore found at Oewego; work has commenced already; and soon the old furnace will be in full blast. Five teams are engaged in hauling ore from the old Prosser mine in the furnace, and about one hundred men are employed in chopping wood for charcoal, and others are burning it, so that everything in the vicinity has an air of bustling activity to which it has long since been a atranger. The experiments made with thia furnace when it was first erected in 1867 proved that iron of the best quality, equal in fact to any produced in any quarter of the world, could he produced at much less cost thau the same material could he imported from Europe or the Atlantic Statee. Steel made here also had an excellent reputation in all parts of the coast, and was eagerly sought. If judgment is employed, the immense heds of ore in the vicinity of Oswego should he worked to advantage, as the metal yields about 56 per cent. of pure iron equal to the hest Ruasian or Swedish product. This enterprise, if once euccessfully inaugurated, would do much to attract attention to the great mineral resources of Oregon, and to hring capital here to he inveeted."

QUICKSILVER DISCOVERY.—Tbe Sau Bernardino *Guardian* says: A new discovery of quicksilver was recently made hy Mart Thomas and a companion. Tbe lucky discovery wae made by them while hnnting on City Creek, some six milee from tbis place. The mine is situated on the eide of the mountain, ahout a mile or a mile and a-half north of the old mine that wae discovered and somewhat worked a few years ago. It has all heen claimed, and the partiee interested are making arrangements to develop their hidden treasure immediately. Work, on the old mine alluded to, suspended when the ledge ran out, and Mr. Thomas eays he is satisfied it must have heen a slide from the main ledge, which, no douht, ie tbe one discovered lately. A party is to etart out to-morrow to examine it. We bope be will he thonghtful enough to put us down a few feet, if there is an opportunity.

Sonoma County Quicksilver Mines.

The rapid developments in our county in tbe ahove hranch of mining, eaye the Petaluma *Argus*, are attracting the attention of our exchangee and of the capitaliete operating in cinnabar minee, and we venture thie week to describe the location and extent of the minee and their prospecte, as learned from good authority.

The dividing line between Napa and Sonoma counties crossee the foothille of Mt. St. Helena about four miles from Calistoga, and the cinnabar indications first make their appearance here. The dividing line rune acroee the locatione of the Yellow Jacket Quickeilver mine, the larger portion being in Sonoma Co. This mine was discovered in April, 1873, and ie owned by James F. Stuart, Andrew J. Gove and othere in San Francisco. It hae heen worked constantly eince its diecovery, and hae commenced ueing its new furnace thie week. It has been worked slowly and is now on a paying basis, and the indications are favorahle for a very rich deposit. The first shipment of quickeilver in flaske took place on Monday last.

Quicksilver lies in chambere or depoeite, and appeare on the surface only where the opportunity occure for an eecape. By experte this is called a chimuey. An old saying and a true one is "Quicksilver epoute like the whale." Theee eecapee sometimes appear regularly once in every two or three thousand feet, and although often covered by the earth which has elid from tbe higher points, chimneys are eupposed to exist along a well defined ledge of cinnahar-indicating rock at the above mentioned distance apart. The ground located and being actually prospected is about one mile in width, and extends in a westerly direction eome twenty milee, and certainly promieee to he a very valuable tract of land.

Leaving the Yellow Jacket, a mile further westward we come to the Hasbrouck mine, on the ranch of Josiah Hasbrouck, of Knight's Valley. Thie prospect is high up on the mountain, and the metal ehows itself in a eolid facing of black, flinty rock, and eome of it ie exceedingly rich work, and ie being pushed rapidly toward future developments. The Little Beauty is the next location, and the owners are awaiting the resulte of the developments at the Hasbrouck mine before placing a force at work. This claim is owned by tbe ownere of the Yellow Jacket.

The indicatione between thie point and Pine Flat are all located, hut ae no developments of value have been made we will pase them hy for tbe present. Tbe firet location of preseut value after leaving Pine Flat ie the Laet Chance, owned hy W. P. Sutton, of Knight's Valley. Adjoining this is the Thompeon Mine, owned by the Thompson Bros., and here seeme to he the very center of the depoeits. Under tbe able management of Superintendent Clark the mine is developing into a nnmber one investment, and ie now being worked by Gen. Dodge, the San Francisco capitaliet, who hae bonded it for three monthe for a considerahle amount. Ore taken out the past month placee this mine upon the liet ae eecond in the district, and a moderate eetimate will place its ore in sight at very flattering figuree. The General has a etrong bond on that location.

Tbe Rattlesnake mine ie a deposit of native quickeilver, in globulee, in the rock. Oui informant eaw one panful washed, which yielded two pounde of quickeilver. It ie rich heyond deecription. The location ie owned by Meesre. Snow, McKay & Sleeper, who, during the paet week, were offered a hundred thousand dollare for the mine—a good offer for a few monthe' work. A flask, marked for Healdeburg, wae noticed near the tent occupied by the ownere, which they fill from quickeilver extracted by meane of a rocker in a pool of water, no roasting being required. Tbe cut in tbe hillside preeents a wonderful appearance. It is a eoft, gray rock, impregnated with an immense qnantity of theee globnlee, which are easily ehaken into the hand and run together nnperceived. Surely, if thie commencement ie bnt the entrance into a deposit of such metal, the Rattleenake will rank second to no mine on the coast.

Beyond the last-named location, and to the westward, are the Miseonri, Laet Ledge, Geyeer and Kentuck, all promising well. The ore extracted from the minee prospected in thie county ie very rich—the ores from the Yellow Jacket and Thompson's heing eimilar and hearing a marked reeemblance to the Almaden. The oldeet mine which has been eteadily worked is the Pioneer or Bell's mine, near the Geyeer road. Tbis hae heen worked, with paying reeulte, for over seven yeare.

A trip through the cinnabar minee well repaye for the tronhle, and tbey promise to become qnite an attraction for tonriete and mineral hunters.

BANKRUPT.—By ite Secretary, George R. Spiuney, the Mendha Silver Mining Company, of Nevada, has declared iteelf hankrupt. The company has a qnartz mill, reduction worke, and several mines located in the Highland Mining District, Nevada. The value of the mining property is repreeented by a cypher in the petition; hut the mill site is etated to be worth $20,000, and two eprings are valued at $50 each. Under the head of pereonal property the aesets are valued at $17,500. The debts so far ascertained amount to $80,000; bnt the Secretary avers that it ie impossihle to preeent the debi and credit halancee accurately in the meantime.

Useful Information.

Watering House Plants.

The English *Garden* is inclined to dispute the rule that water "should be given in moderately small quantities, and supplied frequently." If the causes of failure where plants are cultivated in windows were minutely investigated, the dribbling system of watering would be found to be the principal cause. A plant ought not to be watered until it is in a fit condition to receive a liberal supply of that element, having previously secured a good drainage, in order that all superabundant water may be quickly carried off. Those who are constantly dribbling a moderately small quantity of water upon their plants will not have them in a flourishing condition for any length of time. This must be obvious to all, for it is quite evident that the moderately small quantities of water frequently given would keep the surface of the soil moist, while at the same time from the effects of good drainage, which is essential to the well being of all plants in an artificial state, all the lower roots would perish for want of water, and the plant would become sickly and eventually die.

Brown Paint for Iron and Steel.—The following mixture forms an excellent brown coating for protecting iron and steel from rust. Dissolve two parts crystallized chloride of iron, two parts chloride of antimony, and one part tannin, in four parts water, apply with a sponge or rag, and let dry. Then another coat of the paint is applied, and again another, if necessary, until the color becomes as dark as desired. When dry, it is washed with water, allowed to dry again, and the surface polished with boiled linseed oil. The chloride of antimony must be as nearly neutral as possible.

A method of producing gum from the milkweed plant, and flax and other seeds, has been suggested. It consists in macerating and fermenting the substances, and then by evaporation reducing the resulting liquid to a thick, gummy mass. The gum thus obtained may be cheaply produced, and it is alleged to have many of the valuable qualities of rubber. It is insoluble in water, may be vulcanized with sulphur, etc. The price of pure rubber is now very high, and the discovery of an economical substitute is a matter of the greatest importance in the arts.

Oil from Hen's Eggs.—The healing properties in the new oil extracted from hen's eggs are said to be very great, and it can be easily made. First, the eggs are boiled hard; the yolks are removed, crushed and placed over a fire, where they are carefully stirred, and when the substance is just on the eve of catching fire, the oil separates, and may be poured off. One yolk will yield nearly two teaspoonfuls of oil. In the southern parts of Russia it is much used for curing cuts and bruises.

Washing Fluid.—Three tablespoonfuls soda, the same quantity of dissolved camphor (the same as kept for family use), to a quart of soft water; bottle it up, and shake it well before using. For a large washing, take four tablespoonfuls of the fluid to a pint of soap, make a warm suds and soak the clothes half an hour; then make another suds, using the same quantity of soap and fluid, and boil them just fifteen minutes, then rinse in two waters.

Red Brandy Ink.—The following recipe is from the *Druggists' Circular:* Cochineal, pulverized fine; cream of tartar; of each 2 oz. Mix, and add boiling water, 8 oz. Let stand for 15 minutes, then neutralize by adding carbonate of potash, one ounce. After the neutralization, add alum (powdered), gum arabic (powdered), of each, 1 oz.; starch 2 oz. Mix.

To remove iron mould in linen, wash the spots in a strong solution of cream of tartar and water. Repeat if necessary, and dry in the sun. Another method: Rub the spots with a little powdered oxalic acid or salts of lemon and warm water. Let it remain a few minutes and then rinse in clean water.

To Make Wall Paper Stick.—Make a pasto of flour same as you do for starch; do not let it boil. When cold apply to the paper with a brush, not having it so thick but that it will spread evenly over the surface, or so thin as to wet the paper through. Cheap paper is not so cheap at last as a little better paper.

Artificial Ivory.—Two pounds of pure India rubber are dissolved in thirty-two pounds of chloroform and the solution saturated with purified ammoniacal gas. The chloroform is then evaporated or distilled off at a temperature of 185° Fahr. The residue is mixed with pulverized phosphate of lime or carbonate of zinc, pressed into molds and cooled. When the phosphate of lime is used, the resulting compound partakes in a great degree of the nature and composition of genuine ivory, for we have the requisite proportion of the phosphate, and the India rubber, which takes the place of the cartilage; and the other component parts of the genuine article of little importance.—*Scientific American.*

To Preserve Clothes Pins.—They should be boiled a few moments and quickly dried, once or twice a month, when they become more flexible and durable. Clothes lines will last longer and keep in better order for wash-day service, if occasionally treated in the same manner.

Good Health.

The Health of Farmers.

The following true words from the *Science of Health* should be inscribed in letters of gold over every farmer's fireside: —"Farmers have unequaled natural advantages for health, strength and longevity. The statistics of disease and the tables of mortality, however, are against them. This is due not to their vocation, but to their misuse of it. No class, as a whole, is probably so utterly reckless of health conditions. So far as our acquaintance with the habits of farmers is concerned—and it has been extensive—it compels the conclusion, as a rule, that the dietetic habits of farmers are worse than those of any other class who have the means of choosing for themselves. Fried dishes several times a day, with several fried articles at each of the three meals, is one of their common abominations; dried beef, old cheese and pickles are among the common relishes, while lard and saleratus make their richer dainties indigestible and caustic. We have seen on a farmer's table, fried pork, fried eggs, fried potatoes and fried griddle cakes, for breakfast; fried ham, fried bominy and fried parsnips for dinner, and fried sausages and fried doughnuts for supper—all the frying done in lard. No class is so troubled with canker, erysipelas, tumors, cancers and bumors, as farmers; and the excessive use of pork, lard, fine flour, rich cakes and greasy pastry, is enough to account for it. In dietetic habits, our farmers are sadly misled by the agricultural journals, nearly all of which pander to their prejudices, and flatter their morbid appetites by recommending and commending swine breeding and pork eating, while they fill their kitchen column with receipts for making 'rich and palatable' puddings, pies, cakes and other complicated dishes, which no stomach ever carried inside a human body could long tolerate without death or dyspepsia. The essential need of our farmers is plain, wholesome food, properly cooked. This would give them much more available strength for work, relieve them of many of the distresses and expenses of sickness, add many years to their lives, and render old age 'green' and normal, instead of dry and decrepit, as it is in most cases under existing habits."

Sleep.

There is no fact more clearly established in the physiology of man than this, that the brain expends its energies and itself during the hours of wakefulness, and that these are recuperated during sleep; if the recuperation does not equal the expenditure, the brain withers—this is insanity. Thus it is that, in early English history, persons who were condemned to death by being prevented from sleeping, always died raving maniacs; thus it is, also, that those who are starved to death become insane; the brain is not nourished, and they cannot sleep. The practical inferences are these:—

First.—Those who think most, who do most brain work, require most sleep.

Second.—That time saved from necessary sleep is infallibly destructive to mind, body, and estate.

Third.—Give yourself, your children, your servants—give all that are under you, the fullest amount of sleep they will take, compelling them to retire at some regular hour, and to arise the moment they wake; and within a fortnight, nature, with almost the regularity of the sun, will unloose the bands of sleep the moment enough repose has been secured for the wants of the system. This is the only safe and sufficient rule; and as to the question how much sleep any one requires, each one must be a rule for himself. Nature will never fail to write it out to the observer under the regulations just given.—*Ex.*

How to Treat the Bite of a Mad Dog.

Dr. Stephen Ware of Boston, in his testimony in a recent case which grew out of the injuries from the bite of a dog, furnished the following valuable advice: In the case of the bite of a dog, where the teeth of the animal penetrated the flesh, whether the dog was known to be mad or not, he should use the same precautions. He would wash the wound with warm water, extract all the virus possible by sucking the wound with his lips, and then cauterize it deeply with the caustic most readily obtained; but should use potash if it could be procured at once. The time in which the effects of the bite of a mad dog would be seen varied from two to three days to as many years, but if no effects were felt after two or three months, as a general thing, the patient might consider himself safe. Bites made through clothing are seldom productive of much harm, as even if the dog is mad the clothing absorbs the virus before the teeth reach the flesh. Most of all the fatal cases are where the person was bitten on some naked spot. —*Ex.*

We can bear personal testimony to the truth of the closing portion of the above paragraph; for, when a child, it chanced to be our lot to be picked up by a mad hog, and so severely shaken that the prints of the animal's teeth were left upon our person so deeply indented as to cause a free effusion of blood. The virus was evidently removed from the teeth by the clothing with which we were covered. At least, a lapse of about fifty years has never shown any unpleasant consequences from the encounter, unless we except certain very infrequent occasions on which our blood has been badly stirred by the annoying visits of our "devil" for "copy" or the delinquency of subscribers.

Oat Meal in Drinks.

This is highly recommended by those who have tested it. One writer says: "Last Summer we attended a field trial of plows, and for a drink in the field we had buckets of cold water with oat meal stirred in, which we found to be both victuals and drink, and mighty refreshing." A Scottish medical journal also says of oat meal that in its raw state, when mixed with water, it is becoming a favorite dish. The brose of "Auld Scotland" is becoming a favorite dish—and we are glad to note this, because we believe it to be a healthy and muscle-forming commodity—by the hunters and trappers of the West who are substituting oat meal in this form for parched Indian corn. The same brawny fellows—whose powers of endurance are proverbial, whose scorn of fatigue is known to all readers of natural history—have found out that a very acceptable drink is made by putting about two teaspoonfuls of oat meal to a tumbler of water. This they—the hunters and trappers—aver to be the best drink they can use, and it is at once nourishing, unstimulating and satisfying.

Sunstroke — Its Prevention and Cure.—The following article was sent by a correspondent to the New York *Tribune:* "The true preventive of sunstroke will be found in the copious use of cold water, as it is also the best restorative after a sunstroke has occured. This sad affliction for humanity, so common every year in New York, is simply the fruit of carelessness. It is needless that it should occur. Take a handkerchief, dip it in cold water and wring it out. This placed in the crown of the hat, and its moisture renewed from time to time, will be found an effectual protection. A sponge would answer equally well, and would keep moist longer. Persons necessarily exposed to the rays of the sun in summer should drink a glass of water from time to time, and also bathe the hands and face in cold water. Were these directions generally followed, sunstrokes would be almost unknown."

Perpetual Paste.—The *Journal of Applied Chemistry* says: Dissolve a teaspoonful of alum in a quart of warm water. When cold, stir in as much flour as will give it the consistency of thick cream, being particular to break up all the lumps: stir in as much powdered rosin as will lie on a dime, and throw in half a dozen cloves to give a pleasant odor. Have on the fire a teacup of boiling water; pour the flour mixture into it, stirring well at the time. In a very few minutes it will be of the consistency of mush. Pour in into an earthen or china vessel; let it cool; lay a cover on, and put it in a cool place. When needed for use, take out a portion and soften it with warm water. Paste thus made will last twelve months.

Domestic Economy.

Succotash.—Sweet corn and Lima beans make the epicure's succotash, but string-beans are commonly used. Strip off the husks and silk from a dozen ears of sweet corn, and cut the grains off the cobs. If the corn is not very tender, chop as for green corn pudding. String a quart of green beans, and chop them into half-inch lengths. Put the corn and beans together into a quart of cold water or milk, cover them close, and boil gently until done. Usual time, three-quarters of an hour, but it is safest to test them. A few minutes before taking off the fire, add a teacupful of table butter, and salt and pepper to taste. Stir well together, let it boil up, then take the succotash out in a dish with as much of the liquid as may be desired. In place of butter, half a pound of nice corned fat pork may be boiled with the beans and corn. The pork should be first cut in very thin slices, and no additional salt will be required.—*Hearth and Home.*

To Can Fruit.—In the *Michigan Farmer* Mrs. Competent thus gives her process of canning: "While the fruit is being scalded put a gill or more of warm water in each can and fill up with hot; putting the rubbers and covers into hot water also. The fruit need not be cooked all to a mush or jam, but must be thoroughly scalded through. When sufficiently boiled, empty a can and fill—then another and another; a half dozen may be filled at once. Leave the can open a few moments, and the fruit will settle, leaving a space unfilled at the top. Cut thick writing paper in round pieces the size of the top of each can; slip one over the top of the fruit in each jar, and fill up with boiling juice reserved for the purpose, and put on the rubbers and covers and screw down at once.'

Unfailing Sponge-Cake.—Weigh one pound of fresh eggs in the shell, an equal weight of pulverized white sugar, half a pound of fine flour. Break the eggs, and beat separately the yolks and whites. We always, when practicable, have one person beat the yolks steadily the same length of time it takes another person to beat the whites until they stand up perfectly stiff and dry. Add the sifted sugar gradually to the yolks, then mix in the whites. Lastly, cream gently in the flour, and be sure not to beat at all afterward, or you will certainly spoil the cake. Grate in the peel of one lemon, and add also its strained juice; more, if the fruit is indifferent. Lemons are incomparably to be preferred as the seasoning for sponge-cake, but if they are not to be obtained, substitute mace.

Mixed Pickle.—One and one-half gallons of cabbage, 1¼ gallons cucumbers; 1 gallon green tomatoes; 1 gallon onions; 3 quarts green peppers chopped fine and pressed hard to extract the water. Before measuring, mix and put in a bag over night; next morning squeeze and press all the water that can be gotten from it, then prepare the seasoning; 1½ cups of ginger; 1½ cups black pepper; 1 quart white mustard seed; 1 pint grated horseradish; 1 tablespoonful cloves; 2 ounces celery seed; 4 grated nutmegs; mix together and then mix through the pickle. Take 3 gallons of apple vinegar, add 5 pounds of sugar, boil and pour over the mixture. Salt to taste.

A Nice Cake.—Take two cups of flour, one cup of sugar, two eggs, two-thirds of a cup of butter, one teaspoonful of acid, half a teaspoonful of soda (Horsford's Bread Preparation), half a cup of milk, one teaspoonful extract of lemon. Bake on Washington pie plates. Very nice.—*Massachusetts Ploughman.*

Ginger Cookies.—One cup of molasses, one-half cup of sugar, two-thirds cup of butter, one-half cup of water, one egg, two teaspoonfuls of saleratus, one-half teaspoonful of alum, one teaspoonful of ginger, flour enough to roll out soft. Bake quick.

Egg Plant.—Pare the fruit, cut it into slices a third of an inch thick, slightly salt the pieces and stack them upon a plate. In an hour or two they will have lost considerable water. They are then to be dipped in beaten egg, sprinkled with cracker crumbs and fried. Serve very hot.

Grapes for Winter Use.—Take ripe grapes, pick off from stems, wash if not perfectly clean, place in jar and cover with molasses. After two or three days seal over and tie them up tightly. For mince pies and seasoning in winter, they are delicious.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, Sept. 13, 1873.

Legal Tender Rates.—S. F., Thure., Sept. 11. – buying 89¼; selling 90.

TABLE OF CONTENTS.

GENERAL EDITORIALS. — Wooden Water Pipes; Suggestion to Millmen; Mine Swindles in Utah, 161. Variation in Animals, 166. Concentration of Ores; The State Fair, 168. Panamint Mines; Ross' Horizontal Mill; Sutter Creek Disaster, 169.

ILLUSTRATIONS.—Channel Ways, Scuppers, etc., to Catch Quicksilver; Wooden Water Pipes, 161. A Remarkable Growth, 166. Ross' Horizontal Mill, 169.

CORRESPONDENCE.—Notes of Travel in Lincoln County, Nevada; Little Cottonwood Mines, 162. A Pertinacious Oak, 166.

SCIENTIFIC PROGRESS.—Ozone—New Discoveries; Artificial Milk; Agassiz's Plan of Teaching at Penekese; Transplanting the Cornea, 163.

MECHANICAL PROGRESS.—The Railway of the Future; Steel Tires for Railway Wheels, Danks' Puddling Machine; International Bridge; Experiments, 163.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 164.

MINING SUMMARY from various counties in California and Nevada, 165.

USEFUL INFORMATION. — Watering House Plants; Brown Paint for Iron and Steel; To Make Wall Paper Stick; Artificial Ivory; To Preserve Clothes Pins, 167.

GOOD HEALTH.—The Health of Farmers; Sleep; How to Treat the Bite of a Mad Dog; Oat Meal in Drinks; Sunstroke—Its Prevention and Cure; Perpetual Paste, 167.

DOMESTIC ECONOMY. — Succotash; To Can Fruit; Unfailing Sponge-Cake; Mixed Pickle; A Nice Cake; Ginger Cookies; Egg Plant; Grapes for Winter Use, 167.

MISCELLANEOUS.—Treasure Hill, White Pine, 162. Quicksilver Discovery; Sonoma County Quicksilver Mines; Bankrupt, 166. Mineralogical Notes on Utah, California and Nevada; Cork Production and Manufacture in Spain; Robinson District; California Gold at the East; The Mullin's & Ryan Gravel Claim, 170.

THE SAN FRANCISCO FISH MARKETS.—Drs. Finsch and Linderman, of Bremen, who visited this Coast about a year ago, to examine into the condition and prospecte of the Pacific Coast fisheries, state, in their official report to the German Minister of Agriculture, that the cleanly and attractive manner in which fish are kept for sale in the mark ets of this city is worthy of the highest praise. They, however, see no present probability of the establishment here of extensive fisheries to compete with those of Northern Europe — and this although there is no lack of fish in the Pacific Coast waters.

THE MEXICAN GOVERNMENT has passed liberal laws to promote the mining interest, but the revenue officers are said to be continually embarrassing the execution of these lawe. One of these embarrassements is the prohibition to export ores when crushed or concentrated, and petitione from various mining districts are now before the Executive to have thie important point settled.

BOSTON FIRES — THE HUB. — A Baltimore gentleman, writing from Boston, accounte for the frequency of great fires in that city as folowe: "In the rapid whirl of events, the motion of the universe becoming accelerated, 'the hub' is evidently over-heated by friction; hence the nnmerous conflagrations." It may be aleo of interest to note that the said correspondent wae a clergyman.

THE Yale Scientific party with Profeesor Mareh, have left Salt Lake City, some of them coming here, and some going to Qregon. They will remain on this coast abont one mouth, and have already made eome interesting diecoveriee.

THE Rye Patch Mill shipped $2,500 on the 8th.

The U. P. R. R. Co. sold over 20,000 acree of land during July at an average price of $6.73 per acre.

Concentration of Ores.

The failure iu the past of a majority of the improved "Reduction processes," based upon a uee of chemical reageuts, which eeemed to promise good resnlts iu the working of "rebellious" ores, has disconraged capitalists from invcsting iu that very numeroue branch of mines, and has caused busineee men to lose their iuteresr in mining ae an industrial pursnit promising good returne. While in many cases theee ores are worked at the mine, yet after yeare of costly experimcnt the balance-sheet of profit and loss in the treatmeut of low grade and rebellious ores too often shows the balance on the wrong side of the acconnt, and the general public are apt to say "mining is played out." Yet there is not a thoughtful, well informed man in our community who doee not realize that the vast metallic wealth of gold, silver, copper and lead, of the Pacific Coast is as yet hardly touched by the miner'e pick, and that a commorcial proeperity based upon the production of bullion awaits ue iu the future. We have low grade mines innumerable, holding vast treasures, awaiting only some cheap process of extraction of the metallic values from the barren gangue. The questiou is before ue cbntinually, How can we make

These Base Metal Mines Profitable

which, though large in extent, have resietcd all attempts to make the mining of them pecuniarily profitable. We fully realize what vast amounts of hase metal and low grade ores are awaiting a process which will pay the miner a profit for his work, thereby not only benefitiug himself and hie locality but stimulating trade in all the great businees centers. We have watched with great interest the various inventions proposed and one method in particular seems destined to do much towards the desired end. That is concentration—the separatiou at the miues, of the metallic ore from the worthless gangue. This method avoids the reduction treatment or shipment of a large amount of worthless stuff, and concentrates the metallic value of ten, fiftcen or twenty tone of "rock" into one ton of pure metallic ore which can then be shipped to a market as a farmer ships his grain after separating it from the straw or chaff, Or it cau be treated in a reverberatory furnace, by chlorination, or if accompauied by sufficient lead, can he smelted. The qneetion of fuel will determine whether it ie cheaper to reduce or ship at certein localities. In a district embracing a nnmber of mines, a large concentration mill could do custom work for a number of small mines.

Air or Water to be Used.

Several forms of shaking tablee and jigging apparatus, each of which have reepective merite and which operate with water ae the separating agent, are in uee with more or lese efficacy upon a certain class of oree; but from the neceseity of employing water in their operatione their use must always be limited by the circnm stances of locality and season on thie coast. The great desideratum, therefore, seeme to be a simple, efficient ore concentrator, employing air instead of water ae the eeparating medium. The advantagee of air machinee over water are that they avoid, first, the great loee of the lighter sulphurets, which are carried off to a great extent by the water flow; secondly, the limited amount of ore subject to daily treatment by water jigs; thirdly, the absence of water in many localities rendering a large class of ores worthless from want ot concentrstion, while in a dry concentrator the supply of air being unlimited, concentration ie practicable in any locality at all seasons.

From the nature of the industrial law which always fnrnishes a remedy or snpply for every pressing need or demand, we have heen awaiting the invention of a concentrator, ueing air as the separating medinm, which ehonld be simple in construction, easily and cheaply operated, and with such rapidity of work and accuracy of separation ae to render the concentration of all classes of rebellious and low grade ore profitable. From the working resulte of a

Dry Ore Concentrator now in Operation

on a large scale in Star City, Nevada, it seeme as though the necessitiee of the mining commnnity were at last met. The invention is that of S. R. Krom, and is very simple in construction and operation, the principle upon which it accomplishes its results being that of the agitation of the cruehed ore by jete or puffs of air rapidly applied, by which, from the difference in specific gravity of the metallic portione and the rocky or earthy gangue, the heavier or metallic particles gravitate to the bottom of the ore-bed and are discharged by appropriate means, while the lighter gangue ie agitated (not merely blown) by the air-puffs to the top, and thrown off as waste or tailinge. One of these machinee is now to be seen at No. 105 First St., and on inquiry we learn that the following results have been accomplished in Star Cañon, Humboldt Co., Nev.

The mill ie a complete one, with Krom'e patent eteel crushing rolls and nine concentratore. Work wae hegun in the latter part of March, of this year, on ore from the De Soto mine. The ore contained about 3 to 5 per cent. of baee metal, principally antimony with zinc and lead, carrying $54.56 iu silver, in the form of black sulphuret. It would not amalgamate and wae too poor to work there, nor would it bear ehipment, beiug of eo low a grade, so it wae practicelly worthless. Water concentration was tried, but a large proportion of the sulphnrets were lost and the balance wonld not pay. The treatment by the Krom dry ore eeparating machinery gave the following results:

Assay value of orignal ore, per ton, before concentration	$54.56
Assay value of concentration of 25 to 30 tons (according to percentage of metal) into one ton by the Krom machines, per ton:	
Coarse sizing	1,200 00
Medium sizing	1,500 00
Fine sizing	1,662 00
Tailings, per ton (assay value)	$3 23 to 3 53

That is to say, the metsllic value of every twenty-five to thirty tous of ore (dependent npon the percentage of metallic ore coutained in the mass) was separated from the barren gangue and placed or concentrated into one ton of pnre metallic ore, while twenty-four to twenty-nine tons of barren gangue rock were thrown aside by the machine ae tailings, these tailinge containing the small percentage of $3.23 per tou, while the concentrated metallic portion contained respectively the value of $1,200, $1,500, end $1,662 per ton.

The cost of thns separating the valuable from the valueles ie less than $5 per ton on the gross number of tons. This cost ($5) includes royalty to inventor. The power required for the eeparating machinee is merely nominal, as one horse power operates eight of the machines, each of which separates a half-ton crushed ore per hour. The cost, therefore, ie principally iu the crushing of the ore. This ore was shipped to this city. Some two car loads of concentrations from other mines in the district arrived here a few daye since. This De Soto ore which at $54 in its natural etate, wae worthless, hy concentration was made to yield a profit of over $30 per ton above expenses of concentration and ehipment. The following satisfactory

Exhibit of Actual Working

Of the mill producing these concentrations ie given:

GROSS.

30 tons of ore, assay value $54.00 per ton, is worth	$1,620.00
Deduct loss of $3.23 per ton, 29 tons tailings...	93.67
Net value of concentrations from 30 tons of ore,	$1,526.33

EXPENSES.

Cost of concentration, or separation of 30 tons into one at $5.00 per ton	$150.00
Deduct 8 per cent. from assay value, 92 per cent. of the value heing received for the concentrations	122.08
Cost of shipment of ono ton of concentrated ore to Germany	75.00
Total cost of concentration and shipment	$347.08
Assay value of concentrations from 30 tons of ore	$1,526.33
Expenses of concentration and snipment and discount from assay value	347.08
Net returns from 30 tons of ore concentrated into one ton by the Krom machines	$1,179.25

Estimate the treatment of 40 tons daily (the full capacity of the Star Cañon Mill) of the clase or character of oree as above described and of similar value, and which hitherto have been utterly valueleee (and immenee quantitiee are everywhere found in the mining regions), no treatment whatever hitherto being of any avail, and we have a striking exhibit of absolute profits on hitherto worthless oree, which mnst claim the attention of every capitalist, mine-owner, and businese man, who is in the least intereeted in the bneinese prosperity of the Pacific Coaet.

Ae the mill referred to is now in daily operation in Star Cañon, working from 30 to 40 tone daily, the etatemente made can easily be verified by those interested. Mr. J. R. Nichols, formerly of the U. P. R. R., ie now engaged in putting np extensive concentrating worke in Salt Lake City, in which this process is to be nsed. The works will have a capacity of 50 tons per day.

The Figures Given

Are very encouraging, when we consider the vast amount of low grade ores capable of being made to yield bullion and add so immeneely to our commercial proeperity, the subject is certainly worthy of investigation, eepecially as it is asserted that the statemente given are not mere theoretical promises, but practical facts, based upon actual operations, on a large scale, continued for five months past at Star Cañon. The mill is run as a custom mill and is said to be etimulating mining and prospecting greatly, in that and adjoining districts. The minere now take a few tons of their low grade ores, haul them to the mill for concentration and realize immediately on the shipment of their concentrated ore, which is readily saleable, being of a high grade. They thue obtain ready capital for further development, without sacrificing their claims to capitalists for the necessities of life.

It will be seen at a glance that this method of

Disposing of these Low-Grade Ores

Will be facilitated by the erection of concentrating mills, similar to the one in operation in Star Cañon, in many districte. We have thoueands of mines at present worthless, not yielding a ton of ore, which, if a concentrating mill wae erected near by, would be worked by the miners themeelvee, ae they would be more independent of capital, relying on their own strong arms and energetic industry for the development of their claime. The concentrating mill of their district, working or pnrchasiug their ores, and thus yielding immediately a return for their labor, wonld benefit thie claee of men, and they would not be compelled to "prospect for grub," or aek favore of capitaliste.

Tho subject of the concentration of ores ie one of vital importance to all of ue on thie Coast, for onr low-grade ores, if worked, will sdd eo much to our prosperity. If the minere of eech district are afforded an opportnnity to concentrate their individual oree into that condition of metallic purity or freedom from worthlees gangue by which their ehipment ie renderod profitable, it is equivalent to the diecovery of just so many mines of high-grade ores. If we had a thousand or two minee on this Coast, each of them turning out from five to twenty tons of $300 or $1,000-ore daily, "dull times" would disappear immediately. If the many low-grade mines now idle were all at work, and the ore concentrated profitably in a proportion of ten or twenty tons of "rock" to one of metallic concentration, it ie eqnal to just so much high-grade ore from rich minee. The system of dry concentration now in operation in Star Cañon, claime to be able to produce thie much desired reeult in every locality and on all kinde of oree, the procese being a mechanical and not a chemical one, so there are not the contingencies of varying chemical combinations to interfere with its operatione. All that is needed ie a difference of one per cent. of specific gravity in metal and gangne, and a eupply of crushed ore. Natnre furniehes the separating medium—air—with equal bounty in the valley or on the monntain top, in winter or eummer. Water righte of course would amonnt to nothing, and no monopoly hae yet got hold of all the air. We have been shown epecimene of rock and concentratione worked by this machine, which attest ite capacity. Ite working is perfectly eimple, and we adviee onr mining friende to go and see it in operation. We shall endeavor to obtain euitable engravinge aud describe it to distant readere.

The State Fair.

This Fair, which will open on the 15th, and continue till the 20th inet., promises to be well attended, and our various producing intereste are expected to be fully represented. Among the inducements offered to farmers to send in their products for exhibition and competition, is the arrangement with the railroad and branches to have freight forwarded free for exhibition purpoees. Rates of fare will aleo be reduced one-half.

We learn that active preparations are being made. It is to be hoped that the Fair will be the success it should be rendered. To accomplish this result, it rests with the farmers of the State to furnish specimens of their choicest fruit, vegetables, etock, etc., and without their earnest efforts, to further the objects to be obtained by such comparieon and trial, the result will be unsatisfactory. Let the Fair be truly representative of the State.

THE first car load of bullion of 11 tons wae brought into Salt Lake thie week, from the Chicago Smelter at Rush Valley. It wae from the Chicago mine which wae recently eold to English capitalists.

RECENT developments at the Gooee Creek Mining District, twenty milee from Tecoma, on the Central Pacific Railroad, are said to be of a most extraordinary character, and are attracting much attention from mining men.

A GOLD mine in Australia, developed within the past year, recently had a cruehing of 53 tone of ore, which yielded $2,000 per ton. Why can't eome of onr proepectore here find one like it?

THE EUREKA Coneolidated Mining Co. have put in operation a diamond drill run by eteam, to prospect the mine. A number of boree are to be made, the cores being taken out and aseayed.

THE iron ore found at Butte creek, near Chico, can be laid down at the depot at Chico for $5 per ton. The *Record* eaye it yielde 80 per cent.

THE coal diecoveries in the weetern part of Amador county are looking well as far as prospected.

THREE men, in five days, dug ont $1,250 on Myrtle Creek, Cnrry county, Oregon, recently.

THE Raymond & Ely mine hae again etarted work, the injnnction on it having been raieed.

THE Placer gold from the Steetkin river ie worth $18 an ounce.

EUREKA shipped 2,432,592 pounde of bullion in Auguet.

The Panamint Mines.

A friend who returned this week from a trip to the Panamint mines furnishes us with some information concerning the new district which is of interest. The mines are in Inyo county, in this State, on the southeastern edge of the county, on the western flank of Telescope Peak, Panamint mountains. They lie on each side of a cañon running due west from the Peak, and at an altitude above the sea of about 6,000 feet. The cañon in which the mines are situated is about nine or ten miles long, and terminates in the Panamint Valley. From sixteen to twenty inches of water are now running down the cañon at the driest part of the year. There is at the mines an abundance of piñon wood for fuel, but none fit for making lumber. The route from this city to the mines is by railroad to Tulare or Tipton; then by stage *via* Kern River to Kernville and Walker's Pass, and across the mountains by stags to Owen's Little Lake. From Owen's Little Lake there are sixty miles horse-back riding to the mines, which lie directly east of Walker's Pass about one hundred miles.

As yet there are only about twenty men in the district, all practical miners and claim-holders. As the camp is quite young, very little work has been done, and developments are being made slowly. The formation is limestone. Some of the leads are described as cropping out from a quarter of a mile to two miles in length, and run from a "knife-blade" up to thirty feet in width. The surface of the country is such that some of the ledges are cut in places by deep cañons showing the veins from 200 to 300 feet below the croppings on the hills. One of the ledges—the Wonder of the World—shows croppings thirty feet in width, and, where a cañon has cross-cut it on the east side, 300 feet below, it is still the same width. The miners can run right in on the ledges with tunnels, in several instances, and while working on the vein all the time, will get under "grass roots" several hundred feet.

About one hundred claims have been recorded and a town site has been located. The characteristic ores of the district are a silver copper glance. Our informant showed us a number of specimens of different kinds of ore, most of which was argentiferous galena, though there were some chloride ores and a few pieces containing an abundance of native silver. The ores assay all the way between $50 and $250, some selected specimens running much higher. The expense of getting to these mines from this city is about $75. The climate there is good, but very warm weather may be experienced on the road, which is said to be a rough one. The country is perfectly wild and unsettled, with no game, however, except a few mountain sheep; but there is plenty of bunch grass for food for horses, etc.

Teamsters offer to haul freight from Panamint Valley to Los Angeles for three cents per pound, but at present it will cost from 3 to 5 cents. Machinery and everything will have to be packed on horses or mules for seven miles up the cañon, unless a wagon road is built. It is about the same distance to haul from Tipton as from Los Angeles, the only difference in freight being that charged to Los Angeles by water and Tipton by rail. It is expected that a mill will be put up in the district within a few months, but it will be a light one, made in sections for convenience in packing. Some of the ores will work by mill process, others again will necessitate the use of furnaces: there is plenty of fuel for the latter purpose. The men now in the district are staking out their claims, putting up boundaries, and doing some little work on their locations. All the claims taken up have been located under the new mining law, which gives 1500 feet in length and 150 feet on each side of the vein. The miners have taken every precaution to prevent future litigation, by being particular in their measurements and boundaries. Our informant thinks the mines are undoubtedly rich and valuable, but they will, like most others, require the aid of capital to develop them. The men now in the district are doing the necessary work to hold their claims, and hope for custom mills or furnaces, unless they can get capitalists to turn their attention that way.

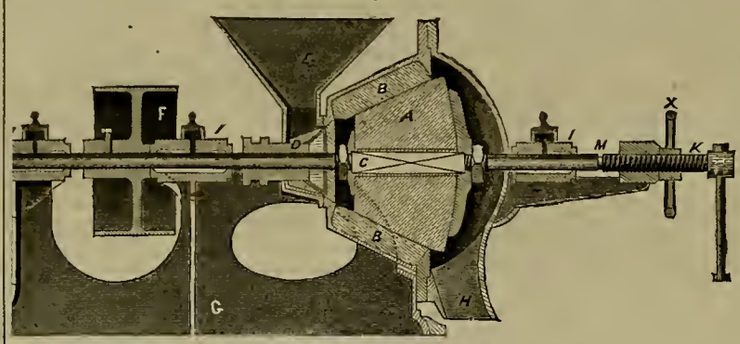
The Cornucopia mines are going to ship a quantity of ore to be tested by mill process. Dispatches from there deny that any Vigilance Committee has been formed, and there is little trouble from jumpers. There is a rumor that there will be a mill erected there soon, as is usually the case in all new camps. Miners are still going to the camp, though some are leaving.

Quicksilver is reported by dispatches from New York as having gone up to $1.12 a pound in gold.

Ross' Horizontal Mill.

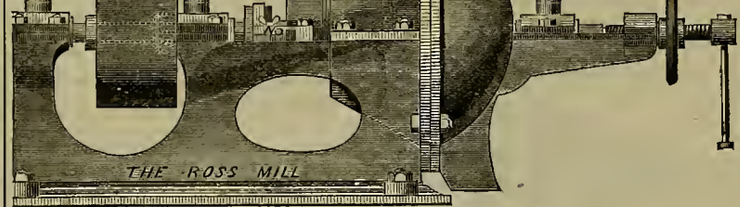
The accompanying engravings represent the horizontal grain mill, manufactured by Ross Brothers, Williamsburgh, N. Y. Figure 1 is a sectional view of the mill, and figure 2 the elevation. The manner of working is easily seen. *A* and *B* are French burr stones, *A* being set on a horizontal shaft, which rests on the bearings, *I, I, I*, and which may be regulated to counteract the effects of wear by the set-screw, *K*. The grain is fed into the hopper and passes through the passage, *D*, between the revolving stone, *A*, and the bed stones, *B, B*, and is discharged through the opening, *H*. The whole apparatus is made on a stationary bed-plate or frame, *G*. The rotary motion is given by the pulley, *F*.

In all the improvements in mills, with patent feeds, patent balances, patent brushes, etc., it seems the stone remains the same and is pre-eminent for grinding purposes. It is an old saying "there is nothing like leather," but the



SECTIONAL VIEW OF THE ROSS' MILL. FIG. 1

makers of this mill say when it is a question of grinding, there is nothing like the French burrstones and on this principle is this compact machine built. The bed stone *B*, is a concave surface of stone, fixed in a cast iron frame; the runner *A*, being a cone firmly secured to the spindle, the two surfaces being



ELEVATION OF THE ROSS MILL. FIG. 2.

fitted and faced to preserve a perfect uniformity or evenness in grinding,

The mills are made of various sizes and styles to suit every variety of business on a large or small scale. They grind grain, printers' ink, ivory black, coach colors, white lead and paints of all kinds, as well as drugs, spices, coffee and similar substances. The flour made by the mill is ground cool and dry and is said to keep sweet and sound indefinitely. There is an anxiliary mill made to grind middlings, which it is claimed will grind closer than any first mill can do. The horizontal mill is made to facilitate feeding, as grain and other substances feed well in this manner. The vertical mills are mainly used for grinding paint and other oily mixtures which press right down into the mill. They are on the same principle, the position of the stones only being reversed. The manufacturers claim that in fitting up any grinding establishment, fifty per cent. of cost and a large per cent. of running expenses may be saved by the use of this mill as it saves considerable power and grinds fine and fast. The price of a plain pulley mill without gears as stated in the manufacturers' circular are, for No. 1, $100; No. 2, $175; and for No. 4, $300. With gears they cost about $30 more. Mixers with Nos. 2 or 4, cost $30.

A company has been organized to work a hydraulic claim, near the head waters of the Santa Ana River, on the San Bernardino mountains.

The Lincoln Mine Disaster.

On the 5th instant a terrible disaster occurred in the Lincoln Mine at Sutter Creek, by which nine men lost their lives. The cause of the accident is thus stated in brief: The mine changed owners last winter, and the present Superintendent, S. D. R. Stewart, was told that the old shaft was but 270 feet in depth. They were running their level from the new shaft at a depth of 340 feet. The top of the old shaft is 27 feet lower than the new. Depending on their survey and the correctness of their information in regard to the depth of the old shaft, they supposed that they were running at least thirty feet below it and consequently did not take the same precautions to guard against accidents in approaching it that they would have done if they had been correctly informed as to its depth, which was something over three hundred feet. The mine had been closed since 1860. The *Independent*, the local paper, says that the morning shift had been lowered, and some were working on the 300 foot and others on the 500 and 600-foot levels. The two on the 300-foot level were drifting south and were expecting to strike into the old south shaft in about twenty or thirty feet, but found the air rather foul and became fearful that they were nearer the shaft than they anticipated. They kept on, however, and suddenly struck through, when a volume of foul air rushed in that drove them rapidly to the main shaft. The signal was sounded, but they could not be rescued in time. They then climbed the timbers about sixty feet, before the bucket was lowered. Mr. Horn, foreman, and another gentleman went down, and succeeded in getting the two men into the bucket, and on reaching the top they were like dead men from suffocation. Medical aid was at once summoned, and everything possible was done for the victim.

Superintendent Stewart was on hand, and, with the aid of Foreman Horn, did everything that human power could to reach the men on the two lower levels, but it was impossible to get within fifty feet of the 300-foot level. No lights would burn and the men came near suffocating. The water buckets were rapidly let down and raised, but no sign of the poor men below could be seen or heard. Twelve good men were dying, yet those above could do nothing. Six of the men were working on the 500 and six on the 600-foot level. Every effort was made to get the bad air out and rescue the men, but for some time without avail. At about 10 o'clock, on the night after the disaster, while the men were busy hoisting water from the mine so as to reduce its volume, in order to reach the lower level and search for the men, a bell was rung from below. On hoisting the bucket, a man came up with it, shouting as he came "I am all right, there are three more men alive down there!" The news soon spread and, as soon as possible, Mr. Horn, of the Lincoln mine, and Mr. Jones, of the Amador, went down the shaft and sent the three men up.

These men were in a living grave for 36 hours. Their graves had been dug, coffins made, grave clothes prepared and their friends mourned them as dead. They explain their miraculous escape as follows: At the time of making the opening into the old mine in the 300-foot level, from which rushed the foul air and water, six men were working on an *incline* in the 500-foot level, and the flow of water was so sudden that it filled the mouth or entrance of the level and thus shut out the deadly gas and prevented it from reaching them. They were literally buried alive, and the survivors remained in their living tomb for thirty-six hours. Before the water was lowered two of the men were drowned, in efforts to reach the shaft. Nine lives were lost by the disaster; seven by foul air and two by drowning.

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents.]

By Special Dispatch, Dated Washington, D. C., September 9th, 1873.

For Week Ending August 26th, 1873.*

Cobble-Stone Facing Machine.—Louis Dutertre, S. F., Cal.

Harness Attachment.—Engene Croughwell, Augustus Tillman and Edward L. Vanderberg, S. F., Cal.

Hydraulic Motor. — Wm. Walter, Arkada, Washington Ter.

Stamp-Mills. — Giles S. Olin, Deer Lodge, Montana Ter.

Candlestick.—Samuel D. Hill, Downieville, Cal.

Shaft-Coupling.—Wm. J. Silver, Salt Lake City, Utah.

Process for Softening and Toughening Blocks of Wood.—George W. Swan, S. F., Cal.

Fruit and Berry-Basket.—George W. Swan and Wm. Finch (said Finch assignor to said Swan), S. F., Cal.

Machine for Making Boxes.—Geo. W. Swan, S. F., Cal.

Bolt and Rivet-Machine.—Napoleon Beaursgard, S. F., Cal.

Laundry Stove.—James H. Mitchell, S. F., Cal.

Rotating Blanket Sluice for Washing Ores. —Wm. H. Patton, Oakland, Cal.

Mill-Pick.—Morgan N. Young, Kelseyville, Cal.

Windmill.—Harry H. Bodwell and Ephram A. Atwood, S. F., Cal.

Hand-Wagon. — Sylvester D. Scott, Eureka, Cal.

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*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

An Important Home Industry.

The strength and wealth of a nation are known by her manufactures, and the prosperity of a people is always indicative of the skilled artisan and mechanic turning the useless and crude material into articles of use and benefit to mankind. Referring to our industries, the glass works of our city call to mind one branch of manufacture that should be a source of great wealth and pride to our people. We have in abundance all the material, of a superior quality, lying at our very doors; skilled workmen and facilities for producing first-class products. The amount of glassware used upon our coast is sufficient, if of home manufacture, to build up and give employment to as great a number of people as any business carried on. Such business should be fostered and encouraged.

We have now in successful operation quite a large factory, that of the San Francisco Glass Works, C. Newman, proprietor, on Fourth street, which is employing regularly forty-five hands. Every operation directly or indirectly contributing to the completion of the finished product is carried on at these works. Here are made a great variety of glass carboys, bottles, viale, jars, dead lights, etc., which are coming more and more into use, as the wine-growing and other interests advance, thus proving the mutual dependence of the different industries. Some idea of the quantity of work turned out will be gathered from the fact that 6,000 vials and bottles are made daily, the company doing a business of $100,000 annually. There are several specialties here made, concerning which we are too limited in space to go into detail, such as Taylor's patent soda bottle, which is made with a vent hole in the neck by one machine, and filled at the soda water works by another, thus rendering it impossible for outsidere to steal the trade mark. Another is Newman's Patent Improved Imperial fruit jar, which is the most simple and effective jar now in use. Besides these, there are some hundred private molds. But any one who has had the pleasure of seeing a large glass factory in full blast will readily supply the minutiæ of the picture.

Mineralogical Notes on Utah, California, and Nevada.

[Concluded from our issue of August 80.]

Ulexite.

The boronatrocalcita of Ulax proves to be an abundant mineral iu Nevada and Arizona. Tha specimens of this species, which I hava examined, are from near Columbus, Esmeralda County, Nevada, whera it occurs in beds of considerable extent, mixed with sulphata of soda and gypsum. It is found in round masses, as large as the fist and larger, which, when broken, show the fine fibers of eilky luster, not to he distinguished from the *tiza* of Peru. This species, it is said, occurs abundantly in the Arizona desert, and also near Wadsworth, Nevada, much minglad with dirt.

Near Columhus, Nevada, they have likewise found larga quantities of borax diffused in the soil, and Prof. Price informs me (June 6, 1873), "that all the borax produced there is obtained by lixiviating the soil and crystalizing out the borax in the usual way. I have been informed by trustworthy parties that thay can manufacture at least forty tons of commercial borax every day; the difficulty is to find a market for so much."

About twenty miles west of San Bernardino, California, is the so-called "Cane Spring District," where ulexite is found over an area, said to be ahout ten milae in width by fifteen in langth. The surface of the ground is covered with efflorescent salts, commonly known as "alkali," beneath which the borax salts (chiefly *ulexite*) are found, at a depth of a faw inches, when they exist at all. As these "alkaline" wastes ara now attracting attention from the commercial importance attached to tha borax salts, we may hope to obtain yet other contrihutions of intaresting species. The saline salte removed in obtaining the borax salts recur agaiu after an interval of time, during which the process of solar evaporation in a rainless region bringe up by capillary action from a lower stratum fresh portions of the saline solutions. It is a fact long familiarly known to travelers in these desolate regions, that while tha lagoons, where any exist, contain only water too strongly salina to be drank, that wells sunk to a moderate depth in the saline soil afford water which can he used. This water is only a more diluta solntion of the sama salts, which on reaching the surface by capillarity, form the peculiar "alkali" incrustations of the desert.

Borax.

On the eastern slope of the Sierra Nevada, not far from Walker's pass, borax is found in what appears to he tha bed of an ancient lake, large crystals of tinkal having bean found in the hardenad mud, like the well known crystals of horax found in tha mud of Clear Laka in California. But by far the largast quantity of the borax exists with other salts, incorporated in a sort of indurated mud from which it is extracted by lixiviation.

I have examined several samples of this material which Prof. Prica has kindly sent me. One of them, by his assay, contains ahout half its weight in horax. It is a light clay-like looking body, with a strongly saline and alkaline taste, effervesces with dilute hydrochloric acid, and tiuges the flame of alcohol green. They ara all alike in reacting alkaliue, and for sodium, boracic acid, chlorine aud sulphuric acid. The portion insoluhle iu water is attacked by dilute hydrochloric acid with effervescence, and contains alumina, lime, a little ferric oxide and magnesia. Minute crystals of gypsum axist in some of them, hut no gaylussite, glauberite or boracita could be detectod. Similar daposits, containing borax, exist iu Panamit and Death's Valley in Lower Nevada, which desolate districts have yet to receiva a careful scientific examinatiou, for which, in Professor Price's opiniou, they offer an intaresting hut certainly not very inviting fiald. There are few parts of the earth's surfaca where human life and endurauce are more severely tsxed.

Chrysocolla.

This species, in specimens of unusual size and beauty, is found in a vein, or heavy deposit, of thirty to forty feet in thickness, in the railroad mining diatrict, Elko country, Nevada. Ahove ona hundred tons of it were sant last year to the Revere Coppar Company, whare it yielded 28½ par cent. of copper.

Compact Anglesite.

This variety of anglesita occurs in large quantitiea at the Union mines near Cerro Gordo, Inyo county, California, in an Alpiue region ahout twenty miles east of the Sierra Nevada mountaina, and at an elevation of mora than 8,000 feet above tide. Tha mineral vein, or ore deposit, occurs in limestone and makes its appearance on tha wast slope of the mountain (which rises some thousand feet or more higher thau the vein). It was indicated at surface by a few boulders or isolated masses of galena, which, on exploration, ran into a nearly continuous masa of galena, mixed with a reddish-brown sand colored by sesquioxide of iron, but without quartz or epigene speciea derived from lead. Singularly enough, the carbonates of lead occur *below* the anglasita, mixed with the latter speciss and with galena. At the depth of 600 feet from surface, the ore course is about fifty feet wide, the entire absence of water at that depth and above being a noticeable fact, in considering the paragenesis of species. Water ia brought by mules and Indiane from a distauce of soma milea, to supply tha hoisting machinary and other needs of tha mine, at a cost of 10c. per gallon, and is economized by a careful coudensation.

This anglasite often includes unchanged galena. It is of a gray to grayish yellow color, sometimes dark, or with seame of yellow covered with druses of small crystals of anglesite, which are quite colorless, brilliant and trsns-parent. The masses ara banded like agates. Its density is 6.08, and its pyrognostic characters are tbose of anglesite. It contains on an average of mining samples about 55 ozs. of silver to the ton of 2,000 lbs., which is materially less silver than is found in tha unchanged galena. The "bullion" (silver lead) of tbis mina as sent to tha market contains about 120 onuces of silver to the net ton. My informant for these economical facts is Mr. F. F. Thomae, a graduate in Arts and Science at Yale, who is iu charge of tha smelting works at these mines.*

Platinum and Iridosmine.

Since the pnblication (this Jour., v. 384) of my nota on the crystalline sands of the Cherokee gold washing in Butte county, California, I have obtained, through tha kindness of Mr. G. A. Treadwell, who at my suggestion gave the proper directions, samples of tha heavy sand, which accompany the "clean up" of the gold to the last stage of concentration before going into tha melting pot. These heavy sands I find to be largely composed of scalee of platinum mixed with yet more abundant iridosmine. When the adhering mercury and other foreign matters which disguise the trua character of the platinum residues are removed by a slight washiug in acid, the heauty of these speciea is seen, and it is quite easy to select each by the aid of a glass. A few minntes zircons and brilliant microscopic crystals of chromite (?) wera selacted from the sample of about 25 grams which I received. The search for laurite and the anomalous mineral believed by Dr. Genth to be new (this Jour. II, 246), which he described ae occurring among sands from California, in 1853, was not euccassful.

Mr. Glass, the resident manager, informs me that the platinum and its associate minarals ara quita abundant at Cherokee, but as the quicksilver does not amalgamata them they hava no means of escape from the mechanical force of the stream which washes away much the larger part, thus entailing a loss which thare is no means now known to prevent.

Platinum and iridosmina were very early observed in Califoruia hy Blake and others, amoug especially the sands of the eurface placers near the sea, on the northern coast and in Oregon. But I believe this is the first notice of their being found in the older deep placers now so extensively worked by the hydranlic process.

The "Black Sands"

of the Cherokee deep placer washings I find to ba composed chiefly of *chromites*. Tha magnet selects quite sparingly a few crystals and masses of *magnetite*, soma of them heing also strongly magnetic. An occasional mass of brown iron (*limonite*) occurs, giving off water in the tuhe, becoming magnetic by heat, and reacting ouly for iron. The eearch for *ilmenite* resulted iu finding only chromita, with its well-marked raactions, It is highly improbable but that ilmenite exists, but I have not yet after some time and much pains succeeded in finding it. Tha mass of sauds searched hy an exploring-glass, discloses eome other species hesides the abounding zircons, amoug which the most conspicuous is *rutile* in minuta prisms of a fine red color, transparent, sometimes doubly terminated, hut rarely compounded; 68 of these little crystals of rutile weigh only 58 milligrams; garnets, epidote, and a faw minute fragmente undetermined ara sparsely found. We may therefore enumerate the miueralogy of tha Cherokee washings, so far as known, as yielding gold, platinum, iridosmine, diamond, zircon, topsz, quartz in several varieties, chromite, magnetite, limonite, rutile, pyrite, almadine garnet, epidote. A further search on larger samples of the sands will undoubtedly reveal yet other species. The matrix which has furnished most of the species enumerated (the gold and platinum metals probably excepted), is probably syeuite, boulders of which are among the frequently recurring factors of the gravel mass.

Sands of the Arizona Deserl.

The search for "diamonds," "rubies," and "emeralda" in 1872, led to the sending of saveral expeditiona into Arizona and southern Nevada. I have had, by the kindnesa of Mr. Geo. A. Treadwell, an opportunity of examining a portion of the findinga of one of these parties, which explored a region about eighty-five miles northwest of Fort Defiauce in Arizona. The region is described as one of porpbyritic and other eruptive rocks. Tbe "rubiea" are garnets, somo of very fine color and good size, but wbether pyrope or common garnet, an analysis only can determine. Some, cut in San Francisco, which I hava seen, compare well in color and beauty with the Bohemian stones. The "emeralds" are chryaolite, too faint in color to ba used as gama. The "diamonds" are quartz, some opaliue, others hyaline, and all smoothly polished. Iu addition, I find the alalite variety of pyroxene, fluorite (white), magnetite, ilmenite, oligoclasa and jasper.

* The compact anglesite from Arizona, described by Prof. Brush in this Journal, (III, v, 421)is not distinguishable from the Cerro Gordo mineral.

THERE are 154 blast furnaces in Scotland, of which 120 are blowing, against 132 at corrasponding period last year.

Cork Production and Manufacture in Spain.

The cork tree is found in its wild state in the south of Portugal, Africa and Spain. In the latter country the preparation of the bark for foreign markets is one of the stsple industries, furnishing labor and subsistence to a large proportion of the inhabitants.

The traa is a peculiar kind of oak, and the cork is tha soft cellular bark, lying just inside the exterior woody covering. It is removed by making several longitudinal clafts up and down the trunk, and then girdling the latter with horizontal incisions. The operation is not performed, however, until the tree has attained a cartain age, generally fifteen years, and the first crop is employed only for inferior purposes. Saven years afterwards the tree will have another coating of bark, which is stripped and used for making corks, and so on every five to seven yaars, according to the quality of the ground. Tha tree does not suffer from tha process of scraping, and it is said generally lives from one to two hundred years.

Between the cork and the trea there is another bark that is used for tanning; but this is only removed when the tree is cut down. It is a curious fact that if any portion of this inner coating be destroyed, further formation of the cork on tha injured spot ceases. After tha layers of the cork are stripped, they are inspected and assorted, according to their sizes and quality, those of the finest texture being of tha greatest valne. The inferior portions are genarally sorted ont, their crust burnt off and sold mostly for floats, thus receiving the nama of fishing cork. The better qualities are first boiled and scraped, and then blackened over a coal fire, the object being to maka the surface smooth, and at the same tima to conceal flsws. Some varieties, generally the best, are faced in ordar to exhibit the finenss of thair texture. After being forwarded to the warehouses, the largest slabs are cut into pieces of about three and a half feat in length, eighteen inches iu width, and ranging from one-half inch to three inches in thickness. Drying and packing in bales weighing one hundred and fifty pounds each follows, and the oork is ready for exportation.

From five to twenty-five cents per pound is tha usual prica paid by the cork cutter in America for the rough material as it arrives in tha bala. It then undergoes another assorting, and thorough steaming, in a chest designed for the purposa, the latter process softening tha cork, and rendering it easy to cut. To divide tha substance special machinery is employed. Rapidly revolving circular knives are used, which cut hy a drawing motion, as crushing strokes simply break the cork or causa it to crumble. The workman sitting in front of tha machine plsces a piece of cork of suitable size in a revolving spindla by which it is firmly held. The spindle is raised a measured distance, and the edges of the cork come in contact with the rotating knife, which smoothee them off and leaves its work in a parfectly cylindrical form. Another method is to place tha rough bits of cork in grooves on the circumferance of a wheel which, working automatically, carries each piece to a point where its ends ara received hy a small latha. The cork is then revolved slowly whila a large circnlar knife removes a thin shaving, thus giving it the necessary tapar, and a surface as true and smooth as if sand-papered. As fast as the cork is finished by the automatic lathe it is released and another substituted in its place.

Every portion of the material is utilized, either as stuffing for cushione or life presarvers, or as a non-conducting substanca for placing between walls or floors of buildings to deaden sound.

Robinson District.

In conversation with D. T. Elmore, superintendent of the Watson Silver Mining Company at Mineral Hill, Robinson District, we were informed that everything out his way looks prosperous, and promises of a large camp are abundant. The Hayes Company's mines still contiuue to show large bodies of free milling orea, aud, as depth is attained, no decrease in quantity, and a decided increase in quality is apparent. Tha mill under process of eraction by the Watson Company, is rapidly approaching complation, and will soon be ready for a start. The pans, settlers, and engine are all in position, and, we are informed, that as soon aa posaibla a start will be made without awaiting the completion of the building over the works. It is intanded to maka the firet run on the rock of the Hayes Company, and every confidenca is entertained of aucceas in working. A great deal of the future of Robinaon aud contiguous districts depend upon the result of tha working of this mill, and when it is damonstrated beyond a doubt that the ores abounding so plentifully at this locality can be successfully worked, a rush of capital will surely be the result, and Mineral City vie with auy camp in Eastern Nevada as an ore producer. It is surmised that the Canton Company will shortly build a mill to replace the furnace now lying idle, and, should such be the fact, with tha enormous qnantities of ore in sight, and on the dumps at their mines, an additional impetus wonld be given the district. We are aware of several partiea having means at their command, who are simply awaiting the result of the workings of the Watson Company's mill, to at once commence operations on other properties there. With tha larga agricultural intareste around and about Mineral City, nnited with the mineral products of tha vicinity, a town second in aize to none in Eastern Nevada may safely ba predicted the coming year.—*White Pine News.*

California Gold at the East.

The sum of $2,000,000 in gold coin arrived on the 19th ult. at the Sub-Treasury, in New York, having heen forwarded by express from the San Francisco Sub-Treasury. According to the usual method of reckoning tha weight of gold coin, says tha New York *Post*, the weight of the amount was about four tons. When gold is shipped in tbe ordinary mauner, in kegs of $50,000 each, it is customary to consider $500,000 equal to a ton; but as the iron-bonnd oaken kege form au item in tha estimate, the net weight of the gold is somewhat less. When the law for the recoinage of all gold pieces which had suffered from abrasion had been partly carried into effect, the Aesistant Treasurer at Boston notified the Treasury Department that he had more gold than he needed, and a considerable amount was therefore sent from Boston to New York. Mr. Aehley, the chief of the coin division in the Sub-Treasnry here, says that he supposes tha Department is carrying out tha sama policy in regard to Ssn Francisco, this being the only city where the Govarnment needs to keep gold in large quantities for mercantile purposes.

The $2,000,000 sent from here was packed in twelve strong iron chests, each about two and a half feet in length by sixteen inches in breadth and depth. The gold, which consists entirely of doubla eagles, was in stout canvas bags, one hnndred in number, each containing $20,000. Every hsg bore a seal sffixed by the Assistsnt Treasurer at San Francisco, and each of the chests had three combiuation locks, which the Assistant Traasurer secured. The explanstion of the combination was sent to Assistant Treasurer Hillhouse, of Naw York, in two instsllments, one by mail and ona by express, so that if either fell into wrong hands it would afford no information. The treasure was hrongbt overland from San Francisco by tha Adsms Express Company, which was responsible to the Government for its safety. Tha car containing it was guarded by uine armed men. On the arrival of tha gold in New York it was carried in express wagons to the Sub-Treasury, where the chasts, weighing between 600 snd 700 ponnds apiece, were placed on trucks snd rolled into the coin division.

The bags wera than amptied and the contents of aach counted by weighing. The exact weight of $20,000 in gold coin being known, the absence of a single pieca would he instantly detacted. About $1,000,000 of the amount was fresh from the mint, and this it was necessary merely to weigh. The rest, having been in circulation, must be examined piece by piece to see that avery one is genuine. So larga an amount of gold is rarely received at tha Treasury at ona time. Thesa trips are in pursuance of a distinct policy of the Treasurer, by which the greenhacke ara expected to ba brought into general circnlation thera, and gold coin enough will be accumulated on this side to meet any emargency which may arise from gold or other combiuations. Soma criticism has been msde of tha sending of special mesengers on such trips, but, for a long distance, it is found chaaper to do this than to send hy express.

THE MULLIN'E & RYAN GRAVEL CLAIM.—The Calaveras *Citizen* says that this claim, situsted on Central Hill, has been worked for over seven years, during which tima a tunnel bas been run 1200 feet in search of the lead, but until lately without success. After spending all their means in what seemed to ba a wild goose chase, tha proprietors—Meesrs. Mullins Ryan, and the Harkin's Bros.—stopped work. Ona of the partners went to Oregon, ona to San Francisco; and, although the other two stayed here, they were unable to make any headway in opening the mine. This was the condition of affairs when Mr. Dyas bought one-half of the claim, soma three or four montha ago. Already had $50,000 been expended in searching for the lead, aud the proapect was indeed gloomy. Notwithstanding this, after Mr. Dyas had made a careful survey of the ground, he came to the conclusion that the laad was there, and that he could do what others had failed to do—find it. With an expectation that it would be a work of time and necessitate the investment of conaidarable filthy lucre, he made the veuture. And now comes tha atrange part of tha story. Under Mr. Dyas' management, the tunnel had not been driven ovar four feet, whan the lead was fouud and gold was visible in the gravel on all aides. They had atruck tha famous Blue Lead, one of the "daad rivers" of California, and in which haa been found some of the bast paying claims in the State. There has been no claim struck in Calavaras for yaars which will compare in richness with this. The claim is 800 feet in length, and the pay-streak is 110 faet from rim to rim, with a thickness of saven feet independent of the crevicea, which are abundant. The claim will undoubtedly last for yeara, adding much to the prosperity of our county, and encouraging others to venture their capital hera, and it is just as true that had it not been for Mr. Dyas' confidence in our mines, in all probability the lead would naver have been discovered. Ha haa had extraordinary good luck in both quartz and gravel mines in this county, and is doing much toward davaloping its rasources. We wish him a continuation of his present success.

Laws Concerning Corporations.

[Under the New Code—January 1, 1873.]

GENERAL PROVISIONS APPLICABLE TO ALL CORPORATIONS.
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AND
HALL OF RECORDS.

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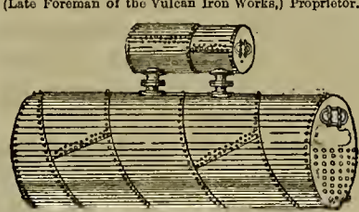

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MENDOCINO, Sept. 3, 1873.

Messrs. DEWEY & Co , Patent Agents and Publishers, San Francisco.—Gentlemen: The official Patent Office receipt arrived satel y, and yon have my thanks for the prompt and satisfactory manner in which yon have transacted the business. B. H. WILLIAMS.

San Francisco Metal Market.

WEDNESDAY, Sept. 10, 1873.

IRON—			
Scotch Pig Iron, ₰ ton	$52 50	@	— —
White Pig, ₰ ton	52 50	@	— —
Refined Bar, had assortment, ₰ lb	— —	@	— 4
Refined Bar, good assortment, ₰ lb	— —	@	— 4½
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 5	@	— —
Other Irons for Blacksmiths, Miners, etc.	— 5	@	— —
COPPER—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O. Nlet's Pat	— 55	@	— —
Sheathing, ₰ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES—			
Plates, Charcoal, IX ₰ box	14 00	@	14 50
Plates, I O Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₰ lb	— 40	@	— 42½
STEEL.—English Cast, ₰ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 15	@	— 17
ZINC	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5¾	@	— 3

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

Leather does not change in price, though inqnlries are more frequent of late. That qnotations are hardening is evident. The trade has been expecting a change for the better for some time, without realizing it as yet, bnt now appearances are more favorable thau they have been for a long while.

City Tanned Leather, ₰ lb	26@29
Santa Cruz Leather, ₰ lb	26@29
Country Leather, ₰ lb	25@23
Stockton Leather, ₰ lb	25@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 19 Kil., per doz	66 00@ 55 00
Jodot, second choice, 11 to 16 Kil. ₰ doz	55 00@ 70 00
Cornellian, 12 to 15 Ko	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	68 00@ 72 00
Beaumerville, 15 Kil	60 00@ —
Simon, 18 Kil., ₰ doz	60 00@ 62 00
Simon, 20 Kil. ₰ doz	65 00@ 67 00
Simon, 24 Kil. ₰ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₰ lb	1 00@ 1 30
California Kip, ₰ doz	40 00 to 60 00
French Sheep, all colors, ₰ doz	8 00@ 15 00
Eastern Calf for Backs, ₰ lb	1 00@ 1 25
Sheep Roans for Topping, all colors, ₰ doz	9 00@ 13 00
Sheep Roans for Linings, ₰ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 4 50
Best Jodot Calf Boot Legs, ₰ pair	5 00@ 5 25
Good French Calf Boot Legs, ₰ pair	4 00@ 4 75
French Calf Boot Tops, ₰ pair	4 00@ — —
Harness Leather, ₰ lb	30@ 37½
Fair Bridle Leather, ₰ doz	48 00@ 72 00
Skirting Leather, ₰ lb	34@ 37½
Welt Leather, ₰ doz	30 00@ 50 00
Buff Leather, ₰ foot	19@ 22
Wax Side Leather, ₰ foot	17@ 19
Eastern Wax Leather	—@— —

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well-constructed model is generally first needed, if the invention can well be thus illustrated. It mnst not exceed 12 inches in length or hight. When practicable, a smaller model is even more desirable. Paint or engrave the name of the article, and the name of the inventor, and his address npon it.

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Also send $15 currency, amount of first fee of the Government. The case will be placed on our regular file, the drawings executed, and the documents made np, and soon sent to the inventor for signing.

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September, 1873.

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Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Alpine Gold Mill and Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Pnckerville Mining District, Amador County, Cal.

NOTICE.—There are delinqnent upon the following discribed stock, on account of assessment, No. 5, levied on the 21st day of Jnly, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Banks, T C	41	100	$50 00
Felton, C N	25	100	50 00
Gashwiler, J W	28	100	50 00
Gashwiler, J W	32	250	125 00
Ives, G J	30	50	25 00
Lnther, T M	26	100	50 00
Richardson, E A, Trustee	1	500	250 00
Richardson, E A. Trustee	2	500	250 00
Richardson, E A, Trustee	3	500	250 00
Richardson, E A, Trustee	4	500	250 00
Richardson, E A, Trustee	5	500	250 00
Richardson, E A, Trustee	6	500	250 00
Richardson, E A, Trustee	7	500	250 00
Richardson, E A, Trustee	9	500	250 00
Richardson, E A, Trustee	10	500	250 00
Richardson, E A, Trustee	12	500	250 00
Richardson, E A, Trustee	13	500	250 00
Richardson, E A, Trustee	14	500	250 00
Richardson, E A, Trustee	15	500	250 00
Richardson, E A, Trustee	16	500	250 00
Richardson, E A, Trustee	17	500	250 00
Richardson, E A, Trustee	20	500	250 00
Richardson, E A, Trustee	34	50	25 00
Bichardson, E A, Trustee	35	50	25 00
Richardson, E A, Trustee	36	50	25 00
Richardson, E A, Trustee	38	100	50 00
Richardson, E A, Trustee	39	100	50 00
Richardson, E A, Trustee	42	100	50 00
Richardson, E A, Trustee	45	250	125 00
Richardson, E A, Trustee	46	250	125 00
Bichardson, E A, Trustee	47	200	100 00
Bichardson, E A, Trustee	48	50	25 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of Jnly, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 438 California street, San Francisco, California, on Wednesday, the 17th day of September, 1873, at the hour of 1 o'clock P. M. of such day, to pay the delinqnent assessment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary.
Office, No. 438 California street, San Francisco, California. an30

California Silk Manufacturing Company—

Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of August, 1873, an assessment of Five Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at his office, No. 569 Market street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the first day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. D. M. BOKEE, Secretary.
Office, 569 Market street, San Francisco, Cal.

Confidence Mining Company—Location of

principal place of business, San Francisco, Cal. Location of works, Tuolumne county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the fourth day of August, 1873, an assessment (No. 1) of one dollar and seventy-five cents ($1.75) per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the fourth day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors. H. HAMPTON, Secretary.
Office, 217 Sansome street, San Francisco, Cal. an5

The Confidence Mining Company—Li

cation of works, Tuolumne County, State of Ca. fornis.

NOTICE.—There is delinquent upon the following d scribed stock, on account of assessment (No. 1) levi on the 4th day of August, 1873, the several amounts s opposite the names of the respective shareholders s follows:

Names.	No. Cretificate.	No. Shares.	Amoun
H E Halsey	8	100	$175
J L de Pourtales	9	200	350
H Hampton, Trustee	32	250	437
H Hampton, Trustee	37	100	175

And in accordance with law, and an order of t Board of Directors, made on the 4th day of Augus 1873, so many shares of each parcel of such stock as ma be necessary, will be sold at public auction, at the offi of the company, on Monday, the 22d day of Septembe 1873, at the hour of 12 o'clock, M., of said day, to pa said delinquent assessment thereon, together with cos of advertising and expenses of the sale.

H. HAMPTON, Secretary.
Office—217 Sansome Street, San Francisco, California se6

Notice—The Annual Meeting of th

Stockholders of the Cerbat Consolidated Gold and Silve Mining Company for the election of Trustees for the en suing year and the transaction of such other business as may properly come before the meeting will be held o Monday the eleventh day of August, 1873, at the office o the company, 507 Montgomery street, San Francisco, Cali fornia, at 1 o'clock, P M.

jy25td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby post poned thirty days, at the same place and hour.

T. E. JEWELL, Secretary.

Day Spring Gold Mining Company—Lo

cation of principal place of business, city and county of San Francisco. Location of works, Kelsey Quart Mining District, El Dorado county, Cal.

NOTICE.—There are delinqnent upon the followin described stock, on account of assessment levied on th Fourth day of August, 1873, the several amounts se opposite the names of the respective shareholders a follows:

Names	No. Certificate.	No. Shares.	Amount
Thos G Maguire	20	250	$12 5
Wm J Boiley	Unissued	500	25 0
Benj Morgan	Unissued	500	25 0
A C Rand	17	500	25 0
Danl S Shuts	Unissued	500	25 0
Wm C Pease	Unissued	500	25 0
Mrs T J Bass	Unissued	500	25 0
H Carlton, Jr, Trustee	3	600	25 0
John Lipp	Unissued	500	25 0
Arthur W Moore	Unissned	500	25 0
D R Coleman	Unissned	500	25 0
C J C McAllister, Trustee	16	980	49 0
C J CMnllenbrinck	Unissued	500	25 0
James Wightman	Unissued	500	25 0
Peter Craig	Unissued	500	25 0
H Maxie, Trustee	11	300	15 0
T H Maxie, Trustee	12	100	5 0
T H Maxie, Trustee	13	70	3 5

And in accordance with law and an order of the Board of Directors, made on the 4th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public anction, by John Middleton, auctioneer, at his office, No. 310 Montgomery street, San Francisco, Cal., on the first day of October, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. F. BROWN, Secretary.
Office, 302 Sansome street, San Francisco, Cal. s13

Eureka Mining and Smelting Company—

Principal place of business, San Francisco, Cal. Location of works, Eureka, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. P. BEACH, Secretary.
Office, 217 Sansome street, San Francisco. au23

Excelsior Silver Mining Company—Prin-

cipal place of business, 640 Washington street, San Francisco, Cal. Location of works, Yellow Pine District, Nye County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 18th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ashley, S J	174	50	$22 50
Bulletti, C	21	100	45 00
Bulletti, C	84	50	22 50
Bulletti, C	111	100	45 00
Bulletti, O	110	100	45 00
Baidwin, M M	175	50	22 50
Burke, E	175	50	22 50
Boden, John H	178	50	22 50
Catanich, Peter	179	100	45 00
Cadenasso, G	83	50	22 50
Cadenasso, G	not issned	230	103 50
Docato, Joseph	193	25	11 25
Ferrete, G	163	50	22 50
Ferrete, G	198	50	22 50
Ferrette, G	199	180	81 00
Grosette, John	46	100	45 00
Gorman, John	not issued	280	126 00
Gabrielle, A	185	50	22 50
Henderson, James	14	25	11 25
Henderson, James	43	20	9 00
Henderson, James	107	20	9 00
Henderson, James	127	100	45 00
Henderson, James	not issued	115	51 75
Henderson, Edward	15	25	11 25
Henderson, Edward	30	20	9 00
Henderson, Edward	106	20	9 00
Henderson, Edward	128	100	45 00
Henderson, Edward, not issued		115	51 75
Hicks, Thomas	209	280	126 00
Jackson, Walter	not issued	280	126 00
Jury, Louis	not issued	280	126 00
Lauricelle, Raffelle	121	300	135 00
Larkin, Frederick	183	25	11 25
Larkin, Frederick	207	75	33 75
Larkin, Frederick	208	180	81 00
Linari, G	194	25	11 25
Linari, S	195	25	11 25
Macamy, G	not issued	280	126 00
Marchella, D S	197	50	22 50
Macey, Albert	22	25	11 25
Macey, Albert	not issued	255	114 75
Murray, Wm	28	10	4 50
Magueral, S	151	25	11 25
Magueral, S	205	75	33 75
Magueral, S	206	180	81 00
Malatesta, N	196	50	22 50
Maggio, F	192	25	11 25
Onesti, G	188	125	56 25
Onesti, G	not issued	155	69 75
Pardini, N	182	50	22 50
Pardini, N	not issued	230	103 50
Penella, G	85	100	45 00
Reade, William	167	50	22 50
Reade, William	168	50	22 50
Reade, William	203	180	81 00
Robinson, T B	172	50	22 50
Robinson, T B	173	50	22 50
Bittori, A	181	50	22 50

ames.	No. Certificate.	No. Shares.	Amount.
), A.....not issued	290		103 50
estri, A.....191	25		11 25
estri, A..... ..not issued	255		114 75
ster, C J.....183	100		45 00
iting, Henry H.....190	100		45 00
iting, Henry H...not issued	180		81 00
th, A.....16	25		11 25
th, A.....177	50		22 50
th, A .....not issued	205		92 25

d in accordance with law, and an order of the Board of Directors, made on the 18th day of July, 1873, many shares of each parcel of said stock as may be ecessary, will be sold at public auction at the office of Company, No. 640 Washington street, San Francisco, Cal., on the 20th day of September, 1873, at the hr of 8 o'clock P. M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.
ffice—640 Washington street, San Francisco, Cali-
nia. ag21

Euitable Tunnel and Mining Company—

incipal place of business, No. 35 New Merchants' Exange, San Francisco, California. Location of works, lta City, Little Cottonwood District, Utah Territory.

otice is hereby given that at a meeting of the Board of ectors, held on the eighth day of August, 1873, an assment (No. 3) of ten cents per share was levied upon e capital stock of the corporation, payable immediately United States gold and silver coin, to the Secretary, No. w Merchants' Exchange, San Francisco, Cal.

y stock upon which this assessment shall remain unpaid on the twelfth day of September, 1873, will be delinnt, and advertised for sale at public auction, and unpayment is made before, will be sold on Monday, the enty-ninth day of September, 1873, to pay the delinquent sessment, together with costs of advertising and exses of sale. CHAS. S. HEALY, Secretary.

ffice—No. 35 New Merchants' Exchange, San Francisco, California. au9

Hmiguera Mining Company—Location

principal place of business, City of San Francisco, Calornia. Location of works, San Antonio District, Lower alifornia.

otice is hereby given, that at a meeting of the Board Trustees of said Company, held on the 27th day of July, 1873, an assessment (No 7) of three dollars per share levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of I. L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 25th day of September, A. D., 1873, will be delinquent, and advised for sale at public auction, and unless payment is be before, will be sold on Monday, the 27th day of ober, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.
ffice, room No. 2, No. 729 Montgomery street, San
ancisco, California. aug 2.

OSTPONEMENT.—The day for deeming stock delinnt on the above assessment is hereby postponed until urday, the 4th day of October, 1873, and the day of sale delinquent stock is hereby postponed until Monday, the 3d day of November, 1873. By order of the Board of ectors. HENRY PICHOIR, Secretary pro tem.
ffice, No. 603 Washington street, San Francisco, Cal.
n Francisco, Sept. 1, 1873.

EMOVAL.—Office of Hemiguera Mining Company is oved to office of L. L. Robinson, No. 603 Washington eet, corner Montgomery, San Francisco, Cal.
HENRY PICHOIR, Secretary pro tem.

Isloe Mill and Mining Company—Loca-

n of works, Gentry's Gulch, Mariposa County, Calirnia. Principal place of business, San Francisco, Cal.

otice is hereby given, that at a meeting of the Directors, on the 13th day of August, 1873, an assessment (No. 2) of twenty-five cents per share was levied upon the capital ck of the Corporation, payable immediately in United es gold and silver coin, to the Secretary, at the office the Company, room 14, No. 408 California street, San ancisco, California.

y stock upon which this assessment shall remain paid on the 13th day of September, 1873, will be delinnt and advertised for sale at public auction, and, ess payment is made before, will be sold on the 6th day of October, 1873, to pay the delinquent assessment, ether with costs of advertising and expenses of sale.

J. W. TRIPP, Secretary.
ffice, Room 14, No. 408 California street, San Francisco, alifornia. aul9

l and Rhoda Lewis Consolidated Min-

g Company. Principal place of business, San Francisco, California. Location of works, Wallapai Mining strict, Mohave County, Arizona Territory.

otice is hereby given, that at a meeting of the Board of ctors of the above named company, held on the twenty-th (20th) day of August, A. D. 1873, an assessment of ten nts per share was levied upon the capital stock of corporation, payable immediately, in United States gold n, to the Secretary, at the office of the Company, room 12, Express Building, San Francisco, California.

y stock upon which this assessment shall remain unon Tuesday, the thirtieth (30th) day of September, 873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be on Monday, the twenty-third (23d) day of October, A. D. 1873, to pay the delinquent assessment, together with costs advertising and expenses of sale.

C. J. EATON, Secretary.
ffice—Room No. 12, Express Building, San Francisco, alifornia. ag30

hcaid Flat Mining Company—Principal

ace of business, San Francisco, Cal. Location of works, caid Flat, Tuolumne county, Cal.

otice is hereby given, that at a meeting of the Board of ectors, held on the 6th day of August, 1873, an assessnt of Four Dollars per share was levied upon the capital k of the corporation, payable immediately in United tes gold coin, to the Secretary, at the office of the mpany, No. 217 Sansome street, San Francisco, Cal.

y stock upon which this assessment shall remain unid on the 8th day of September, 1873, will be delinquent, advertised for sale at public auction, and unless payt is made before, will be sold on Monday, the 29th day September, 1873, to pay the delinquent assessment, toher with costs of advertising and expenses of sale.

R. H. CONNELL, Secretary.
ffice 217 Sansome street, San Francisco, Cal. au13

mon Mill and Mining Company---Loca-

on of Principal place of business, City and County of an Francisco, State of California. Location of works, uroka Mining District, Eureka county, State of Nevada.

otice is hereby given, that at a meeting of the Board of ectors, held on the 13th day of August, 1873, an assessnt of three dollars per share was levied upon the capital k of the Corporation, payable immediately, in United tes gold coin, to the Secretary, at the office of the Corration, No. 608 Merchant street, San Francisco, Cal.

y stock upon which this assessment shall remain paid on the seventeenth (17), day of September, 1873, be delinquent and advertised for sale at public uction, and unless payment is made before, will sold on Wednesday, the 8th day of October, 1873, to e delinquent assessment, together with costs of adrtising and expenses of sale.

I. T. MILLIKEN, Secretary.
ffice, No. 608 Merchant street, San Francisco, Califor
a. au6-4w

dy Esten Tunnel and Mining Company

Principal place of business, No. 35 New Merchants' xchange, San Francisco, Cal. Location of works, Alta ity, Little Cottonwood District, Utah Territory.

otice is hereby given, that at a meeting of the Board Directors, held on the eighth day of August, 1873, an sessment (No. 4) of ten cents per share was levied upon capital stock of the corporation, payable immediately imited States gold and silver coin, to the Secretary, 35 New Merchants' Exchange, San Francisco, Califor-

Any stock upon which this assessment shall remain paid on the 12th day of September, 1873, will be delinnt and advertised for sale at public auction, and unless ment is made before, will be sold on Monday, the 29th of September, 1873 to pay the delinquent assessment, ether with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.
ffice, No. 35 New Merchants' Exchange, San Fran-
o, California. au9

Land Purchasers Association—Office, No.

425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of this corporation, held on the 25th day of August, 1873, an assessment of ten dollars per share (being the 37th monthly installment on the subscription to the stock) was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 25th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.
Office, No. 425 Kearny street, San Francisco, California.

Manhattan Marble Company of California

—principal place of business, San Francisco, California Location of works, Oakland, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of one dollar per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.
Office—319 Pine street, San Francisco, California. au23

Notice---the Annual Meeting of the

Stockholders of the Mohave Consolidated Gold and Silver Mining Company for the election of Trustees for the ensuing year and the transaction of such other business as may properly come before the meeting will be held at the office of the company, 507 Montgomery street, San Francisco, on Saturday the 9th day of August, 1873, at 1 o'clock, P. M.

ly26td T. E. JEWELL, Secretary.

POSTPONEMENT.—The above meeting is hereby postponed thirty days, at the same place and hour.
T. E. JEWELL, Secretary.

McMahon Silver Mining Company---Locaion of Principal Place of Business, San Francisco, California. Location of Works Scheel Creek District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 4th day of September, 1873, an assessment (No 5) of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 320 California street, room No. 5, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 8th day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the Twenty-seventh day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

GEO. R. SPINNEY, Secty.
Office, 320 California street, San Francisco, California.
sep6

Phenix Tunnel and Mining Company—

Locatiun of principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood, Utah Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the Second day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Brophy, Mrs J E	63	25	$2 50
Carter, Peter, Trustee	585	10	1 00
Carter, Peter, Trustee	585	10	1 00
Caddy, D	34	10	1 00
Caddy, D	35	10	1 00
Clohecy, Thos E	82	13	1 30
Clohecy, Thos E	85	50	5 00
Eddy, J M	32	25	2 50
Emery, George T	64	25	2 50
Emery, George T	639	15	1 50
Emery, George T	640	25	2 50
Esten, John	544	25	2 50
Esten, John	545	25	2 50
Esten, John	547	50	5 00
Esten, John	548	50	5 00
Esten, John	605	10	1 00
Esten, John	611	100	10 00
Esten, John	612	100	10 00
Esten, John	636	10	1 00
Fenton, Dr Wakefield	54	15	1 50
Fenton, Dr Wakefield	unissued	1000	100 00
Jackson, Alex	578	25	2 50
Jorey, Wm J	535	10	1 00
Lydston, Jas A	9	25	2 50
Lydston, Jas A	10	25	2 50
Lydston, Jas A	11	50	5 00
Lydston, Jas A	unissued	1000	100 00
McCord, Thos	566	10	1 00
McVicker, John	53	10	1 00
Miller, D D	503	100	10 00
Parlin, H T	512	25	2 50
Parlin, H T	513	25	2 50
Parlin, H T	514	50	5 00
Patterson, Mrs Adeline	135	50	5 00
Patterson, Silas N	55	50	5 00
Patterson, Silas N	508	25	2 50
Randall, H J	15	50	5 00
Randall, H J	30	25	2 50
Randall, H J	unissued	1000	100 00
Randall, H J	unissued	1000	100 00
Sherwood, W H	58	10	1 00
Sherwood, W H	59	10	1 00
Sherwood, W H	60	10	1 00
Sherwood, W H	61	10	1 00
Sherwood, W H	62	10	1 00
Simon, S	2	5	50
Stege, John R	596	50	5 00
Sutten Jr, Chas	568	10	1 00
Sutten Jr, Chas	591	10	1 00
Sutten Jr, Chas	594	5	50
Thompson, Dr J D	57	25	2 50
Thompson, Dr J D	unissued	1000	100 00
Thompson, Dr J D	515	25	2 50
Thompson, Dr J D	516	25	2 50
Thompson, Dr J D	517	25	2 50
Thompson, Dr J D	518	25	2 50
Thompson, Mary E	65	25	2 50
Thompson, Mary E	66	25	2 50
Thompson, Mary E	67	25	2 50
Thompson, Mary E	68	25	2 50
Thompson, Mary E	69	25	2 50
Thompson, Mary E	70	25	2 50
Thompson, Mary E	71	25	2 50
Thompson, Mary E	72	25	2 50
Thompson, R E	73	25	2 50
Thompson, R E	75	25	2 50
Thompson, R E	77	10	1 00
Thompson, R E	78	10	1 00
Thompson, R E	80	20	2 00
Thompson, R E	81	50	5 00
Thompson, R E	75	25	2 50
Thompson, R E	79	10	1 00
Thompson, R E	87	50	5 00
Thompson, R E	88	50	5 00
Thompson, R E	89	50	5 00
Thompson, R E	90	50	5 00
Thompson, R E	91	50	5 00
Thompson, R E	92	50	5 00
Thompson, R E	93	50	5 00
Thompson, R E	94	50	5 00
Thompson, R E	95	100	10 00
Thompson, R E	97	100	10 00
Thompson, R E	99	100	10 00
Thompson, R E	100	50	5 00
Thompson, R E	101	25	2 50
Thompson, R E	103	25	2 50
Thompson, R E	104	25	2 50
Thompson, R E	105	25	2 50
Thompson, R E	106	25	2 50
Thompson, R E	107	25	2 50
Thompson, R E	109	25	2 50
Thompson, R E	110	25	2 50
Thompson, R E	111	25	2 50
Thompson, R E	112	25	2 50
Thompson, R E	113	25	2 50
Thompson, R E	114	25	2 50
Thompson, R E	115	25	2 50
Thompson, R E	116	25	2 50
Thompson, R E	117	25	2 50
Thompson, R E	118	25	2 50
Thompson, R E	119	25	2 50
Thompson, R E	120	25	2 50
Thompson, R E	121	25	2 50
Thompson, R E	122	25	2 50
Thompson, R E	123	25	2 50
Thompson, R E	124	25	2 50
Thompson, R E	125	25	2 50
Thompson, R E	126	25	2 50
Thompson, R E	127	25	2 50
Thompson, R E	128	25	2 50
Thompson, R E	130	50	5 00
Thompson, R E	131	50	5 00
Thompson, R E	133	50	5 00
Thompson, R E	134	50	5 00
Thompson, R E	135	50	6 00
Thompson, R E	136	50	5 00
Thompson, R E	137	50	5 00
Thompson, R E	138	100	10 00
Thompson, R E	74	25	2 50
Walters, Abraham	1	10	1 00
Wilson, E M	83	12	1 20
Wilson, E M	84	50	6 00
Blank name	36	10	1 00
Blank name	42	20	2 00
Blank name	43	20	2 00
Blank name	44	20	2 00
Blank name	50	15	1 50
Blank name	51	10	1 00
Blank name	52	10	1 00
Randall, H J	24	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the second day of July, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, on Saturday, the twenty-seventh day of September, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent Assessments thereon, together with the costs of advertising and expenses of the sale.

OHAS. S. HEALY, Sec'y.
Office—No. 35 New Merchants' Exchange, San Francisco, California.

Southern Pacific Consolidated Gold Mining Company, Principal place of business, San Francisco, California. Location of works, Kern County, California.

Notice is hereby given that at a meeting of the Board of Directors of the above named company, held on the 11th day of September, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the twenty-fifth (25th) day of October, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Tuesday, the twenty-fifth (25th) day of November, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. A. EATON, Secretary.
Office, Room No. 12, Express Building, San Francisco, California. sep13

State of Maine Mill and Mining Company. Location of principal place of business, San Francisco, California. Location of Works, Amador county.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 23d day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buffington, J M, Trustee	84	260	13 00
Burr, Platt Trustee	49	20	1 00
Burr, Platt Trustee	50	20	1 00
Burr, Platt Trustee	51	20	1 00
Burr, Platt Trustee	55	50	2 50
Congdon, H B,	35	20	1 00
Congdon, H B, Trustee	38	100	5 00
Congdon, H B, Trustee	39	100	5 00
Marks, S L,	12	240	12 00
Marks, S L,	21	500	25 00
Morse, A C, Trustee	44	100	5 00
Morse, A C, Trustee	45	100	5 00
Morse, A C, Trustee	46	100	5 00
Morse, A C, Trustee	48	100	5 00

And in accordance with law and an order of the Board of Directors, made on the 25th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the auction rooms of John Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the 22d day of September, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON, Sec'y.
Office, No. 305 Montgomery street, San Francisco, California. sep8

Sapphire Silver Mining Company.—Location of principal place of business, No. 438 California street, San Francisco, California. Location of works, Gold Hill Mining District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 5th day of September, 1873, an assessment (No. 2) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 28th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

JOEL F. LIGHTNER, Secretary.
Office, No. 438 California street, San Francisco, Cal.

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California. Principal place of business, San Francisco, California.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 6) levied on the 4th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wallace Everson	6	200	$30 00
Thomas Derby	59	500	75 00
Thomas Derby	70	200	30 00
A Rosenfield	34	500	75 00
A Rosenfield	35	500	75 00
E A Deuicke	49	2000	300 00

And in accordance with law, and an order duly made by the Board of Directors, so many shares of each parcel of such stock as may be necessary will be sold at public auction, at the office of the Company, No. 113 Leidesdorff street, San Francisco, Cal., on Wednesday, the seventeenth day of September, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WILLIAM STUART, Secretary.
Office, No. 113 Leidesdorff street, San Francisco, Cal.
se6

Office Rising Star Mining Company—Location of works, Nevada County, California.

Notice is hereby given, that the annual meeting of the stockholders of the Rising Star Mining Company, for the election of Directors and transaction of such business as may be presented, will be held on Thursday, the 4th day of September, 1873, at 3 o'clock P. M., at the office of the company, room 37, New Merchants' Exchange, California street, San Francisco, California.

ag22 s&d-2w J. M. BUFFINGTON, Secretary.

Stanislaus Water Company—Location of

principal place of business, 628 Kearny street, San Francisco, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
M A Wheaton	10	56,250	$1000 00
John Burcham	17	25	50
John Burcham	18	50	1 00
John Burcham	19	75	1 50
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2
E Tripp, Trustee	25	100	2
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
S W Newhall	36	67	1 14
A E McGregor	38	82	1 64
E A Richardson, Trustee	55	56,250	1125 00
D E Hayes, Trustee	56	25,500	510 00
Charles Elliot	63	10,000	200 00
Charles Elliot	64	10,000	200 00
Charles Elliot	55	9,998	81 40
Charles Elliot	65	20,000	400 00
S O Field, Trustee	58	12,000	240 00
S O Field, Trustee	69	5,000	120 00
S O Field, Trustee	60	7,886	3 97

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 526 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON O. TRIPP, Secrstary.
Office, No. 626 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON O. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 5th day of October, 1873, at the same hour and place. By order of the Board of Directors. CLINTON O. TRIPP, Secretary.

The Sanderson Gold Mining Company—

Location of works, Railroad Flat, Calaveras County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said company, held on the 4th day of August, 1873, an assessment (No. 6) of fifteen (15) cents per share was levied upon the capital stock of the company, payable immediately in United States gold and silver coin, to the Secretary of said company, at his office, 113 Leidesdorff street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of September, 1873, shall be delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the 17th day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WILLIAM STUART, Secretary.
Office—113 Leidesdorff street, San Francisco, Cal. au9

Table Mountain Alpha Mining Company—

Location of principal place of business, San Francisco, California. Location of works, Table Mountain District, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Directors, held on the 8th day of August, 1873, an assessment (No. 1) of 12½ cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 438 California street, up stairs, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 7th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. F. CROMLEY, Secretary.
Office, No. 438 California st., San Francisco, Cal. au13

Umpire Tunnel and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 22d day of July, 1873, an assessment of Three Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 230 Kearny street, San Francisco, Cal., or to W. A. Beal, President. Any stock upon which this assessment shall remain unpaid on the 30th day of August, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 22d day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

P. A. EAKINS, Secretary.
Office, No. 230 Kearny street, San Francisco, Cal.

Union Gold Mining Company—Location of

principal place of business, San Francisco, California. Location of works, Howland Flat, Sierra County, Cal.

Notice is hereby given, that at a meeting of the Directors held on the 12th day of August, 1873, an assessment (No. 7) of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Room No. 22, Merchants' Exchange Building, California street, San Francisco, California Any stock upon which this assessment shall remain unpaid on the 15th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 6th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

ALFRED K DURBROW, Secretary.
Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal. au6

Washington Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Msriposa County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of August, 1873, an assessment of two dollars per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 16th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Friday, the 10th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.
Office—Room 13, No. 318 California street, San Francisco, California. au13

Machine Builders.

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Steam Engines and Boilers,

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Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1863.
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LOCATION OF WORKS:
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JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

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STEAM ENGINES, BOILERS,

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Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

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RAILROAD AND OTHER IRON

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Every Variety of Shafting,

Embracing ALL SIZES f

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

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HAMMERED IRON

Of every description and size.

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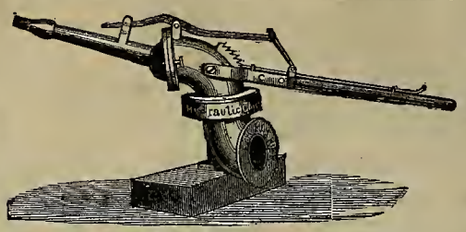
FISHER'S **KNUCKLE JOINT** AND **NOZZLE** IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

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N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will he sent as sample. 22v25-2amly

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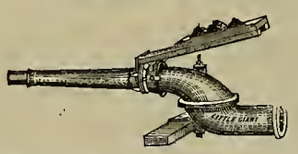

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

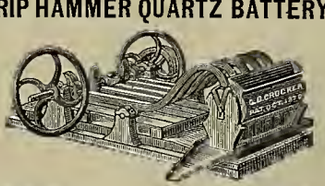
If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an improved LITTLE GIANT.

For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

CROCKER'S PATENT
TRIP HAMMER QUARTZ BATTERY.



The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

STEAM ENGINES AND BOILERS

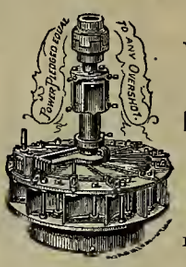
Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

10v27tf No. 32 FREMONT STREET.

LEFFEL & MYERS,

MANUFACTURERS OF

Leffel's American Double Turbine



WATER WHEELS,

SPHERICAL AND

Horizontal Flumes,

AND ALL

MILL GEARING

Especially adapted to our Wheels.

Also, THE "HUBBARD" COMBINED REAPER AND MOWER.

HORIZONTAL FLUME. Patented April 1, 1873.

Having established ourselves in this city, we will give personal attention to our business, and thereby hope to give better satisfaction than we have been able to give heretofore through agents.

We will also do a commission business in

Millers' and Miners' Supplies.

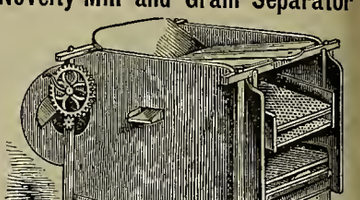
Our reputation as Milling Engineers is sufficient guarantee of our ability to give entire satisfaction. We can furnish anything that our patrons may desire, on the shortest notice. Please remember that we give personal attention to our business.

Address or call on

LEFFEL & MYERS,
306 California street, San Francisco,
au2-1m3p or Salem, Oregon.

☞ Send for new Illustrated Pamphlet—sent free. 3p1m

THE PATENT
Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to

R. STONE,
3v6-3m-eowbp 422 Battery street, San Francisco.

CALIFORNIA INVENTION.

CALL AND EXAMINE.

For Sewing Machines, Dentists' and Jewelers' Lathes.

This Invention can be applied to the operating of all kinds of Sewing Machines, Dentiste' and Jewelers' Lathes. Its simplicity is only equaled by its durability; it avoids the use of the treadle, which is ungraceful and injurious.

Application made by the Agents for the Pacific Coast.

SAWYER & WHEDON,
1v6eowbp 633 Washington street San Francisco.

PRICE, $50.

The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast.
337 Kearny St., S. F.
2v27eow-bp-1y

Metallurgy and Ores.

RODGERS, MEYER & CO.,
COMMISSION MERCHANTS,

ADVANCES MADE
on all kinds of Ores, and particular attention
PAID TO
CONSIGNMENTS OF GOODS.
4v16-3m

W. W. STRONG. W. L. STRONG.
C. W. STRONG & CO.,
Metallurgical Works,
No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and rets made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

LEOPOLD KUH,
(Formerly of the U. S. Branch Mint, S. F.)
Assayer and Metallurgical CHEMIST,
No. 611 Commercial Street,
(Opposite the U.S. Branch Mint.
SAN FRANCISCO CAL. 7v21-3m

JOHN TAYLOR & CO.,
IMPORTERS OF AND DEALERS IN
ASSAYERS' MATERIALS
Chemical Apparatus and Chemicals,
Druggists' Glassware and Sundries,
PHOTOGRAPHIC GOODS, ETC.,
412 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock of
ASSAYERS' MATERIALS
—AND—
Chemical Apparatue,
having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.
☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.
7v25-tf JOHN TAYLOR & CO.

THE WHELPLEY & STORER ORE MILLS,
415 and 217 Main street, between Howard and Folsom,
SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks
Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. GEO. D. WYMAN,
5v27-3m Superintendent.

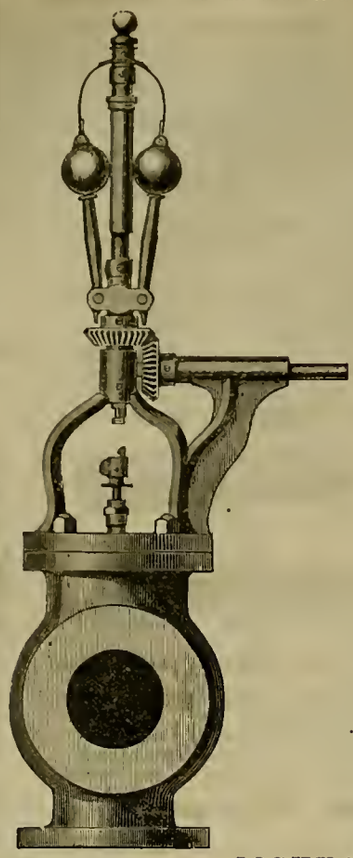
Varney's Patent Amalgamator.
These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.
They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the appertures and between the grinding surfaces.—Hence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.
Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.
Mill-men are invited to examine these pans and settlers for themselves, at the office, 229 Fremont Street,
San Francisco.

NICKEL PLATING.
The San Francisco Nickel Plating Company are prepared to plate articles of all descriptions, of any metal. Cutlery, Liquor Flasks, Pistols, Guns, Swords, Bridle Bitts, Pole Crabs, Hub Bands, Dash Rails, and all articles of household hardware plated at short notice, and warranted. Nickel Plate never tarnishes or corrodes, always retaining its polish until the article is worn out. Office at the KIMBALL MANUFACTORY WORKS, Cor. Fourth and Bryant Streets. 12v26-3m

HENDY'S
IMPROVED STEAM ENGINE REGULATOR.
OVER 400 HAVE BEEN PUT IN USE.



RECOMMENDATION.

ST. PATRICK MILL, Placer Co., Feb. 10, 1873.

JOSHUA HENDY, ESQ., SAN FRANCISCO:

Dear Sir: We, the undersigned, take pleasure in giving you the following testimonial as to the merits of the Hendy Governor, which we ordered from you about four months ago. Though more than pleased with its workings at first, we deferred writing until we had tested it thoroughly.

Our engine is 12x36 (carrying 70 lbs. of steam), driving 15 stamps, 725 lbs. each; 1 Wheeler Pan, 1 Knox Pan, 6 Hendy Concentrators. The discarded Governor was the common "Arm and Ball Governor;" it giving but poor satisfaction, we decided to try the "HENDY," and are pleased to report in its favor for the following reasons:

1st. IT SAVES US FUEL. Previous to attaching your Governor we were burning 3¼ cords of wood per 24 hours. We now consume but 2½ cords doing the same work.

2d. FOR SAFETY. The "trip" saved us from an expensive smash up but a few days ago, during the temporary absence of our engineer. The Governor belt ran off the Pulleys. Your little automatic trip worked like a charm, and but one or two revolutions was the result, and no damage. Had we been using any other Governor, the probability is that we would not have had a whole cam in the mill.

3d. IT IS A PERFECT GOVERNOR. We can turn off the Wheeler Pan and hang up one-third of our stamp, without any perceptible change in speed.

4th. THE ADJUSTMENT for regulating the speed without increasing or reducing the size of our Governor pulley, is admirable, and as easily managed as setting a clock.

5th. IT IS SIMPLE and not liable to get out of order, or requiring more than ordinary care.

Yours respectfully,

JAS. H. CROSSMAN, Supt.
GEO. H. BARNEY, Chief Eng'r.

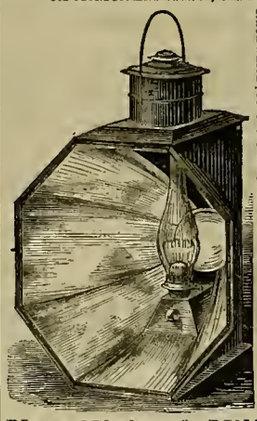
REFERENCES:

Rhods Island Mill, Crown Point M. Co., Gold Hill, Nev.
Eureka M. Co., Overman M. Co., Virginia City, Nev.
Camp Floyd M. Co., Utah S. M. Co., Utah.
Falk & Minor, Eureka; J. M. Brown, Hollister; Gazos Mill, Pescadero, Cal.
Also, Bancroft & Co.; Yolo Mills; The Union, Golden Gate, Ætna and Fulton Iron Works, of this city.

All Governors Tested, the Number Revolutione Marked on the Cross-Head, and Warranted Perfectly Reliable.

JOSHUA HENDY,
No. 32 Fremont Street.....SAN FRANCISCO.
PATENT ORE AMALGAMATORS AND CONCENTRATORS,
Circular Saw Mills. Steam Engine Governors.
Send for Deecriptive Circular. feb22-1am-tf

PACIFIC LAMP MANUFACTORY.
EMILE BOESCH,
Patentee and Manufacturer of
LAMPS, LANTERNS AND REFLECTORS.
802 MONTGOMERY STREET, SAN FRANCISCO.



The patent head light represented by this cut is the best and cheapest in the market. We keep constantly on hand the 16-inch, price $14, and the 20-inch, price $18. The two burners, and focus with regulating reflector, price $18. The three burners, and focus with regulating reflector, price $24. Each lamp is provided with a gallon coal oil can to burn 50 hours, no overheating, and a steel tube in any direction which prevents oxidation. Also, Lamps for Steamers, Yachts, Archid roof and reflectors, either square or tapering, toward the front, and all kinds of Lamps made and covered with a composition which prevents oxidation.

New Mining & Mill Lights.
MANUFACTORY,
N. E. corner Montgomery and Jackeon etc.,
San Francisco, Cal.
21v5-eow-3m

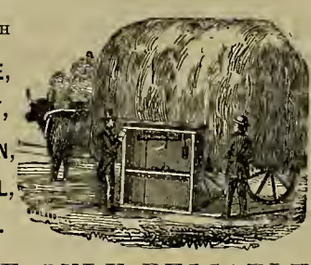
NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel.

MANUFACTURERS OF
Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

13 and 15 Fremont street, near Market, San Francisco
16v14or

MONTGOMERY'S HOTEL,
227 and 229 Second street, ...SAN FRANCISCO.
This Hotel has been newly furnished, and is situated in a central and healthy location, and is one of the few Hotels in San Francisco conducted on Temperance Principles.
BOARD, PER WEEK, $3.50. BOARD AND LODGING, $4 TO $5.
SIX MEAL TICKETS FOR $1.
CHAS. MONTGOMERY, Proprietor.
☞ Passengers and Baggage taken to the Hotel free. ☜

FAIRBANKS
WEIGH
ORE,
HAY,
GRAIN,
COAL,
Etc.



THE ONLY RELIABLE STANDARD.

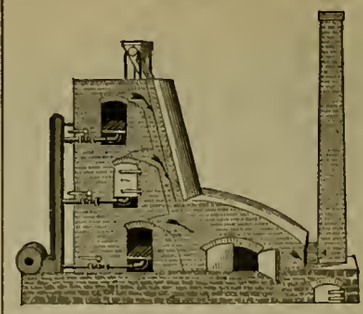
6,000 to 40,000 pounds capacity. Length of platform to suit purchaser. The same scale is used for weighing cattle, hogs, etc. Scales adapted to all branches of business. Address
FAIRBANKS & HUTCHINSON,
537 Market street.
Agents for MILES' ALARM MONEY DRAWERS, a sure protection against till thieves. 16v26eowbp6m

SAN FRANCISCO
Pioneer Screen Works,
John W. Quick, Manufacturer,
203 FREMONT ST., (near Howard) SAN FRANCISCO.
Screen Punching of all kinds and qualities for
QUARTZ AND FLOUR MILLS,
AT EASTERN RATES.
I would call special attention to my slot cut and slot punched screens, which are attracting much attention and giving universal satisfaction. I was the first manufacturer who introduced these Screens to the Millmen on this Coast. This is the only establishment on the Coast devoted entirely to the manufacture of Screens.
Mill Owners using battery Screens extensively can contract for large supplies at favorable rates.
☞ Orders solicited and promptly attended to.
v2?n9-eow-1y

SAN FRANCISCO
SCREW BOLT WORKS,
PHELPS BROTHERS, Proprietors
MANUFACTURERS OF ALL KINDS OF
Machine Bolts, Bridge Bolts, and Ship or Band Bolts.
13, 15 and 17 Drumm Street, San Francisco. 4v24ly

Brittan, Holbrook & Co., Importers of Stoves and Metals, Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 173 J St., Sacramento. mr.-1y

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing
ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.
The claims of the inventor are—
Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.
It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.
Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.
Austin, Nev., July 15, 1873. 6v27-tf

Important to Miners and Mill Men.
Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating.
Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.
SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
655 Mission street, San Francisco.
2v25-3m E. G. DENNISTON, Proprietor.

Richardson & Co., Copper Ore Wharves,
SWANSEA.
RICHARDSON & CO. have been for thirty years established in Swansea as Agents for the preparation Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against ores in anticipation of realization, and to guarantee all payments when required. 25v26 1y

CHARLES F. KIRCHNER,
Sampler and Crusher of Ores,
NO. 11 DRUMM STREET,
San Francisco.

PLATINUM
Vessels, Apparatus, Sheet, Wire, Etc., Etc.
For all Laboratory and Manufacturing Purposes
H. M RAYNOR,
25 Bond street, New York.
Platinum Scrap and Ore purchased.

The California Powder Works
No. 314 CALIFORNIA STREET,
SAN FRANCISCO.
Manufacturers and have constantly on hand
SPORTING,
MINING,
And BLASTING
POWDER,
Of SUPERIOR QUALITY, FRESH FROM THE MILLS, It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.
We have been awarded successively
Three Gold Medals
By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.
We also call attention to our
HERCULES POWDER.
Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other pompound now in use.
A circular containing a full description of this Powder can be obtained on application to our Office.
16v20-3m JOHN F. LOHSE, Secretary.

THEODORE KALLENBERG,
MACHINIST,
and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.
Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

☞ BUY BARBER'S BIT BRACE. ☜

[MINING SUMMARY — Continued from Page 165.]

vigorously ahead to tap the ledge and drain the water. All the ore breasts and slopes throughout the mine are looking and yielding splendidly as usual. The Mexican mill has had to suspend operations for necessary repairs. The Devil's Gate mill will start up crushing ore from the mine to-morrow.

UTAH.—The pumping machinery of this mine is all in place except the large spur-wheel, which is now being fitted. The pump-column, pump-rods, and all else, will be in place and the machinery ready to start up to-morrow. The main shaft, which is now down 250 ft., will be sunk to the depth of 300 ft., when a drift will be started for the lead. It will probably be about six weeks before they are ready to start the drift. The new pump will be of sufficient capacity to handle all the water they are likely to find upon tapping the lead.

CONSOLIDATED VIRGINIA.—The large and commodious carpenter, blacksmith and machine-shops adjoining the new hoisting-work are nearly completed. The foundations for a large ore-dump on F street are being laid; the excavation for the pumps and tanks in the shaft are finished, and the aligament of the pumps and columns in the main shaft will soon be commenced. The main drift north, on the 1167-ft. level, from the Gould and Curry shaft, is making much better progress, the heavy body of water, tapped some time ago, gradually lessening in quantity as the drift progresses.

OCCIDENTAL.—The ore breasts on the various levels are looking splendidly and yielding the usual amount of ore, keeping the company's mill steadily running.

OVERMAN.—Most of the past week has been spent in putting in the plunger and other pumping machinery at the 1100-ft. station, so that little headway in sinking the shaft has been made. The main west tunnel, at the 1000-ft. level, is still driven vigorously ahead without change of interest. Both the southwest and northwest drifts from the main tunnel, at this station, are being pushed steadily ahead.

HALE AND NORCROSS.—Daily yield, 60 tons of ore, which is being reduced at the Trench mill. The ore breasts show but little change since our last report. The ore yield from the old upper levels continues much the same. The prospectiug drifts on the lower levels are being pushed rapidly ahead with very encouraging prospects.

JUSTICE.—The main south drift at the 400-ft. level of the old works is still driven steadily ahead, with good indications of soon cutting the main ledge. The north drift at this station is being pushed steadily forward without any change of interest to note. The main south drift at the first station, new works, is making good progress, and shows some fine ore.

SILVER HILL.—Daily yield, 60 tons of ore, mostly from the ore breasts at the first station. The cross-cut at the second station has developed a fine body of excellent milling ore, proving, beyond a doubt, the extent of the ore body from the first to the second stations, a distance of 100 ft. in depth. The Bacon mill is kept steadily running, crushing ore from the mine.

OPHIR.—The main south drift at the 1300-ft. level is still driven steadily ahead, the ore body showing a gradual and steady improvement, and bidding fair to prove a rich and valuable development. Work, which was suspended during the foro part of the week at the 1700-ft. level, has been resumed, and valuable developments at that level may be looked for soon.

IMPERIAL.—Sinking the main incline is making excellent progress, the rock in the bottom working finely. The south drift at the 1700-ft. level is making good progress with no change of material interest whatever to note. Prospectiug in other portions of the mine continues as usual, with no new development to record.

JULIA.—The main east drift at the 800-ft. level is still driven ahead through low grade ore of a very promising character. Lowering the water in the shaft is making good progress, having been reduced at the rate of 3 ft. per day during the past week. It is expected that the 1000-ft level will be ready to resume operations in about 15 days.

ARIZONA & UTAH.—Sinking the shaft is making excellent headway. A streak of quartz was encountered in the shaft during the week that hids fair to develop into an excellent body of ore. The incline is making good progress downwards, following the footwall of the ledge, occasionally cutting bunches of low grade ore.

AMERICAN FLAT.—The southwest drift on the line of the ledge from the main west drift at the 450-foot level of the Baltimore shaft is pushed steadily ahead, running nearly parallel with the ledge. Crosscuts to prospect the ledge will be started in a very short time.

WOODVILLE.—Daily yield of 20 tons of good ore. The different ore stopes are all looking finely, and the drifts both north and south show considerable improvement.

YELLOW JACKET.—Still prospecting the 1400 and 1500-foot levels. No new developments of value to chronicle.

SUCCOR.—The main east drift from the second station, in the new shaft east of the cañon, is making good progress.

KNICKERBOCKER.—The main west drift at the 450-foot level, is still driving steadily ahead the face in a mixture of clay, quartz and porphyry. The rock in the face of the southwest cross-cut from this drift is much softer than at our last report, admitting of much better progress.

DAYTON.—Drifts both north and south have been started on the ore vein at the first station, which at this point is ten feet in width of hard blasting ore, of an excellent quality. The main west drift at the second station is making good headway.

CALEDONIA.—The ore body developed at the 500 feet level continues to show a decided improvement, both in the quality and quantity of ore contracted. The Sapphire mill is kept steadily running crushing ore from the mine.

SIERRA NEVADA.—Daily yield, 60 tons of ore, keeping the company's mill steadily running. The ore breasts in the upper portions of the mine are being gradually extending to the north and westward, and continue to yield finely.

CHOLLAR-POTOSI.—Daily yield, 150 tons of ore. Prospecting at the fourth station continues without change of interest to report. The ore breast in the old upper workings of the mine continue to look and yield well.

SAVAGE.—Sinking the incline is making excellent progress, the rock in the bottom working well. Prospecting the 1,600 and 1,700 foot levels continues, without any new developments of material value to report.

DANEY.—The new pumping and hoisting machinery will be completed, and sinking the shaft resumed, about the 15th of the present month, when some good developments may soon be looked for.

EMPIRE.—Prospecting and cross-cutting at the 1,600 and 1,700-ft. levels without material change of intereat to note.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's Office, San Francisco:

EL DORADO WATER AND DEEP GRAVEL M. CO., Sept. 5. Object: To purchase and acquire water privileges; to purchase, construct and maintain canals, reservoirs and water ditches for agricultural, milling and mining purposes in any county of the State; to supply fresh water to any city in the State; to purchase and work mines and carry on a general mining business in El Dorado. Directors: John O. Earl, J. D. Fry, Thomas Price, L. A. Garnett, Henry D. Bacon. Capital stock: $500,000, in 5,000 shares.

FARMERS' JUTE MANUFACTURING CO.—Sept. 10. Object: To manufacture all kinds and descriptions of jute fabrics, and the sale of the same; and to purchase and erect suitable machinery, buildings and sites to carry on said business. Directors—F. Fillips, William Wagel, A. S. Peterson, S. J. Simon, and Thomas S. Moffit. Capital stock, $500,000, in shares of $100 each.

BERKELEY VILLA ASSOCIATION.—Sept. 10. Object: To purchase and pay for a certain piece of land in Alameda county; to divide the same into lots and to distribute such lots among the stockholders in such a manner as may be found most conducive to their interests. Capital stock, $98,000, in shares of $350 each. Directors—Felix Chappelette, H. B. Berryman, William Stuart, Frederick M. Berryman and William Craig.

Meetings and Elections.

PACIFIC TUNNEL M. CO.—Trustees: Hill Beachy (President), S. A. Raymond, C. P. Hall, O. Fuller and T. C. Sanborn. W. H. Knight, Secretary.

NOONDAY S. M. CO., Sept. 3.—Directors: O. H. Bogart (President), Lewis Vesaris, R. H. Rogers, Geo. W. Cope and Thomas Mason. Joseph Maguire, Secretary; O. H. Bogart, Treasurer; H. A. Woodman, Superintendent.

HINTS FOR INVENTORS. We will send on receipt of stamp for postage, FREE, our 52-page Circulars containing 112 Illustrated Mechanical Movements; a digest of PATENT LAWS; information how to obtain patents, and about the rights and privileges of inventors and patentees: list of Government fees, practical hints, etc., etc. Address DEWEY & CO., Publishers and Patent Agents, San Francisco.

TO RENT LOW.

A Room—large or small—suitable for Printing, Bookbinding, or other business, at No. 414 Clay street, near Sansome. Enquire at this office or on the premises.

MAGAZINES.	P. An.
Harper's	$4 00
Atlantic	
Godey	
New York Ledger	
Blackwood	
Hours at Home	
Good Words	
Petersan s	3 00
Arthur	
Lady a Friend	
Harper's Weekly	5 00
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FOR A PORTION OF THE

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OFFICE OF THE BOARD OF CITY HALL COMMISSIONERS, corner of Leavenworth and McAllister streets, San Francisco, July 19, 1873.

SEALED PROPOSALS, For Furnishing certain material for a portion of the New City Hall Building and Hall of Records, will be received at the office of the Board, until 12 o'clock, noon, of WEDNESDAY, the 1st day of October, A. D. 1873, for the following:

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Payments will be made monthly, to "City Hall Warrants, of 15 per cent. of the estimated amounts due, and the remaining 25 per cent. when the contract is completed.

The expense of advertising will be charged pro rata to the successful bidders.

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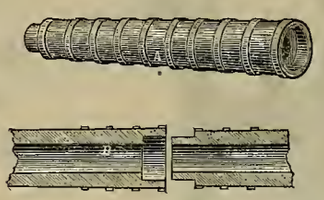

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found **more economical, advantageous and reliable** than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah. Superintendent's Office, Sept. 26, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, SEPTEMBER 20, 1873.

VOLUME XXVII. Number 12.

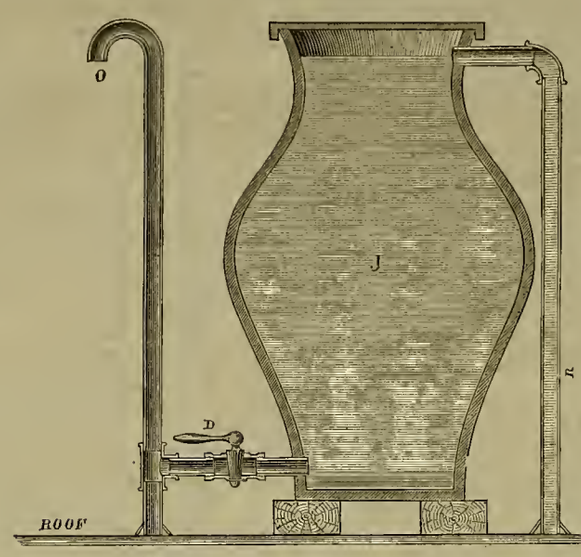
Huerne's Self-Cleaning Filter.

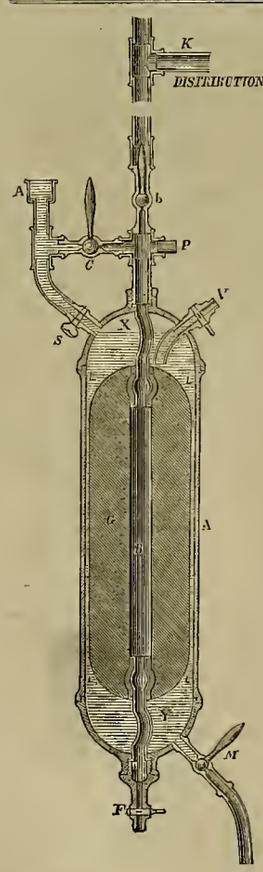
The medical faculty all discourage the use of impure water, as the digestive organs are weakened by the absorption into the system of the impurities always found in common water. These substances are various. Minerals, which, though innocuous in small quantities, when partaken of largely and repeatedly, affect the health, especially of delicate women and children. Extraneous matter, which finds its way into the water of large cities, is drunk in a quantity which would appal the careless observer who saw the dirt collected from the water for the first time. Sacramento water is proverbially impure, and filters are in great demand at that place. In San Francisco the general impression is that the water is free from impurities, and until lately we were of this opinion. We visited several houses recently, in which were placed a peculiar filter, which is attached to the mains, and were surprised to see what an amount of mud and dirt had accumulated in the instrument, even in one day. The filters referred to are cleaned every morning, and the water drawn off from them is peculiarly clear, when compared with that drawn from the pipes in the ordinary manner.

As the subject is one which very much interests this as well as other communities, we have had an engraving made of the filter we refer to, which is shown on this page. It is the invention of Prosper Huerne, of this city, and is quite simple in detail and operation, though a description might appear somewhat complicated.

Thus the water which is admitted into the chamber between the stone and shell, through the pipe, *A*, by means of the cock, *S*, will be forced through the porous stone by the pressure of the water, into the chamber, *B*, from whence it can be drawn for use, through the pipe, *n*; or the cock, *F*, being closed, the pressure will force the water up into the tank, *J*. *X*, is an air chamber which is formed by the water in the upper space *L*, *L*, so that a continuous force is obtained, while the heavy sediment which comes in with the water, settles through the side spaces to the bottom of the lower chamber, *L*, *L*, at *Y*, from whence it can be drawn off through the cock, *M*, and side pipe. *V*, is a vent or air tube to admit and vacuate air. *P*, is a plug which closes an opening in the pipe, *b*, to which the connection of a force pump may be attached in case the water is drawn from a river or creek and is under no pressure. *R*, is an overflow pipe which connects the upper end of the tank with a sewer or other waste way. *O*, is a siphon extension of the pipe, *b*, rising higher than the level of the water in the tank, by which the working of the filter is tested.

A is an elongated circular shell through the upper end of which the pipe, *b*, passes. Inside of this shell is an elongated porous stone or ovoid, *G*, which is shorter than the shell and somewhat smaller in cross section. This ovoid has a hole or passage, *B*, extending longitudinally through its center and is supported in place inside of the shell by the end of the pipe, *b*, being secured in the upper end of the passage. A short pipe, *n*, similar to *b*, is received in the lower end of the passage and passes down through the lower end of the shell, thus fixing the ovoid inside of the shell with a space, *L*, *L*, above and a similar one below, their spaces being connected by the narrow spaces between the shell and the sides of the stone. The pipe, *A*, connects with the supply main and communicates with the interior space, *LL*, at the upper end of the shell, a cock, *S*, serving to regulate the flow. The pipe, *b*, passes directly up to and through the roof of the house where it is connected by a side pipe with a jar or tank, *J*. A short pipe connects the two pipes, *A* and *B*, and a cock, *C*, serves to cut off communication between the two when desired. *K* is a distributing pipe which can be extended to any part of the house.





To work the filter alone, *C*, *b*, *M*, are shut, and *V*, *S*, are opened. Shut the vent, *V*, as soon as the water spouts from the vent pipe, for then the filter is full. The flow is regulated by the cock, *S*, so that no more than two gallons per hour will run. This can be seen by the amount coming out of the pipe, *F*. Then shut the cock, *F*, and open the pipe, *b*, to allow the water to pass up into the jar, *J*. In this operation the water comes in at *S*, to the chamber *L*, *L*, and is forced by the pressure through the stone, *G*, into the hollow chamber, *B*, by which process it is cleansed of all impurities. It either passes out of the pipe, *F*, or if that is closed it passes on up the pipe, *b*, through *D*, into the jar, *J*, from which it can be drawn when desired. It may be allowed to filter and accumulate in the jar, and the overflow pipe, *R*, being connected with the sewer, will carry off the surplus water; or the water can be shut off when it is thought that the jar is full.

To clean the filter when there is pressure upon it, the cocks, *b*, *F*, and *S*, are shut. *M*, and *V*, are opened until what water was in the filter has run out through the waste pipe, *M*. Then the cock, *C*, is opened and the water allowed to run a few minutes. This operation reverses the flow of water. That is, it comes through the pipe, *C*, into the hollow chamber, *B*, and is forced *outward* through the porous stone into the air and mud chambers *L*, *L*, *L*, *L*, carrying with it all sediment and impurities, which may have collected outside of the stone. Whereas, in admitting the water to be filtered it comes through *S*, to the *outside* of the stone and is forced *inward*, being filtered by the stone on its way.

To clean the filter with filtered water when the city water is too dirty and the jar, *J*, is high enough, *C*, *S*, and *F*, are closed and *M* and *V*, opened until the water stops running through the waste pipe, *M*. Then the cock, *b*, is opened until the water runs clear, through the waste pipe, *M*. When the water is extremely muddy, a special tank is added to allow the mud to settle previous to introducing it into the filter. When the water has a bad odor, charcoal or other deodorizer may be placed in this tank.

A great many different styles of filters are now in use, in most of which, however, the sediment accumulates gradually, through which the water has to pass. This water so obtained remains apparently clear, but often contains impurities from the accumulation of dirt in the filter alone. Self-cleaning filters such as the one we describe, are as clear at the end of a year as on the first day they are used; the impurities collected or strained from the water being daily thrown away. This filter can be used every where in large cities, with the pressure usually on city mains. In the country a force pump and tank would be needed. Pure water can be obtained from this filter in sufficient quantities for steam boiler use, which will in a measure prevent the scaling of boilers which inevitably follows the use of impure water, thus saving great inconvenience and expense.

The filter is usually set in the kitchen or pantry where the water can be drawn directly from it; but if desired the filtered water can, with the pressure on the supply pipe be raised to a special tank on the roof and thence distributed through the house. The cleaning is simple and can be performed in a few minutes. Of course it can be allowed to run night and day in larger or smaller quantities to suit the wants of the consumer. The first cost of the machine is the whole expense and that is quite small. Two or three jars can be connected together to increase the reserve of filtered water. The tank should of course be covered to prevent the collection of soot, dust, etc. Mr. Prosper Huerne, the inventor, is a prominent architect of this city and has put a number of these filters into houses of his construction and several others. The filters are made of brass and are quite ornamental. Mr. Huerne has also devised a settling and self-cleaning water tank, for use in localities like Sacramento where the water is under pressure but is muddy. Parties desiring further information on this subject can address the inventor, N. W. corner of Washington and Kearny streets, or E. Hestres, general agent, 202 California street, in this city.

The Utah Mining Swindlers get hauled over the coals occasionally, whether the investigations ever amount to anything or not. We see by a dispatch from Salt Lake that two detectives have arrived in that city from the East, with warrants for the arrest of certain mining swindlers. One of the offenders gave himself up, and went East with one of the officers. The dispatch says that there seems to be a determination among capitalists who have been robbed by bogus mines to arrest and punish the guilty parties. This "determination" may be all very well, but the swindlers generally get off, after all. We frequently hear of swindles, but seldom of the punishment of the perpetrators.

The science of geometry had its rise among the Egyptians, who were, in a manner, compelled to invent it to remedy the confusion which generally happened in their lands from the inundation of the river Nile, which carried away all boundaries and effaced all the limits of their possessions. Thus the invention, which at first consisted in measuring land, that every person might have what belonged to him, was called geometry, or the art of measuring land.

A New Grove of Big Trees, for which California is famous, has been found on the Coulterville route to the Yosemite Valley. The new grove has been named the Merced Grove of Big Trees. It is said to be fully equal to either the Calaveras or Mariposa Groves, and is easy of access, being on a direct line to the Valley. One of the trees is said to be 75 feet in circumference.

CORRESPONDENCE.

Notes of Travel in Utah Territory.

[By our Traveling Correspondent.]

North Star District,

Consisting of North Star and West Camp, is located 36 miles west from Beavsr City, the connty ssat of Bsavsr county, four miles from Bsaver river, and ahont 225 milss south of Salt Laks City. This district was cut off from "Star" district Nov. 11th, 1871. W. H. Lighthall was elected Recordsr at that time, and has filled the position np to the pressnt, heing still in office. The mines of this district are worked principally for silver, although there are sevsral copper mines. The character of tho ores is similar to thoss at Pioche, slightly hase all through, and in some cases smelting orcs are obtained. At Shauntie Springs, some 5 miles from North Star town, in Star district, two furnacss ars erected, one of which is in successfnl opsration now. There have heen soms 500 locations rscorded in North Star district; some fivs companies are working at this writing.

The Town of North Star

Contains ahont 50 inhahitants. This town is pecnliarly situatsd, heing less than 20 miles distant from twelve different mining districts, all of mors or less importance. The principal ones are Star, San Francisco, Prusss, Rocky, Beaver Lake and Lincoln District. The character of the conntry rock here is lime and quartzite, and in one place granite. The ores are of a very high grade, many prospects running into ths thousands. Nearly every different metal kuown is found here, although silver, oopper and lead are the most prominent. The mines of this district that are heing developed, are as follows; the most prominent of which, is the

North Star S. M. Co,.

Limited, of London, Ontario, Canada. It is an incorporation of $1,150,000 capital stock, the principal offics of which, is ae ahove; Lieut. Col. John B. Taylor is Presidsnt; D. C. Bntterfisld Esq., is General Snperintendent, and Dr. A. T. Machattie and T. S. Wills, Esq., ars the resident directors of this corporation. The mines of this company ars at North Star, Beaver county, Utah Territory, and consist of the following locations: Beginning on the southwest of their mines, the first is the Oakland, containing 600 feet; next, Hickory, 1,000 feet; Herrington, 1,000 feet; and the Raineer, containing 1,000 feet; the three former are prohahly one continnous ore-hody, certainly the two former, the Oakland and Hickory are. The ors body of the ahove-mentioned locations runs northeast and southwest, and dips to the northwest, at an angle of ahout 75°, the country rock of which is a hanging wall of lime, and footwall of quartzite. The character of the ore is considered free milling, carbonate in ths main, slightly hase throughout, and in soms small lots very hase.

The Composition of the Ores

Of this company's minss is truly wondsrfnl—ae they contain such a largs combination of minerals. Besides silver, these ores contain lead, galena, iron, copper, arsenic, antimony, sulphur, and a trace of gold. The value psr ton in silver of the ores thus far extracted runs from $8 to $2,000 per ton, and averages ahout $120 per ton, 700 tons of which is now upon this company's dumps. They havs developed the different locations hy some five different shafts, and as many diffsrsnt prospects; their shafts vary in depth from 40 to 180 feet, all showing ore, varying from a few inches to 20 feet wids, and averaging ahout 4 fset in width; drifts have heen run ou the ore hody 150 feet, connecting ths Oakland with the Hickory shaft, at a point in the latter shaft 62 feet helow the surface. At the mines of this company 11 men are employed, hoisting hy wiudlass. These mines are situated at an elevation of ahout 7,000 feet ahove tide watsr. Ahout five milos sast of thsse mines and the town of North Star, this corporation ars erecting a very fine

Ten-Stamp Mill

With a capacity for twenty stamps, the machinery for which was made to order in Chicago, Ill. A majority of the machinery is on the gronnd at this writing—it is expected to he completsd hy the 10th of Octoher, this ysar. It ie located near Beaver Cresk, and at ahont 800 feet less elevation than the mines. The expe:ts of the company estimate some 7,000 tons of ore in sight on their different locations.

There ars several othsr prominent mines here that at present are lying idls. The Osceola No. 1 and 2 have ahout 300 tons of a high grade ore upon their dnmps, and have a shaft down 60 feet. The Blue Cloud has ahont 100 tons upon the dump, and their main shaft is down ahout 70 feet.

The Lake Superior Copper Mine,

Located ahont 1½ miles northwest of the town of North Star, shows croppings 20 feet wide which are prominent for over ¼ of a mile. It is the property of Messrs. W. H. Lighthall, James Forgie and Captain Bates. These gentlemen own 1,000 feet on this lode, that runs northeast hy southwest, ths general course of all ths minss in this district, and pitches to ths northwest. One shaft is down ahont 40 feet; they have ahout 100 tens of ore on dump, 30 tons of which will go ahout 30 per cent. copper and $18.75 per ton in silver.

To ths seuth of the town of North Star there are several prominent mines, idle at present, helonging to Messrs. Jamss Schoonmaker, Collins & Co.

Beaver Lake District

Is situated ahout 10 miles north of North Star, and ahout 3 miles north of the Pioche stage road. There are several locations, among which are ths Big Mountain and San Francisco mines. There is a shaft on ths San Francisco to ths depth of 130 feet, with a good hody of ore that runs from $200 to $300. The Big Monntain has not been worked very much sxcept to strip it. It shows a vein about 800 feet in length, and the ore is said to run from $500 to $900 in silver with a small per cent. of galena. This mine is the property of Messrs. Gray, Dykes & Smeeden, and the San Francisco mine helongs to Camphell & Byrone.

Little Cot'onwood District.

This district comprises all ths mines and locations of every character lying on either side of Littls Cottonwood Cañon, which cañon forms a horseshos in shape, with the toes toward the westward (from which side you enter) and the heel to the eastward. The locations of this district sxtend for a distance of ahout 10 milee east and west aud from 2½ to 5 miles north and south. Through Mr. John McDonald, the present Mining Recorder of this district, I learn that there are ahout 2,100 locations iu the district of Little Cottonwood, and the date of the inauguration of this district, was Aug. 15th, 1868, at which tims Mr. J. F. Woodman was the Mining Recorder. Previous to the ahove dats this district was known as

Mountain Lake Mining District,

And ite boundaries extendsd north and took in "Big Cottonwood Mining District," at present cut off hy itself. Mr. R. Greenway is the present Mining Recorder of that district. It also run south and took in the Americau Fork District, of which Dr. Spoerry is the Rccorder. From the center of Littls Cottonwood district to the line of Big Cottonwood is from 1¼ to 2½ miles, and to that of American Fork district it is from 2 to 5 miles, at or near the center of the present principal development of Little Cottonwood, and around which are centered all the mines of importance that ars at all developed.

Alta City,

Which hegan its existence in ths year 1871, contains (with its surroundings) about 1,500 inhahitants, ahont 600 of whom are miuers, working for wages, hesidss others prospecting for themselves. The town has one hotel, kept hy S. Fuller; hoard and lodging $3 per day. At ths resturants, half a dozen in number, meals ars from 50 to 75 cents. There are 5 or 6 mercantils houses, and twice as many saloone. This place is located ahout 29 milcs southeast of Salt Lake City, in Salt Lake county, Utah Territory, at an elevation of 8,480 feet ahove the level of the sea, or ahout twice as high as Salt Lake. Ths winter commences here ahout the 1st of Novemher, and lasts until the following June; the snow falling from 15 to 18 feet deep on the level, although it drifte and slides to a depth of from 40 to 100 feet. The monntains surrounding Alta City, and forming bonndaries of the Littlo Cottonwood district, are on the north 10,000 feet; on the east 10,500 feet, and on the south 11,000 feet elsvation, ahove tide water.

How to Get There.

From San Francisco, Cal., to Ogden, it is 881 miles, via ths C. P. R. R., and the fare $50 coin; from there to Salt Lake city, Utah Territory, running nearly south it is 38 miles via the Utah Central R. R., and costs for fare $2 currency. From Salt Lake City still going south, via the Utah Southern R. R., it is 12 miles to Sandy Station, and the fare $1 in currency, at which point you take the Wasatch and Jordan Valley R. R., (narrow gange) to Granite, a distance of ahout 7 miles; fare 75 cents. At this poiut you take stage or horseback travel for Alta City, distance 10 miles. This portion of the travel ie run hy Parlin & Thompson; fars hy the etage $2.50. Total distance from San Francisco 958 miles, and cost of trip $56.25.

The Principal Mines

Of this district are as follows, together with their aggregate ore-producing capacity daily: The "Flag Staff" 100 tons; the Emma, 30 tons; the Davenport 25 tons; Windsor 20 tons; Vallejo 15 tons; Highland Chief 10 ton ; Wellington 8 tons, and City Rock ahout 5 tons daily; and from miscellaneous mines, aggregating 75 tons more every 24 hours. The ores of this district are hase carhonates or smelting ores. The ore hodies run nearly northwest and southeast; and pitch northeast, at angles varying from 40° to 50°. But as ths ore is found principally in great hunches, or kidney-shaped deposits, their general pitch is not definable. The country rock is limestone principally.

Additional Prominent Mines

Of this district, not at this writiug shipping ore, are the Oxford and Geneva, located two miles southwest of Alta City. This company have ahout 400 tons of good ore now on their dumps. It is located on what is here known as Peruvian Hill. They ars now making a wagon road to this mine. The Titus Mine is on Emma Hill, to the north of Alta City. Thsy have out on their dumps ahout 500 tens ready for shipment. The Grizzly Mine, now lying idle, (considsred the finest mine in this district,) is in litigatien, thsrefore no infermation of value can he procnrsd from that quarter, although they can at any time they see fit ship 50 tons of ors daily. The latter mentioned mins, together with ths City Rock, Davenport, etc., on Davsnport Hill, are considered trus carhonate ores; while those of ths Flagstaff, Emma, Vallejo, etc., are galena ores. The latter mentioned run from $80 to $125 psr ton in silver, and from 40 to 50 per ceut. lsad. Those on Davsnport Hill, ahovs mentioned, run from $100 to $225 per ton in silver, and from 35 to 48 psr csnt. "hass."

The Smelting Works

Of the Flagstaff and the Davenport ars at Granite, 10 miles down the Cottonwood Cañon to the wsst, to which point all the ores of this district ars transported on wagons, at a cost of $7 per ton; from there the ores that aro not reducsd here ars reshipped to Sandy Station, Salt Laks City, etc., for reduction.

Sandy Station and its Smelting Furnaces.

Sandy Station is 12 miles south of Salt Lake City, on the Utah S. R. R., at the junction of the Wasatch and Jordan Valley R. R. It is the point of vergence from the U. S. R. R. for Littls Cottonwood on the east, and to Bingham Cañon on ths west. Saudy is midway between Cottonwood and Bingham, heing 17 miles from either place, and contains ahout 250 iuhahitants. Its importancs, outsids of the husiness connected with the three smelting furnaces, is not worth mentioning.

The Last Chance Furnace

Or smelting works is ¼ of a mile east of Sandy Station, and is owned hy a London incorporation, known as the Last Chance Mining Co., of Utah (Limited). The mines connected with this company are in Bingham Cañon; Mr. F. H. Meyers is Supt. of the works. This furnacs is run hy steam, with an engine of 30 horse power; it contains two furnaces that have a capacity of reducing 50 tons of ore every 24 hours, producing 10 tons of hullion, the value of which will average as follows: To every ton of lead valued at $85, there are ahout 150 ozs. of silver and 50 in gold; this company are smploying 40 men regularly.

Saturn Smelting Works,

Locatsd ¼ of a mile eouth of Sandy Station, is the property of the "Saturn Silver M. Co," (Limited) of London. The mines of this company are at Bingham, some 17 miles to the westward. Thess works ars run hy steam, with sngius of 50 horse power, (two hoilers). It contains 2 water jacket furnacss, and one hick furnace; these three furnaces have a capacity of reducing 90 tons of ors daily (24 hours); 2⅓ tons of this ore produces ous ton of hullion—to every ton of hnllion thoy get from 237 to 250 onnces of silver, and from 10 to 11 ounces of gold, the lead running from $84 to $95 per ton. Each of the above mentioned furnaces consume daily from 750 to 900 hushels of charcoal, and from 1⅓ to 2 tons of coke, and ahout 5 tons of fluxes, consisting of iron ore and limestone, they employing regularly 50 men at the estahlishment. The manager of the ahove incorporation is Mr. J. B. Stanford, T. E. Clohecy, Cashier; J. F. Crossett, Superintendent; Professor Norton, Assayer. E. M. Wilson, Esq., Clerk. Ths

Mountain Chief Smelting Works,

Adjoining the Saturn Works, is the property of the "Mountain Chief Silver M. Co.," the principal mines of which are at "Dry Cañon," although they havs interests at Bingham. Dry Cañon is some 40 miles sonthwest of Sandy Station, from which point their ore is transported in wagons at a cost of $15 per ton. These works have one furnace (Water Jacket) and one in course of erection. The capacity of this one furnace is 30 tons of ore daily (24 hours), producing ahout 10 tons of hullion, of ahont the same valus of the hullion prodnced hy the Saturn, also using ahout the same amonnt of fnel and finxes, working regularly 15 men; S. W. Valentine, ResidentManager in Salt Lake, and A Hanawer, Superintendent. From Bingham Cañon in my next.

L. P. Mc.

[To be continued.]

TWENTY-OUNCE DIGGINGS.— William Wittie and Dr. Joseph Holdsworth, of this city, returned this morning from a prospecting trip to the north of Wehher Lake. Wittie and a party of prospectors were up in the same region last May, and, while they found hoth gold and silver-hearing quartz, they were not succeesful in striking any ledge of extraordinary richness. This time, however, Wittie and his companion extended their explorations from Nevada to Sierra counties, and on the Middle Fork of the Yuha river thsy struck some gold-hearing ledges of great richness. One silver-hearing ledge was fonnd, hut the ore was not of high grade and but little importance was attaehed to it. The nsw mines are in Nevada county, and while our Virginia prospectors were at work in there; a man come over from Sierra City and struck a lead of decomposed quartz from which he took out twenty ounces of pure gold in one day. The entire population of Sierra City (the mau who found the ledge and his partner) were very much excited over the new strike.—*Virginia Chronicle.*

The Alaska Mines.

The Portland (O.) *Bulletin*, in spsaking of the arrival of the steamer "Gussie Telfair," from Sitka, says that she hrings vsry impertant news from Alaska, which, if trne in every detail, will revolutionize the prssent condition of our northern possessions. Pnrser Goodhns reports intsnse sxcitemsnt prevailing in Sitka over ths quartz-mines recently discovered in ths vicinity. The minss discovsred a fsw months ago hy Holey ars prospecting wsll; ths steamer hrought down two tons of it which are to he forwarded to San Francisco to he assaysd. The same person has also discovered a quartz mine which is said to hs exceedingly rich; the gold, it is said, can he picked out with a knife. Everyhody in that region talks of nothing now hut mines, and all are speculating in them.

Great as is the excitement at thie place, it is much greater at Forts Wrangel and Tongos, as placer mines have heen discovered about 245 miles from Fort Wrangle, and they ars sa'd to he exceedingly rich. The diggings are situated on a creek that empties into a lake ahout 70 miles from ths Stickeen River. This would place thsm at ahout 80 miles from ths head of hoat navigation on the latter. They were first discovered hy a man last winter, and he came hack for provisions to enable him to work them, hut on returning he was frozen to death.

They are worked now hy twenty-thrse miners, and they maks from one to four ounces per diem to the hand. The diggings are situated on a slate rock hed, and in some places they are so rich that the miners take the gold out of crevices hy the epoonful. Their extent is not yet known, hnt they are supposed to he quite lasting.

Purser Goodhue showed us some of the metal. It is coarse shot gold, and some pieces are worth from two to twelvs dollars. This gentleman hrought forty ounces of it to parties in Victoria, and it was deemed hy them to be of excelleut quality.

If these mines shonld hold out for any length of time it will indicate that the auriferous material ie very ahundant in that region, and it will, of course, lure there a large number of adventurous and enterprising miners and merchants, and that couutry, which is now a mere wildernsss, will, as a consequence, be densely populated.

Prevention of Waste in Manufacture.

In the economy of trade and manufactnrss, there is nothing more interesting than ths prevention of waste, or the discovery of a way hy which waste materials may he turned to profitahle uses. A remarkahle case in point hae rscently ocenrred. In the manufacture of the beautiful hlue and violet dyes that make silken textures and the wearers thereof look so hsautiful, there has always heen produced a large quantity of a dark colored suhstanes, known among chemists as "Hoffman's gum." In some aniline dye-works, ths accnmulation of this refuse amounts to hnndrsds of tons, and has long heen a hideous burden. But recently Mr. J. Spiller, a member of ths Chemical Society, has discovered that hy the process which chemists describe ae "destructive dietillation," blue and violet dyes, quite ae good as thoss extracted in the first instance, can hs got out of this waste gum; and so, as if hy magic, the hideous heaps now lying in the outskirts of many chemical works in this country and on the continent hecome valuahle as gold mines, and enterprising chemists reap the reward.

Another instance is rsported from Cornwall. The drainage of certain mines thers is discharged from a great adit, and flowe into the sea. A few enterprising individuals rented a piece of waste land at the outfall, dug a few catch-pits, into which the water poured, and threw down a sediment ers it finally escaped. This sediment is ochre, useful for paint and many other purposes, and the quantity collected in this simple way in one year was ahont two thousand tons, worth from eleven to twenty-five shillings a ton. These economisers, however, have let some of their profit slip, for a keen contriver dug a pit to intercept their waste water, and in the same year got three hundred pounds' worth of ochre as the reward of *his* ingennity. One more example comes to ue from southern Italy, whers the people squeeze oil from olives in common wooden presses, and hurn the huskeas fuel. A Frenchman from Marseilles went among thsm, and hought the husks at tweuty francs a ton; shipped them to France, where, after treating them chemically, he squeezed them in a stsam press, and extracted therefrom twenty per cent. of oil.

COLOSSAL DAM.—In a former issue of the *National*, ws made mention of the colossal work which is heing done at Little Long Valley ahove Rush creek in this county, hy ths Providence Hill Mining Company. Under the ahle management of C. W. Reed, the work on the great dam is actively progressing. When completed this structure will be the most colossal work of its kind in California. The dam will be a timhered crih work, 600 feet in length, 80 feet in width at the hettom, with a hight at the center of 40 feet. By this great obstruction to the creek, Little Long Valley will he transformed into a respectably sized lake. The water from this hig re.ervoir is to be us d upon the rich placers at Providence Hill on Rush Creek.—*Plumas National.*

Scientific Progress.

The Heat of the Moon.

The Earl of Rosse has shown by experiments that the moon not only reflects heat to the earth, bnt that she gives out heat hy which she has been heiself warmed. The distiuction may not perhaps appear clear at first sight to every reader, but it may easily he explained and illnstrated. If on a bright snmmer's day we take a piece of smooth, hut not to well polished metal, and by means of it reflect the snn's light upon the face, a sensatiou of heat will be experienced; this is reflected sun-heat; bnt if we wait while so holding the metal until the plate has become qnite hot under the solar rays we shall recognize a sensation of heat from the near proximity of the plate to the face, even when the plate is so held as uot to reflect sun-heat. We can in succession try, first reflected heat alone, before the metal has grown hot; next, the heat which the metal gives ont of itself when warmed by the sun's rays; and lastly, the two kinds of heat together, when the metal is caused to reflect sun-heat, and also (being held near the face) to give ont a sensible qnantity of its owu warmth. What Lord Rosse has done has been to show that the full moon sends earthwards both kinds of heat; she reflects solar heat just as she reflects solar light, and she also gives out the heat by which her own snrface has been warmed.

It may perhaps occur to the reader how much heat we actually obtain from the full moon. There is a simple way of viewing the matter. If the fnll moon were exactly as hot as boiling water, we should receive from her just as much heat (leaving the effect of our atmosphere out of accennt) as we should receive from a small globe as hot as boiling water, and at such a distance as to look jnst as large as the moou does, or a disk of metal would serve equally well. Now, the experiment may be easily tried. A brouze half-penny is exactly one inch in diameter, and as the moon's average distance is 111 times her own diameter, a half-penuy at a distance of 111 inches, or three yards and three inches, looks jnst as large as the moon. Now lst a half-penny be put iu boiling water for a while, so that it becomes as hot as the water; then that coin taken quickly and set three yards from the observer will give out, for the few moments that its heat remains appreciably that of boiling water, as much heat to the observer as he receives from the full moon supposed to be as hot as boiliug water. Or a globe of thin metal, an inch in diameter and full of water at boiling heat, would serve as a more constant artificial moon in respect of heat supply. It need not be tbought remarkable, then, if the heat given out by the fnll moon is not easily measnred, or even recoguized. Imagine how little the cold of a winter's day wonld be relieved by the presence, in a room not otherwise warmed, of a one inch-globe of boiling water, three yards away! And hy the way, we are here reminded of an estimate by Prof. C. P. Smyth, resulting from observations made on the moon's heat during his Teneriffic experiments. He found the heat equal to that emitted by the hand at a distance of three feet.—*Spectator.*

Annealing.—The change produeed by annealing is not well understood. Most of the malleable metals assnme two distinct forms: one crystalline, which is the resnlt of slow cooling, and the other fibrous, which is brought ab out by hammering or rolliug. If hammered or rolled beyond a certain point, the metals become so hard that they cannot be bent without breaking. If annealed beyoud a certain point, the metals become crystalline. Thus, zinc may be drawn into a very flexible and tenacions wire; but if kept in boiling water too long it resumes its original brittleness, and displays a crystalline appearance when broken. The particlee of the metal change their arrangement without altering the external form, and this change may be brought about in various ways; thus, brass wire loses its tenacity by exposure to the fnmes of an acid, and even by air acting on its surface in a damp atmosphere. Hence it ie necessary to preeerve wire, such as is used in the manufacture of pins, in a dry air, or nnder the surface of water.

Aconnino to *Harper's Weekly*, the United States Signal Corps has recently extended its series of observations to include a daily record of the surface and bottom temperature of the rivers and harbore on which its several stations are situated. These obeervations are not only in a meterological point of view, hut as they are also of great practical importance in connection with the intnoduction of usefnl food-fishes into the rivere and lakes of the United States, a work which is now being energetically pushed forward nnder the snpervision of Professor Baird, United Statee Commissioner.

Lunar Light Upon Vegetation.—Mons. Pierre Charbonnier, in a communication to the *Journal d'Agriculture Pratique*, states that lunar light exerts a material influence upon aquatic vegetation. This fact wae first noticed from the increased growth of cryptogramic vegetation upon the sides of an aquarium. It was observed that during the time of the full moon it was much more luxuriant than during the time of the new moon. This led to other observatione with regard to it, and it was found that aquatic vegetation geuerally is affected in a similar manner.

The Origin of Meteors and Comets.

Proctor has recently advanced an idea as to the origin of comets and meteors that may seem to be hut the revival of an old opinion, and one supposed to have been exploded. The researches of Schiaparelli and Newton and others, in that they showed the meteors to he regular members of the solar system, seems to have temporarily satisfied the inquiry as to the remote origin of these bodies. The former astronomer assnmes them to exist generally throughout the interstellar spaces, and to he successfully drawn to one and then to another sun, while Proctor reasons that these bodies are now found to travel in groups or streams, that it is difficult to conceive how our sun could draw a connected stream of meteors to itself at any given epoch, and that if these bodies were dejected from the self-lumiuous stars, we may with equal plausibility suppose similar bodies have been ejected from the planets of our own system when they were in a molten condition. He accordingly shows the very moderate degree of force required to eject a meteor from the surface of the outer planets, and examines the orbits of snch periodical comets and meteors as are at present known. In accordance with the suggestion of A. S. Herschel, he deduces the interesting conclnsion that the comets expelled from Jupiter would mostly have a direct motiou, or one in the same directiou as his own, while those ejected from Neptune would be as likely to have a retrograde as a direct motion. Proctor concludes that many comets have sprung from Jupiter and Neptune, and at least one from Uranus—the latter being the well-known November meteor streams, or the Leouides, which Hind has shown to he connected with Tempel's comet.—*Harper's.*

Making Mistakes.—Professor Joy remarks: "If Liebig was hasty in expressing an opinion, he was equally ready to retract when convinced that it was erroneous. I once had a conversation with him on this point, and he spoke of the fear some scientific men had of being canght in a mistake. He considered errors inevitable and inssparable from the accomplishment of any scieutific work; and it was on this occasion that he made the oft-quoted remark, 'Show me the man who makes no mistakes, and I will prove to you that he does nothing.' It is easy enough for a scientific man who publishes nothing, but only criticises others, to escape the charge of committing errors, and for such persons Liebig entertained a wholesome contempt. What he desired, above all things, to know, was the truth; and when he thonght he had discovered it, he was anxious to give the benefit of it to the world."

One of the most important discoveries in economic geology made during the past year is that of tin in Australia. Tin has been met with heretofore in Australia, but the recent discoveries indicate far richer deposits than any before known there. The district in which the metal is found is along the valley of the MacIntyre River, on the nigh plateau of the Australian Alps. The ore occurs, as usual, in granite, and so disseminated as to form a kind of stockwork. The overlying surface deposits contain large quantities of oxide of tin, and it is probable that a very large amount of ore will be obtained from the diggings or washings. In a series of trials recently made 20 pounds of detritus were found to yield from three ounces to two pounds of ore. The tin-bearing belt is known to have more than 150 miles of linear extent so that these new mines may, in time, become quite as productive as those of Banca or Cornwall.

Test for Sewage in Water.—At a recent meeting of the Royal Dublin Society, Dr. Reynolds called attention to Heisch's test for detecting sewage contamination. It is one of the best known, but has been strangely neglected. About half a pint of the water to be examined should be placed in a colorless, glass-stoppered bottle, and a few grains of the best loaf sugar added. The bottle should then be placed in a position where it will be directly exposed to the rays of the sun. The liquid should not become turbid even on a week or ten days' exposure. If there is a perceptible cloudiness, sewage contaminated may be strongly suspected. Frankland has stated that this turbidity is due to phosphoric acid present in sewage, and it has also been suggested that it is due to fungoid growths.

An Article on the determination of oxygen in decarbonized Bessemer metal, prior to the addition of speigeleisen, by A. Bender, appears in a recent number of the *Berg-und Huettennaennische Zeitung*. The oxygen ie determined in a sample by combustion with hydrogen to water, and collecting this in a chloride of calcium tnbe. The author thinks the bubbles in Beesemer steel could be avoided if some substance could be found to unite with the oxygen to form an easily soluble slag instead of gas, as it is at present when united with carbon.

A New Red Coloring Material From Anilin.—By treating analin with a few drops of chloride of snlphur, a red and solid product is obtained. Treating this with acetic acid there is obtained by filtration and evaporation a brilliant black product.

Old Probabilities seem rather satisfied with himself than otherwise, that he has hit the weather for the past twelve months sixty-nine times out of one hundred.

Mechanical Progress.

Utilization of Furnace Slag.

If the following from the Manchester *Daily Chronicle* is correct, it points to results of the highest importance to the manufacturers of iron, in not only ridding themselves of what has always been an embarrassment to dispose of, hut of converting it into a source of profit. Discussing the component parts of the utilizatiou of the furnace slag, the *Chronicle* says:

"Meanwhile, practical men are pretty generally agreed that refuse slag has all the elements necessary to its applicatiou to purposes of high commercial utility. Instead of being simply used for making roads or filling up holes and gullies—for it serves no more useful ends at present—we may soon see it superseding the labors of the quarry, rivaling the most valuable marble, and equalling in beauty and brilliancy the attractive malachise or such precious stones as the agate and jasper. For according to the treatment it receives, slag can be rendered brittle or tough, hard or soft, compact or porous, rough or smooth. It can be cast into as great a variety of forms, both solid and hollow, as iron itself, while it posses the superior advantage of being susceptible of the admixture and blending of colors. Indeed, one gentleman has even stated as the result of his experiment, that this dispised and now useless product can be made, when properly annealed, to acquire a surface of texture at least ten times as durable as marble and is susceptible of a polish equal to agate or cornelian. If all this is possible—and we do not put it forward as mere speculation or theory—then it is surely a scandalous thing that 4,000,000 tons of slag should annually be thrown out as rubbish, at an immense sacrifice of labor and capital, between the Tees and the Tyne."

A New Ice-Machine.—In this warm weather the description of a new ice-machine may not seem unseasonable. According to the *Arbeitgeber*, M. Toselli, of Paris, has invented such a machine, of entirely original construction. It consists of a wheel formed hy a spiral tube. The spiral is open at one end, and communicates with a vessel of water. The other end of the spiral empties into the hollow axis of the wheel, and from this latter communication is had, through a tube, with a worm, which is placed in a cooler. The worm finally empties into the vessel in which the spiral revolves. A blower is also attached, which blews air upon both sides of the spiral. When the spiral is revolved, it takes up water, after the manner of Archimedes' screw, and forces it a long distance through the cooled worm back into the reservoir. The outside of the spiral, being half the time under water, is always wet, and the wind blown over it evaporates this moisture, and thus abstracts the heat from the water in the coil.

The largest anvil in the world has just been cast at Woolwich, England. The plate which is to form the bed of the monster weighs of itself 107 tons. The surface lay face downward, and when it became cool it took a perfect army of sturdy smiths, with hydraulic jacks and a combination of the strongest tackle, a whole day to lift the monstrous lump of solid metal, twenty-two feet square. The anvil block to be mounted thereupon will weigh only a trifle short of 200 tons, and the steam-hammer which will strike upon it thirty-five tons of solid metal, being the English tou of 2,240 pounds. The blow at full force will be tremendous. In fact, it is doubtful what will happen to the town of Woolwich and vicinity when the mighty piece of mechanism gets to work. Vulcan himself, and all the giants who worked beneath Mount Ætna, never dreamt of such an anvil as this; and Thor's famous weapon was a mere tack-bammer in comparison. Taking all its metal together, it will weigh hard upon 500 tons.

A Fire-proof stove for use in passenger cars especially, was subject to a severe test in Boston, recently. The stove is made of wrought and malleable iron. It is circular in form, composed of three upright cylinders and two cold air boxes at the bottom. The fuel is placed in the inner cylinder. The cold air rushing through the cold air boxee drives hot air outward and upward through the cylinders, the rounded form giving a very powerful radiation. The heat escapce through a register in the back. The whole is strongly bound together by strong iron bolts. The doors are fastened by patent locks. At the trial the stove, after the fire in it was well under way, was thrown from the staging upon which it was placed, to the ground a distance of six feet. It was then rolled about, tumbled over and over, but not a spark of the fire was spilled upon the shavings which were scattered around. When the stove-door wae opened the fire was burning briskly. This ingenious apparatus was invented and manufactnred in Wilmington, Del.

Between Glyndon and Crookston, Minn., on the Northern Pacific Road, wind hae been successfully tried as a motive power. On occasion of a land sale at Oak lake, a Crookston party shoved a box-car on the main track, hoisted a sail and sailed themselves through to Glynden, 75 miles in nine houre,

Mr. Bessemer's Channel Steamship.

The construction of the Bessemer saloon steamship has been inspected during the past month at the Hull Shipbuilding Yards of Earle Shipbuilding and Engineering Company, by an infinential deputation from the Bessemer Saloon Steamship Company. The framing of the ship is nearly complete, and the larger portion of the outer plating is worked upon it so that a very good idea of the outlines, at least, of the ship was presented. The Bessemer steamer is 350 feet long, 40 feet broad inside of her paddle boxes, and of 2,774 tons burden, B. M. She will be driven by two sets of paddle wheel engines, acting upon a double set of paddle wheels, situated 100 feet apart, the aggregate power of the engines being no less than 4,600 I.H.P. Although the ship was ordered less than five months ago, the progress above indicated has already been made, and it is now obvious from an inspection of the vessel, even in her present condition, that she will be one of the most remarkable examples of novelty in steam navigation that the world has ever seen. The two ends of the ship alike will be furnished with rudders. It will be in the center of the ship, however, that its most characteristic feature will be found, for here will be placed her saloon, which will be 70 feet long and 30 feet wide, and suspended upon massive pivots at the center and at the extremities. Thus supported, it will be brought under the control of powerful hydraulic gear, worked by the principle boilers of the ship. Their gear will be so arranged that it is expected a man will be able to impart to the saloon a rolling motion in relation to the ship precisely the reverse of that which the ship herself receives. The engine, it is anticipated, will drive the vessel at a speed exceeding 20 miles an hour.—*Iron Age.*

Improved Steam Rock-Drill.—An improved rock-drill, the invention of Mr. Ingersoll, is at present working most satisfactorily at New York. It is stated that a 3½-inch hole was carried down at the rate 2⅔ inches per minnte, and that in boring a 1¼-inch hole the drill penetrated with as great rapidity as would a 1¼-inch auger in hard wood in the hands of a skillful carpenter. The entire drill is supported on three legs, movable like the legs of a surveyer's triped, and joined se as to facilitate its adaptation on uneven grouud. Upon the legs are placed cast-iron weights, which give a steadiness to the whole arrangement, though from the fact that the shock of the blew does not come at all upon the cylinder and its connections, the vibration of the drill is not severe. The mechanical arrangement of the drill is very simple, consisting of an ordinary steam-cylinder to the piston, in which the drill is attached. Every portion of the machine is made exceedingly strong, and the whole is so well balanced that there is very little dangar of unequal strains and deficient power of resistance. The piston is well cushioned with air or steam at the end of the stroke, and the general result has been that the drills have gone on for weeks and months without requiring repairs. There are new about 200 of the drills in operation.

Hail Columbia!—The cotton-gin, without which the machine-spinner and the power-loom would he helpless, is American. The power-shuttle, which permits an unlimited enlargement of the breadth of the web, is American. The planing machine is American. Navigation by steam is American. The mower and reaper are American. The rotary printing presses are American. The hot-air engine is American. The sewing-machine is American. The machine manufacture of wool cards is American. The whole india-rubber industry is American. The hand-saw originated, we believe, in America. The machine manufacture of horseshees is American. The sand-blast, of which the large capabilities are yet to be developed, is American. The gauge-lathe is American. The only successful composing maebine for printere ie American. The grain elevater is an American invention. The artificial manufacture of ice was originally invented by Professeor A. S. Twining, an American. The electro-magnet was invented, and immediately after its invention was first practically applied in transmitting telegraphic signals by Professor Joseph Henry, an American. The telegraphic instrument introduced a few years later into public use, which has since obtained universal acceptance, was invented by Samuel F. B. Morse, an American.

Gas Pokers.—Various fire kindlers, such as cakes of rosin and sawdust, etc., have been introduced, and found very serviceable; but the latest and most original effort in this direction ie a "gas poker;" simply a hollow iron tube, shaped like a poker, with perforated holes in one extremity, and the other arranged with a flexible tube, of sufficient length to connect the "poker," when thrust into the stove or grate, with the nearest gas burner. This done a match will light the gas, and in a few minutes you have a fire, whether of wood or coal, without any trouble or litter.

Within the last year book-sewing machines have been successfully introduced in America, which effect an average saving of one-half the cost of hand-sewing, and are simple and perfect in their operation.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Sept. 17, 1873.

NAME OF COMPANY.	IN MINE.	FEET IN MINE.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co							
Alpha Consolidated	300	6000	26	23		2	
Alta	3600						
American Flat		30000	6	3⅝		2	
Arizona & Utah	1900	18000	1¼	1⅛			1/8
Bacon Mill & Mining Co.	65	24000					
Baltimore Consolidated		54000	8¾	7		1¼	
Belcher	1040	104000	70	63			1½
Best & Belcher	224	22400	68¼	43⅝		1¼	
Bowers	20	5000	1¼	1¼			
Buckeye		16000	1¼	1¼			
Bullion	2500	25000					
Caledonia Silver M. Co	6000	20000	21¾	18			3¾
Central	150	10800	12	8¾		1	
Central No. Two	100	20000	8¼	7			
Chollar-Potosi	2800	28000	4⅜	3⅜		1	
Confidence Silver M. Co	130	24869	7	6⅜			1¼
Cons. Gold Hill Quartz	345	20000	4½	2⅜		¼	
Consolidated Virginia	1160	23200	104	95		3	
Cook & Geyer	1600	24000					
Crown Point G. & S. M. Co	600	100000	88	87			2
Daney	2000	24000	1⅜	1⅜			
Dardanelles	1200	12000					
Eclipse	70	25000	4¼	4⅛			3/8
Empire Mill & M. Co	75	50000	4⅛	3¾			⅛
Exchequer	400	8000	8½	8			½
Flowery	3000	12000					
Franklin		20000	75c	75c			
Globe		24000	1¼	1¼			
Gould & Curry S. M. Co	1200	48000	14	11¾			
Hale & Norcross	400	16000	30	26½			⅜
Imperial	184	100000	5½	4½			⅜
Indus							
Inuance	2000	30000				5c	
Jacob Little			15c	15c			
Julia Gold and S. M. Co	2000	30000	2	1⅜			
Justice	3000	21000	1¾	1⅜			⅛
Kentuck	95	30000	11⅝	10¼			⅜
Knickerbocker	1200	24000	3¾	3⅜			5⅛
Lady Bryan							
McMeans	3600	36000					
Mint Gold & S. M. Co	1600	50000	37½c	25c			⅛
Nevada	3000	40000					
New York Consolidated	3600	36000	1	75c			
Occidental	800	10000					
Ophir Silver Mining Co	1400	12800	53	48			2
Overman Silver M. Co	1200	12800	8	7			¾
Phil. Sheridan	1200	24000					
Pictou	2000	30000	20c	20c			5c
Rock Island		24000					
Savage	800	16000	41¾	15			
Segregated Belcher	160	6400	35	33		1	
Segregated Caledonia		10000					
Senator Silver M. Co		24000	62½c	60c		2½c	
Sierra Nevada		20000	14⅜	11⅜		⅜	
Silver Hill		24000	16	15		1	
Sonth Overman		24000					
Succor Mill and M. Co	7600	22800	2¼	1½			¾
Sutro		24000	1½	1½			1/8
Treuch	20						
Tyler	2200	33000	60c	45c			
Union Consolidated	803	20000	2¾	2			1¼
Utah		20000	1⅜	1¼			
Woodville G. & S. M. Co	1400	28000	1¼	75c			¾
Yellow Jacket	1200	24000	52	47			
NEVADA.							
Adams Hill		50000					
Alpha Silver Mining Co	800	30000	60c	50c		10c	
Amador Tunnel & M. Co							
American Flag M. & M		30000	4¼	3½			¼
Arkansas	300	30000					
Belmont			25c	25c			
Bowery		30000	62½c	25c		7c	
Ohapman Mill & M. Co		30000	20c	20c			5c
Charter Oak S. M. Co	1000	30000					
Chief of the Hill		30000	1	90c			
Chief East Extension		36000					
Columbus M. & M. Co	10000	50000					
Condor		25000					
El Dorado Sonth			3½	3½			½
Eureka Consolidated		50000	13	12⅜			
Excelsior		12000					
Harper Silver Mining Co		30000					
Hermes	1000	30000	3¼	3			¼
Home Ticket							
Hunn & Hunt S. M. Co	3500	30000	75c	75c			
Ingomar Silver M. Co	1000	40000	20c	20c			5c
Ivanhoe		30000					
Jackson		50000	17½c	12½c			1½c
Juniata Consolidated	5000	50000					⅛
K. K. Consolidated							
Kentucky Gold & S. Co	1000	30000					
Kinston	1000	30000					
Lehigh	1000	30000					
Lillian Hall	1000	15000					
Louise	2400	30000	25c	25c			
McMahon	1000	30000					
Marion		30000					
Meadow Valley	24023	60000	18	16¼		2	
Mocking-Bird	1200	30000					
Monitor Belmont							
Murphy	2000	60000					
Newark Silver M. Co	800	32000	9	6¾		1½	
Pacific Tunnel & M. Co							
Page & Panaca S. M. Co	2400	30000	20c	20c			¼
Peavine	1000	30000	15c	15c			
Phœnix		50000	25c	25c			
Pioche Silver Mining Co	1000	20000	5	4⅜			½
Pioche West Extension		35000					
Pioche-Phœnix		40000					
Portland							
Raymond & Ely	5000	30000	72½	70			1
Silver Peak		30000	1	1			
SilverWest Consolidated							
Standard Mill and M. Co							
Star Consolidated	18000	50000					
Starlight	6900	25000					
Sterling		30000					
Spring Mount		35000					
Spring Mountain Tunnel		20000					
Ward Beecher							
Washington and Creole		30000	2½	2⅜			¼
Yellowstone							
CALIFORNIA.							
Alpine	1200	12000					
Bellevne	8000	20000					
Calaveras Gold M. Co	3200	20000					
Cederberg Gold M. Co		24000	4	4			½
Consolidated Amador							
Cottonwood Creek		20000					
Dunderberg M. & M. Co							
El Dorado Ind. Quartz M							
Eureka Gold Mining Co	1680	20000	20	19			
Gillis		24000					
Independent Gold M. Co	1800	25000	1⅜	1⅜			⅛
Keystone Quartz		10000					
Mt. Jefferson	1500	25000					
Oakville Quartz M Co							
Rye Patch			10½	7⅞			3/4
St. Lawrence M. & M. Co							
St. Patrick	1800	20000					
Tecumseh	3000	30000					
Yule Gravel	400	10000					
IDAHO.							
Empire		25000	4⅛	4			3/8
Golden Chariot	750	10000	30	24		3½	
Ida Ellmore	1300	10000	5½	4⅝		⅝	
Mahogany G. & S. M. Co	720	10000	9½	8			⅛
Minnesota Gold & Silver	1070	20000	18⅜	15¾			⅜
Red Jacket			2¼	48½c			
South Chariot	650	20000	2½	2⅜		⅛	
War Eagle	1000	10000	3¼	87½c		2	
WHITE PINE.							
General Lee	1000	20000					
Mammoth Silver M. Co	1800	36000	25c	25c			
Noonday	1000	20000	20c	20c			
Orig. Hidden Treasure	800	21333	7½	6⅜		⅛	
Silver Wave							
Ward Beecher		24000					
UTAH.							
Deseret Consolidated	2400	30000					
Wellington		50000					
OREGON.							
Virtue	[2300]	20000					

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Deling'nt.	Sale.	Secretary.	Place of Business.
Arizona & Utah M. Co.	Nevada	6	50	Sept 8	Oct 13	Oct 31	J. Maguire	419 California st
Alpine G. M. & M. Co.	Cal.		50	July 21	Aug 25	Sept 17	J. F. Ligbtner,	438 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 24	C. F. Balcom,	426 Montg'y st
American Flat M. Co.	Washoe		50	July 22	Aug 26	Sept 16	G. W. R. King,	411 California ts
Belmont M. Co.	Nevada	1	1 00	Aug 15	Sept 20	Oct 13	H. H. Bogart,	411½ California st
Chief of the Hill M. Co.	Ely District	3	50	Sept 11	Oct 16	Nov 7	C. S. Neal,	419 California st
Chapman M. & M. Co.	Ely District	4	25	July 28	Sept 2	Sept 26	Frank Swift,	415 Montg'y st
Confidence M. Co.	Cal.	1	1 75	Aug 4	Sept 4	Sept 22	H. Bampton,	217 Sansom st
Cons. Gold Hill Quartz M. Co.	Nev.	1	75	Aug 4	Sept 3	Sept 29	R. Wegener,	414 California st
South Eureka M. Co.	Nevada	5	50	Aug 30	Oct 6	Oct 27	T. F. Cronise,	438 California st
Empire M. Co.	Idaho	4	3 00	July 16	Aug 26	Sept 22	C. F. Balcom,	426 Montg'y st
El Dorado South Cons. M. Co.	Nev.	1	1 50	Aug. 6	Sept. 12	Oct. 2	Wm. Willis.	419 California st
Eureka M. & S. Co.	Nev		20	Aug. 21	Sept. 22	Oct. 13	T. P. Beach,	217 Sansome st
" M. Co.	Nevada.	8	125	July 25	Aug 28	Sept 16	H. O. Howard,	523 Montgomery st
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Golden Eagle M. Co.	Cal.	1	10	July 15	Aug 18	Sept 8	R. Stevenson,	305 Montgomery st
Hunn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 7	Oct 23	T. L. Kimball,	419 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	C. S. Neal,	419 California st
Ida Ellmore M. C.	Idaho.	10	1 50	July 23	Aug. 29.	Sept. 20	Wm. Willis.	419 California st
Justice M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener,	414 California st
Julia G. & S. M. Co.	Washoe	15	75	Aug 5	Sept 8	Sept 27	A. Noel,	419 California st
Lady Emma M. Co.	Cal	4	15	Aug 20	Sept 20	Oct 13	A. D. Carpenter,	605 Clay st
Mint G. & S. M. Co.	Washoe		10	Aug 20	Sept 24	Oct 16	D. A. Jennings,	401 California st
Mammoth Co.	White Pine.		10	July 25	Sept. 1	Sept. 22	J. L. King,	411 California st
New York Cons M. Co.	Nevada	5	25	Aug 4	Sept 6	Sept 25	H. C. Kibbie,	419 California st
O. H. Treasure M. Co.	White Pine.		1 00	July 31	Sept 6	Sept 30	D. A. Jennings,	401 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 19	Sept 26	Oct 23	C. E. Elliott,	419 California st
Peavine M. Co.	Ely District	5	25	Aug 28	Oct 4	Oct 28	C. F. Balcom,	426 Montg'y st
Phœnix S. M. Co.	Eureka, Nevada		25	Aug 5	Sept 11	Oct 2	J. Maguire,	419 California st
Page & Panaca S. M. Co.	Ely District	4	50	Aug 12	Sept 16	Oct 6	L. Kaplan,	Merchants' Ex
Rose Creek M. Co.	Nev.	1	10	Aug. 5	Sept. 9	Sept. 30	S. Phillips.	408 California st
South Chariot M. Co.	Idaho.		50	July 28	Sept 3	Sept 29	J. L. King,	411 California st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A. Jennings,	401 California st
Succor M. & M. Co.	Washoe	6	75	July 31	Aug 30	Sept 22	W. H. Watson,	302 Montg'y. st
St. Lawrence M. Co.	Cal.	2	1 00	July 25	Aug. 28.	Sept. 16	R. B. Noyes.	411½ California st
Tecumseh G. S. & C. M. Co.	Cal		25	Aug 1	Sept 5	Sept 30	J. F. Hermann,	418 Kearny st
Tyler M. Co.	Washoe.	2	25	July 25	Aug 28	Sept 13	A. K. Durbrow,	Merchants' Ex
Union G. M. Co.	Cal	7	50	Aug 12	Sept. 15	Oct 6	A. K. Durbrow,	Merchants' Ex
War Eagle M. Co.	Idaho	2	2 50	Aug 13	Sept 22	Oct 13	O. F. Balcom,	426 Montg'y st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings,	401 California st
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 6	A. Noel,	[419 California st

Other Companies (not on the Lists of the Boards.)

Auburn G. M. Co.	Placer Co., Cal.	5	1 00	Aug 9	Sept 15	Oct 6	R Wedgener,	414 California st
Buena Vista Vincultural Society.	Cal		5 00	Aug 5	Sept 8	Oct 1	N. Selmer,	409 Battery st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C. E. Elliott,	419 California st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C. E. Elliott,	419 California st
Cedenberg First Sth. Ext. M. Co.	Cal	4	5	July 21	Aug 20	Sept 19	J. N. Wagner,	506 Montg'y st
Carson Cons. M. Co.	Nevada	1	10	July 28	Aug 30	Sept 22	A. D. Carpenter,	605 Clay st
Clear Lake Water Co.	S. F.		3 40	July 30	Sept 4	Sept 22	S. J. C. Swezey,	3 & 5 Front st
Day Spring G. M. Co.	Cal		5	Aug. 4	Sept. 10	Oct. 1	C. F. Brown.	302 Sansome st
Equitable M. Co.	Utah	3	10	Aug 8	Sept 12	Sept 30	C. S. Healy.	Merchants' Ex
Excelsior S. M. Co.	Nevada		85	July 18	Aug 18	Sept 20	W. A. Kollmyer,	640 Washington st
Europa M. Co.	Nevada	1	25	Sept 2	Oct 4	Oct 21	R B. Noyes,	411½ California st
Empire Tunnel & M. Co.	Utah			3	July 22	Aug 30	Sept 22	P. A. Eakins,	230 Kearny st
Haslee M. & M. Co.	Cal	2	75	Aug 13	Sept 13	Oct 6	J. W. Tripp,	408 California st
Homestake M. Co.	Lower Cal.		3 00	July 28	Sept 5	Oct 27	J. H. Applegate,	729 Montg'y st
Kincaid Flat M. Co.	Cal			00	Aug 6	Sept 8	Sept 29	R H. Cornell,	217 Sansome st
Lady Esten M. Co.	Utah	4	10	Aug 8	Sept 12	Sept 29	O. S. Healy.	Merchants' Ex
Lucky G. M. Co.	Cal	1	10	Aug. 6	Sept. 6	Sept. 29	R. B. Noyes.	411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 19	G. R. Gunney.	320 California st
Mizeppa S. M. Co.	Ely District	2	50	Aug 15	Sept 19	Oct 8	M. F. Gunn,	320 Sansome st
North Bloomfield Gravel M. Co.	Cal	27	1 00	Aug. 22	Sept 26	Oct 14	Thos. Derby,	320 Sansome st
North Star G. M. Co.	Cal		4 00	Aug 13	Sept 17	Oct 8	D. A. Jennings,	401 California st
National M. Co.	Nevada		50	July 31	Sept 5	Sept 29	B. B. Minor,	411½ California st
Pacific Coast Wrecking Co.	S. F.		5 00	Aug 5	Sept 12	Oct 6	G. S. Fran,	204 Montg'y st
Pride of the Mountain M. Co.	Nevada		10	Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Red Branch G. & S. M. Co.	Cal	1	5	Aug 16	Sept 26	Oct 20	F. D. Oleary,	Merchants' Ex
Stevens Pacific S. & M. Co.	Cal		10	Sept 11	Oct 15	Nov 3	J. M. Knight,	320 Montg'y st
Southern Pacific Cons. G. M. Co.	Cal		10	Sept 11	[Oct 25	Nov 25	C. A. Eaton,	12 Express Bdlg
Santa Clara Coal Mo. Co.	Cal	3	5	Aug 19	Sept 23	Oct 11	J. Kaplan,	Merchants' Ex
Sanderson G. M. Co.	Cal.	6	15	Aug. 4	ept. 1	Sept. 17	Wm. Stuart.	113 Leidesdorff st
Seattle Coal & Trans'n. Co.	Oregon		2 00	Aug 4	Sept 5	Sept 25	H. L. Hutchinson,	537 Market st
San Jose M. Co.	Nev.	3	5 00	July 24	Aug. 25	Sept. 25	A. Carrigan.	107 Front st
San Jacinto Tin Co.	Cal.	9	10	July 14	Aug 18	Aug 31	L. Franconi,	314 California st
San Marcial S. M. Co.	Mexico		1 50	Aug 22	Sept 26	Oct 16	C. F. Schulze,	426 Montg'y st
Tecumseh G. S. & C. M. Co.	Cal		25	Sept 15	Oct 20	Nov 11	F. J. Hermann,	418 Kearny st
Umpire Tunnel & M. Co.	Utah		3	July 22	Aug 30	Sept 22	P. A. Eakin,	230 Kearney st
Washington M. Co.	Cal		2 00	Aug 11	Sept 16	Oct 10	T. B. Wingard,	318 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Baltimore Cons. M. Co.	Ely District	D. T. Bagley,	401 California st	Annual	Oct 2
Charter Oak S. M. Co.	Ely District	G. W. R. King,	411 California st	Special	Oct 6
Eureka M. & S. Co.	Nevada	T. P. Beach,	217 Sansome st	Annual	Sept 29
Imperial Cons. M. Co.		W. E. Dean,	419 California st	Annual	Sept 25
North Star G. M. Co.	Grass Valley	D. A. Jennings,	401 California st	Annual	Sept 25
Segregated Belcher M. Co.	Washoe	E. F. Stone,	Merchants' Ex	Annual	Oct 7

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	P. E. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. O. Kibbe,	419 California st.	5 00	Sept 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Sept 12
Cedenberg G. M. Co.	California	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener.	414 California st	1 00	Sept 6
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor,	419 California st.	1 00	Sept 17
Belcher Cons. M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Sept 10
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Sept 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Montgry. St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r,	M'k't. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	H. Picholr,	Cor. Mont'g. & Wash. sts	1½ per cent.	Sept 15
German Savings & Loan Society,	S. F.	Geo. Lette,	526 California st.	9 & 10 & 8 per cent.	July 15
Hamboldt Savings & Loan Society,	S. F.	J. A. Harriman,	16 Geary st.	9 & 10 & 8 & 4 per cent.	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y,	No. 6 Post st	9, 75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Lomisa sts.	½ per cent.	April
Pioneer Land & Loan Association,	S. F.	H. Kofahe, Ch'r,	405 California st.	1 per cent.	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	C. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miller, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r,	532 California st.	9 & 10 & 8 per cent	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

An extensive undergronnd survey is to be made for the purpose of determining the boundary line hetweeu the Belcher and Crowu Point mines. It will he rememhered that the Crown Point Company claim that the Belcher Compauy have worked upou their gronud a distance of several feet at one poiut.

Scarcity of Water is reducing the capacity of the mills on Carson River, and is lesseoing the bullion production of the Comstock mines.

Base Bullion from Utah minss cannot be profitably shipped under the new railroad tariff, and unless a modification of rates can be secured, with regard to this particular class of freight, the effect will he to cripple, if not to ruin, this branch of miniog iudustry.

The latest reports from the new coal mine, ten milcs below Deer Lodge, Montana, are that the vein has increased in thickness, being now about thirty feet, and the quality is everything that could be desired.

Our Weekly Stock Review.

Thursday Eve., Sept. 18, 1873.

The Stock Market, during the past week, hae besn lively, but has fluctuated up and down in a rather remarkable manner. Ophir has been the feature of this week as it was last. Everybody wants the Ophir to turn out to bs a good mine, but the public do not know whether the advices from tusre are correct or not. Anything regarding the mine is seizsd upon with avidity by operators, and it has, to a great extent, influenced the markst prics of other descriptions of stock. Ths assaye of ors are getting higher in gold. The Superintendent'e report for the week ending Sept. 10th, says:

"Cross-cut from winzs, south mine, seccud station, 88 feet; south drift, 1300-foot station, 158 feet; south drift, 1465-foot station, 62 feet; west drift, 1700-foot station, 23 feet. Assays from 1300 continus ths same as previonsly rsported, ranging from $10 to $80—gold predominating. Quartz in south drift, 1465, is incrsasing in qnantity and better defined. Have also a slight improvemsnt in character ot quartz on 1700-level."

The letter of ths 13th inst. says:

"South drift, 1300-foot lcvel, is progressing well, with a slight improvement, assays averaging about $30 per tou. This drift is being run along ths foot-wall of ths ledge. The better, or richer, portion should be toward the hanging wall. When we have attained 25 feet further southward ws will cross-cut and see what ws have at this poiut.

We still have about 280 feet to drift before reaching eouth lins. The 1565-foot levcl coutinues to show more quartz, aod of better quality as the drift progrssses. Assays are still low, but improve slowly. No change on ths 1700-foot levsl."

The Raymond and Ely shipped on ths 15th $35,025 or a total of $100,184 for the month that far. Total hullion product of August wae $204,448.

Ths hullion returue from the Belcher this month will be lese than usual by reasou of ths low stage of water in ths Carson River. The Pioche *Record*, in spsaking of affairs iu that camp, says:

About this tims last month many meu wsre bsiug set to work in differsnt miues, but on the other hand, within the last few days a good many havs been discharged. A few are leaving Pioche, and many talk of leaving. If all ths surplus men would leave, thus obliging ths companies to seek for workmen instead of the workmen being obliged to seek for employment, ths camp would be a far better ous in respect to business at leaet. We think that such a etate of affairs would also causs more mines to bs developed; for business being then in a sound condition, many bnsiness men who are now cramped with regard to money matters, could afford to aid in ths dsvelopment of uew miues, which no outside capital can be inducsd to invest in.

Ths Minnesota mine shippsd $6,478 on the 10th inst.

The Golden Chariot extracted in Augnst 785 tons; redneed 103¾ tons; bullion produced $74,690.68; yield per ton $106.14; pulp assay $132.22; tailings' assay $16.46; percsntage of assay obtained 80.27; production $74,690.60; expensss $22,105.77; profit $52,584.91

The marksd advancss in prics over prices of last week are as follows; Alpha Consolidated, $2; American Flat, $2; Baltimore Cons., $1.25; Best & Belcher, $1.25; Chollar-Potosi, $4; Cons. G. H. Quartz, $2.25; Cons. Virginia, $3; Savage, $15; Ssg. Bslchsr, $1; Meadow Valley; $2; Newark, $1.50; Goldsn Chariot, $3.50; War Eagle, $2.

The declines are as follows: Belcher, $1.50; Caledonia, $3.75; Confidence, 1.25; Crown Point, $2; Knickerbocker, $5.50; Ophir, $2; Silver Hill, $1; Raymond & Ely, $1.

One of the Lost Arte.—Ths new discoveries in Egypt will add plausibility to Wendell Phillips' lscture on "The Lost Arte." It now appeare that the smelting of iron was carried on in Egypt from ths vsry earlieet period. Charles Vincent, in an English scientific jonrnal, sets forth some nsw facts in reference to this subject: "In the sepulchres of Thebes may bs fouud delinsations of bntchere sharpeniog their knives on rondd bars of iron attached to their aprone. The blades of the knivee ars painted blue, which fact provse that they wsre of steel, for in the tomb of Rameses III. this color is used to indicats steel, bronzs bsiog represented hy red. An Eoglish gentleman has recently discovered near the wells of Moees, by the Red Sea, the remains of iron works so vast that they must have employed thonsands of workmen. Near the works are to be found the ruins of a temple and a barrack for the soldiere protecting or kceping in order the workmen. These works are supposed to be at least 3,600 years old."

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned

California.

ALPINE COUNTY.

A "SILVER BRICK."—Alpine *Chronicle*, Sept. 6: On Monday last, Superintendent Hunter, of the Schenectady Mill, worked 2,871 pounds of ore from the Pennsylvania mine at Silver Mountain, and obtained therefrom a golden-silver "brick" worth $43.42 in gold, and $33.10 in silver—making a total value of $76.52. This ore was worked by common mill process, and the result has exceeded the expectations of the stockholders, who did not suppose that the ore carried so much gold. We have always had faith in the Pennsylvania claim, and in the hands of capitalists with a mill at the mine, we are confident it would prove a very remunerative mine. We congratulate the patient stockholders on this gratifying result.

AMADOR COUNTY.

PHŒNIX MINE.—Sutter Creek *Independent*, September 10: The work at this mine is being prosecuted to great advantage. The rock now being taken out looks exceedingly well and is of a firm and steady class. It is becoming richer the deeper the company go upon the lead. On the lower levels the foot walls are very firm and the hanging walls could not be finer. Superintendent Hooper has proved himself a master of his business. The Phœnix bids fair to become one of the richest mines in the county.

RIVER MINES.—September 12: Now that the water in the Mokelumne river is quite low, miners about Lancha Plana are taking advantage of the situation and working several bars successfully. We are told that many of these river claims are fully as rich now as they were years ago. The gold is of a fine quality, and many pockets are found that contain much of the precious ore. Lancha Plana has been one of the richest mining camps in the county, but for want of water of late years has become comparatively deserted.

VOLCANO.—A friend informs us that the mines in and about this place are all being worked to advantage, and are paying well. Though the supply of water is rather short, yet a sufficiency is had to run about ten hours a day.

CALAVERAS COUNTY.

RAILROAD FLAT DISTRICT.—Calaveras *Chronicle*, September 13: The Sanderson mine never looked better than to-day. The main shaft is down 170 ft. and ore in bottom is 18 inches thick containing considerable gold.

MOSQUITO DISTRICT.—The Good hope is developing finely. It is rumored that the owners of the Good Hope have purchased the Dolly Varden, one of the best mining properties in the district....Quite a number of other mines are energetically worked with encouraging results.

WEST POINT DISTRICT.—The south level of the Zacatero continues to yield first-class ore....A new and large working shaft is to be sunk on the east vein of the Ohio Consolidated....Griggs & Co. and W. Henry & Co. are pushing ahead their respective tunnels....The Good Faith Mining Co. are sinking a handsome and substantial shaft on one of their veins. Down 45 ft. The shaft will strike ore at 80 ft. in depth. This company are doing the cheapest and best work in the district... The water is being pumped out of the Bartolo....The Seminole and Last Chance are expected to resume work in a short time.

PLUMAS COUNTY.

GOOD ORE.—Plumas *National*, September 13: The Eureka Mill, near Jamison, the largest and most costly mill in Northern California, is now working only 30 stamps upon a body of ore which yields an average of $30 per ton. The amount of rock being crushed is from 50 to 60 tons per day. When the mill starts up with its battery of 40 stamps upon $30 ore there will be lively times in southern Plumas.

DUTCH HILL MINE.—At Cherokee, in Butte County, the Spring Valley Company demonstrated the important fact that water can be conveyed over lofty hights and deep depressions in ordinary pipes made of thin iron. At Dutch Hill, in Plumas County, the North Fork Company have further shown the practicability of working rich placers profitably by elevating water by pumps driven by steam. At a point on Ohio Creek about ten miles from Prattville, this company, under the management of C. W. Reed, has constructed a dam from which, through a number 10 iron pipe, six inches in diameter, water is pumped to the distance of 700 feet and to an elevation of 328 feet. At that point the water is received in a large reservoir and is thence conveyed four miles through a flume to the diggings. The gold is coarse in character; the gravel wash extensive, and the deposit rests upon a slate bed. Just now work has been temporarily suspended for repairs upon the pipes and other machinery. In proof of the surprising richness of the mine, the company had a clean-up lately from an eight days' run, which yielded the snug sum of about 200 ounces of gold.

SAN BERNARDINO COUNTY.

Guardian, September 6: We had shown us a few days ago, a working test, made by Mr. Joseph Craig, of some ore from the "Blue Jay" mine of Frink & Co. There were two assays made of ore from different parts of the same ledge. One of the assays shows $602.90 per ton and the other $211.

B. C. Boren started on Thursday morning for San Francisco. We hope he will be successful in making necessary arrangements for the construction of smelting works here; he goes partly on that business.

SAN JOAQUIN COUNTY.

A PROMISING MINE.—Stockton *Independent*, Sept. 8: Parties in this city are interested in what is known as the Gem Ledge, situated two miles and a half northwest from Columbia, Tuolumne county. It is on what is called the Pandola road, leading from Gold Spring to Vallecito. It is a gold and silver bearing ledges, averages a little over 5 ft. wide, and upon which has been sunk a shaft about 85 ft. deep. A portion of the rock milled in San Francisco, $15.07 per ton; but one assay, we learn, was at the rate of $132.40, and another $146.54 per ton. Forty feet from the shaft there is running a stream of water sufficient to run a twenty-stamp mill. Work is going on in the shaft. A gentleman informs us that there have been 3 extentsons taken up on each end of the range. The first southern extension has run a tunnel 125 ft., striking the main ledge with good prospects. The main ledge is owned by F. M. Kennedy of Stockton, Capt. W. C. Ryan, Sam. Adams and Henry Monroe, of Columbia. Samuel Adams is the Superintendent. The rock from the main shaft can be seen at Hart & Thritt's, on Weber avenue.

YUBA COUNTY.

RICH MINES AT FORBESTOWN.—Marysville *Appeal*, Sept. 12: Messrs. Maddox, Plum & Johnson are raising some excitement in Quartz. Their claim is the northern extension of Messrs. Roberts, Fry & McCormic, who lately divided in a short time between $9,000 and $10,000 above all expenses, and are known as the Panorama Company. On the 1st and 2d instant one man got out enough rock (thirteen pounds) to yield $115.50; the 3d was election, the 4th felt tired and did not work; the 5th $147.25; the 9th $22; and to-day I look for him to bring in several pounds. This rock is cleaned by hand-mortar and they are saving the balance of the quartz which will pay well for milling. I do not write this to stimulate or excite, for the owners are not on the sell, although needy, and they are working as circumstances will admit. They have their plans and arrangements made for a big winter's work, and I honestly believe before the 1st day of May they will surprise themselves.

Nevada.

ELY DISTRICT.

WASHINGTON AND CREOLE.—Pioche *Record*, Sept. 7: The company now employs 35 men; and about seven tons of ore are taken out daily. Drifting still continues east, west and south — the east and west drift being on the ledge. Two winzes are being sunk, one to the east and the other to the west. Workmen are raising in stopes east and west of the main drift. In the stopes the ledge is about 1 ft. wide. Teams will commence hauling ore from the large pile now on the dump, Monday, Sept. 8, and the mill will begin crushing it on the 15th.

SPRING MOUNTAIN TUNNEL. — The sinking still goes on in the shaft on No. 3 ledge, in which a fair progress is being made. The ground continues hard down back of the foot wall. It is expected that ledge No. 2 will soon be cut at a depth of 150 ft. A cross-cut will be run thence to reach No. 3; and both veins exposed from that point. The prospects indicate that good bodies of ore will be found.

PIOCHE PHENIX.—After allowing this mine to be unworked for about two weeks, the owners have resumed operations. The only work now going on is sinking the shaft, which was commenced on Thursday last. The shaft is now down 550 feet.

RAYMOND & ELY.—The number of men employed has been reduced to less than 30 in all, above and below. There is now no work progressing, except that being done by contract, and the vicinity of the mine appears very dull indeed. Contractors doing only "dead" work.

AMERICAN FLAG. — The workmen are now running drifts east and west, and sinking the shaft. The men are divided into three shifts, in order to push ahead with all possible speed. The mill is now undergoing repairs.

CHIEF OF THE HILL.—A progress of 15 ft. was made on the 210-ft. level. There has been no material change in the appearance of the stopes during the week: 105 tons of ore now lie on the dump, awaiting shipment.

PIOCHE.—One hundred and ten tons of ore were shipped during the week. Bullion has began to come in from the mill. One hundred and fifty pounds of crude bullion had been received at the office.

SILVER PEAK.—A pile of ore is again accumulating on the dump and another shipment will soon be made to the mill. The incline is now 258 ft. deep and still being sunk.

MAZEPPA.—Work was stopped and the employees of the mine discharged on Tuesday last. The stoppage, however, is only a temporary one, as it is expected that work will be resumed with the usual force in a short time.

PORTLAND.—Ore is being shipped to the mill from the mine at present. Work which was suspended a few days ago, will begin again on Monday, by contract.

CAROLINE.—The company is now sinking the main shaft at the rate of 4 ft. a day. They have now attained a depth of 285 ft.

CHIEF EAST EXTENSION.—Ore of a tolerably good quality is being taken out, and workmen are assorting it on the dump as it comes to the surface.

BOWERY.—A little prospecting is being done and the shaft is being sunk.

CHAPMAN.—The work continues to the satisfaction of the owners without any alteration.

LOUISE.—The ledge continues to improve as the drift is extended.

IVANHOE.—The shaft is still being sunk and very fair progress is made.

NO ITEMS.—With regard to the Page and Panaca, the Meadow Valley, the Amador and the Newark. We could obtain no information whatever.

WASHINGTON AND CREOLE.—Pioche *Record*, September 14: Drifting east and west continues without change in the ledge. In the west drift a ledge was struck running northwest and southeast. A winze has been sunk in it about sixteen feet and raised about the same distance. This ledge is found to average about fourteen inches in width, and to be of very rich ore. A winze is also being sunk on the east of the main drift. It is now down about thirty feet, with about one foot of ore in the bottom. Yesterday eighty-seven tons of ore were shipped, and it is approximated that there are now four hundred tons of ore on the dump.

RAYMOND AND ELY.—Everything is running smoothly once more. Two shifts, of fifty men each, are now at work below, and about fifty men are working at the surface, making in all about one hundred and fifty. It is not the intention to put on more men. Between 75 and 80 tons of ore are taken out and shipped by rail to the mills daily. More ore could easily be taken out. The drift from the ninth level is now in 125 feet, and it is calculated that the ledge is only 15 feet distant from the southern end of the drift.

SILVER PEAK.—The sinking of the incline is being pushed ahead as fast as possible. It is now 265 ft. deep. Some excellent ore is being taken out. There are now on the dump about 30 tons of first-class ore, besides a large quantity of somewhat inferior quality.

HAVANA.—Drifts are being run east and west. The ledge continues about 4 ft. in width and the ore assays from $200 to $300 per ton. The ground is now being graded, preparatory to putting up a whim. There are now on the dump about 60 tons of good high-grade ore.

SPRING MOUNTAIN TUNNEL.—Work still continues in the tunnel with encouraging prospects of soon reaching good ore. Progress has lately been impeded by the hardness of the ground after leaving the vein. It is now, however, so far improved that 1 ft. per shift is made. Two shifts are working.

CAROLINE.—Three shifts of men are at work sinking and timbering the main shaft at the rate of five ft. a day. They have now reached a depth of 305 ft.

PACIFIC TUNNEL.—The Pacific Tunnel Company, which has for some time allowed the tunnel to lie unworked, will in a few days resume operations again. The Superintendent informs us that not more than 15 or 20 men will be put to work.

CHIEF EAST EXTENSION.—The workmen are still taking out ore, which is of a higher grade than that heretofore extracted. The ledge is improving in width and more ore than usual is taken out.

PORTLAND.—Nothing is being done in this mine except the sinking of the shaft. This will continue until the shaft is 300 ft. in depth.

BOWERY.—Sinking will continue until a depth of 400 ft. is reached, before the drifting to the ledge is commenced.

PIOCHE WEST EXTENSION.—Drifting west from the main shaft, with the usual force of men.

MERIDIAN.—Work in this mine will be resumed this week.

STILL SINKING.—Sinking continues in the South Side, Pioche Phœnix, Spring Mount, Ivanhoe, Chapman and Louise.

VULTURE.—Drifting on the ledge, a progress of 12 feet has been made. The face of the drift is all in ore. The greater portion of it is still low grade, with occasional bunches of exceedingly good ore. On the hanging wall there is a narrow streak, assays from which occasionally reach a very high figure. A cross-cut in the drift shows the width of vein to be eight feet, with a good clay gouge on the foot wall. We look upon the future of this mine as extremely promising.

WASHOE.

CROWN POINT.—Gold Hill *News*, September 13th.—Daily yield, 350 tons. The Brunswick mill, with a full working capacity of 160 tons, is crushing only 30 tons per day. The Mexican is tied up and undergoing repairs. The Morgan mill (steam power) is crushing 95 tons per day. Ore is still being extracted from the 1,000, 1,200 and 1,300-ft. levels. The stopes and ore-breasts throughout the mine are looking remarkably well. The north and middle winzes are being driven steadily downward. The south drift from the 1,400-ft. level is being pushed forward vigorously, and is in good working ground. Good progress is also being made in drifting from the 1,500 ft. station in a southeasterly direction. After paying the dividend of $3 per share yesterday, $50,000 was carried over to the Surplus Fund, which amounts to nearly half a million dollars.

CONSOLIDATED VIRGINIA.—The 1,200 ft. level (Gould and Curry drift) is being rapidly extended toward the new shaft of the Company. We are reliably informed that this drift is being run in the ore vein, and the ore therefrom is being hoisted and deposited in the ore house. In quality it is equal to any rock produced for years on the Comstock. At the same level a drift is being run from the main shaft to make a connection, and the faces of the two drifts are now less than 100 ft. apart.

OPHIR.—The drift west of the 1,100 ft. level is still in barren quartz. When it reaches the west wall a drift south will be started to see what can be found in that direction. The ore found at the 1,300 ft. level is not of high grade, giving assay of $15 or $20 on the average. It is of good size, however, and may lead to something better. The face of the drift is in clay and quartz. At the 1,465 ft. level some good looking streaks are also encountered in drifting south.

DAYTON.—At the upper level from the new shaft, the main drift west is in 225 ft., and from its drifts both north and south are being run in the vein. The south drift is in 20 ft., and the north drift 30 ft. High grade sulphurets are encountered in both drifts, gold predominating. Two hundred and fifty tons of ore are already out on the new dump. At the 310 ft. level the main drift west is expected to strike the vein in two or three days.

KNICKERBOCKER.—The main west drift, as well as the south cross-cut from it, are both being actively driven ahead at a good rate of progress. The faces of both drifts are in good vein-matter. Good ore is likely to be encountered at any time.

SILVER HILL.—Daily yield, 60 tons, keeping the Bacon mill steadily running. The ore bodies at the first and second stations are looking and yielding finely, and show every indication that they connect. The winze being sunk near the Justice line is progressing well and continues to be in a fair quality of ore. This mine shows general improvement.

WOONVILLE.—Yielding sufficient ore to supply the Ramsdell (10-stamp) mill. The incline is being straightened and put in shape to reach new bodies of ore. A new shaft will be started next week. It will be situated about 400 ft. north and 300 ft. east of the old incline, and will have three compartments. New machinery has been ordered for this shaft, and is being manufactured in San Francisco.

YELLOW JACKET.—The workmen are engaged to-day in changing the cables in the shaft. Preparations are being made to place a new pump column in the shaft. Arrangements will be shortly made to hoist the water by means of small pumping-engines from the 1,500 to the 1,300-ft. level. From thence it will be conveyed through pipes to the Imperial.

EMPIRE.—No new developments in the cross-cutting and prospecting drifts at the 1,600 and 1,700-ft. levels.

TYLER.—Shaft 155 ft. deep. Ground works favorably, and about 2 ft. per day is being made in sinking.

SUTRO TUNNEL.—Total length 4,347 ft. The rock in the face is very hard but works well. The drifts, both east and west, at the bottom of shaft No. 1, on the line of the tunnel, are progressing well. Work is resumed at shaft No. 2, and at the other two shafts work is about being started up, a plentiful supply of wood being obtained.

OCCIDENTAL.—The lower tunnel is being extended northward day and night, immediately and adjoining the ore vein. The face of the drift is now 150 ft. north of the last cross-cut. Another cross-cut will be commenced within a couple of days to test the ore vein at this point.

SIERRA NEVADA.—The mill continues running steadily on ore from the mine. The last clean up gave $7,200 from 900 tons of ore. The mine never looked better, and bids fair to never give out. Some unusually rich bunches of ore have been met with in the last few days.

SUTRO.—Superintendent Sheridan is driving ahead the work of developing this promising mine with the utmost energy. He has been putting in a pump this week at the main shaft, and proposes developing some good paying ore before long.

IMPERIAL.—At the 1700 ft. level the south drift shows improvement in the way of ore indications. The ore is in spots and bunches, some of which give very good assays. No other change to note. The sinking of the main incline progresses well as usual.

DANEY.—The pumps and all the machinery at the new shaft and hoisting works of this company will be completed and ready to go into operation about the last of next week, when the water will be pumped out of the shaft and sinking resumed.

BELCHER.—Our sources of information relative to this mine this week are again demoralized, and we are unable to state anything further than that there is nothing new to make mention of, but that the report of last week will do for this.

CALEDONIA.—Sufficient ore is being extracted to keep the Sapphire mill running. The ore breasts of the 500-ft level show finely, with continued improvement. Everything in and about the mine is working well, and to the best advantage.

SAVAGE.—The prospecting work at the 1600 and 1700-ft levels progresses well, with no new or important developments as yet. The sinking of the main incline also continues at a good rate of progress.

AMERICAN FLAT.—The ore at the first station shows well. At the third station no new or interesting developments are met with, but from present indications good ore is liable to be met with at any time.

JULIA.—Good headway is being made in the east drift. Low grade ore met with during the past week. The water is being gradually lowered in the shaft, hoisting 100,000 gallons per day.

NEW YORK CONSOLIDATED.—Shaft 350 ft. deep. Rock at the bottom soft, with streaks of quartz. Water increases, but is easily managed with the pumps. The machinery and everything going all right.

BUCKEYE.—Daily yield about 18 tons, which is worked at the Hope mill, Silver City. The

[Continued on Page 192.]

The Coal Fields of Coos Bay.

Among the many coal beds of Coos Bay, not the leaet interesting or valuable are those owned hy the

Northern Pacific Coal Company,

Who have an office on New Montgomery street, San Francisco. The coal beds of thie company are located in the Blue mountains, on the divide between the waters of the Isthmus Slough, that rnns from Coos Bay, aud the Coquille River, on the margin of the only gap or pass on theee monntains, between these two important points, and known as the Isthmus Pass. This range of mountains is one of the highest in Cooe county and is some thousande of feet high. The coal heds are a continuation of the coal fielde ou the east side of Coos Bay and are equal in quantity and quality to any coal bede yet found on the Bay. The veine of coal of thie company already discovered, are three miles long and an average of three-quarters of a mile broad; they run in thicknese from three and a half feet to nine feet, and if all the veins found were put together they would measure more than thirty feet in thickness. The company have secured 1,600 acres of coal lands in connection with their mine. The veins run lengthways, east and west, and dip at an angle of nine degrees north and south. The coal is eepecially adapted for household purposes. The coal from eome of the veins have proved, hy actnal experiment on hoard the steamer *Pelican*, to be euperior to the Mount Diahlo coal for generating steam. The company intend

Building a Railroad

From the mine to the deep waters of the Isthmus Slough, three miles, aud exteud it south to the Coquille River, making the road eix miles in length. This railroad will conuect that important river with Cooe Bay and the Pacific Ocean, the value of which, in developing and stimulating the lumbering and agricultural resources of the Coquille Valley, the coal fields and the general trade of Coos Bay as well as the husiness of San Francisco, could not he easily estimated. By keeping the military road to Roseburg in good order, that town and southern Oregon generally would get some of the advantages, but San Francisco will get the lion's share.

The gap or pass in the mountains is favorable for an eaey grade; the immenee qnantity of the hest of timher on the ground, and that there is deep water for vessels to come with railroad iron and other material to the end of the line, are important considerations for securing the road being built at a moderate cost. The road will he huilt on the principal of the narrow-gange, and a single track. The estimate is that it will cost ahout $10,000 a mile, or $60,000 for the six miles. A complete survey of the liue and other preparatione will be made this summer and fall, with the view of commencing the construction of the road next epring. The company intend putting a steamer on the Coquille River, to run in connection with and act as a feeder to their railroad. This is no unimportant matter, when it is taken into consideration that the Coquille River, its forks and branches are as long as the Willamette River and its forks, its soil as rich and productive, ite timber as good as any on the Pacific Coast, and navagahle for sixty miles at all seasons of the year. The business that this railroad will foster, stimulate and create will be more profitable to the company than the coal mine iteelf, and he of incalcuable value in developing the vast resources of the Coquille River and Coos Bay.

It is reported here that Ben. Holladay, Jr., ie one of the incorporators of the Northern Pacific Coal Company. If this is eo, and that he takes an active part in its intereets, and runs the steamer *Pelican* and other steamers, that he can or does control to Coos City, in the interest of thie company, he will get in coal, lumber and produce all the freight his steamers can carry; and hy making Coos City the main terminous, he can control a large share of the passenger trade that will come over the military road hy way of Roseburg, which is already considerahle. This railroad will be able to load with ease, three veesels of 1,000 tons of coal each day, and as many with lumher; this numher can he douhled when the trade demands it. Wm. Utter is the agent of the compauy at the Isthmus Pase. He has a large experience as a practical miner in Virginia, Pennsylvania and Mount Diahlo, and ie every way competent and reliahle for his responsihle and confidential position.

Thero are two rival companies orgauized to compete for cutting

A Canal from the Coquille River to Coos Bay.

It is intended to cut this canal from the Coquille River, hy way of the Beaver Slongh and the Isthmus Paes, to the deep watere of the Isthmus Slough that runs into Coos Bay. This contemplated canal would be six milee long and would probahly cost $500,000. One of the companies is called the

Isthmus and Coquille Canal Co npany.

The incorporators are F. G. Lockhart, J. C. Haynes and George Pratt, of Empire City. It is proposed to cut the canal 150 feet wide at the bottom, snd to have nine feet of water in it at low tide. Many of the advantages in favor of the proposed railroad are claimed for thie canal. That it would be of incalcuahle service for conveying splendid timher of the Coquille to the large lumher mille and shipyards of Coos Bay, there is no doubt, ae well ae serving many other important purposes. The incorporators propose to raise the capital stock of half a million dollars by sharee of $100 each.

The other canal company ie called

The Coos Bay and Coquille Coal Company.

The capital of this company ie placed at $1,250,000. It is incorporated for building a canal for the eame distance and in the same line as the other canal company. The incorporatore are W. H. Scott, A. P. Denison, G. H. Fitch, E. F. Russel and J. N. Dolph, all residente of Portland. This company have got the Government to consent to make a thorough survey of the intended line of the canal with the view, no douht, of asking Congress for a laud or money suhsidy. The incorporators can bring strong influence to accomplish this ohject. This company evidently mean business, and so far, seem to have got the inside track. There is ample room for the profitahle employment of both a railroad and canal. It would he difficult to put a limit on the resources and progress of the magnificent forest timber and agricultural lands of the Coquille River Valley, and the extent to which the coal and lumber business of Coos Bay and its tributaries will grow to.

To the mind of the thoughtful observer and deep thinker, the future of Coos Bay, the Coquille River, its valley and forests, present a vision of development, progress and prosperity that is gratifying to contemplate—that will amply reward the honest lahorer, the industrious settler, the persevering logger, the extensive manufacturer of lumber, the enterpricing shiphuilder, the honorahle merchant, and the fortunnate proprietors of the vast coal-fields, all of which combined will build up, in due time, industries and wealth that will do honor to the hands and heads of the people of Coos county. *Cor. Bulletin.*

New Mode of Lead Assay.—Mascazzini heats the ore to be valued with twice its weight of ammonia sulphate: the metale present are thereby converted into sulphates. By boiling with a mixture of diluted hydrochloric and sulphuric acids, all iron, copper etc., are dissolved, whilst lead sulphate and silver chloride are left. These are washed, dried, and reduced with zinc and hydrochloric acid; the resulting metallic mass is fused in a carhonate, five of horax, and five of etarch. Cruse, mininm, ores rich in silver, gold, antimony, tin, copper, etc., and analogous substances, may be thus assayed. If there is not enough lead present for cupellation in the caee of silver ores, more may he added.—*Dingler's Polytechnic Journal.*

Indian Lettuce, or Wild Lettuce.

(Claytonia Perfoliata.)

All readers of the Press, who are acquainted with the growth in the river bottoms of California, will recognize in the engraving the likeuess of a familiar friend among our native plants.

To all lovers of natnre whose good fortnne it has been to penetrate far among the ridgee, and spurs, and densely ehaded streams of our mountains, and especially to tourists who have realized life's dream of the suhlime and beautiful in mountain scenery hy drinking in, with their whole bsiug, the incomparable grandeur and beauty of Yosemite, the engraving of this modest, pretty plant will vividly recall its home among the rich green glades and icy streams of the Sierras.

Indian Lettuce is very generally distributed along the Pacific Coast. It is found throughout Washington Territory between the Cascade mountains and the sea, and extends at least as far south as San Francisco and its vicinity. Along our water conrses in the mountains, and where they wind their tortnous ways through Sacramento, San Joaquin and Tulare Valleys, and perhape etill further sonthward along the coast, it grows lnxuriantly. It nsnally selects a moist, sandy loam, rich and well shaded, ae its favorite haunt; but it will grow nnprotected by ehade on tbe poorest soils, and when once well-rooted, it ie not easily destroyed.

INDIAN LETTUCE, OR WILD LETTUCE.

It is one of the fineet sncculent herbs in all our flora, and stock is very fond of it. As an article of food eaten raw, it is one of the chief delicaciee among Indians, and hence ite most common name, Indian Lettuce. Connoisseurs who have tried ite leaves and stems, dressed in our more civilized styles, prononnce it a delicious salad. The whole plant, except the root, boiled and well seasoned, makes an excellent dish.

Before closing, we shall endeavor to describe this remarkable plant fnlly enongh to enahle our readers, with the aid of the engraving, to recognize it withont the poseibility of a mistake, should they wish to try it as a new salad, or spinage.

Botanically our Wild Lettuce belongs to the Purslane family. Its generic name, *Claytonia*, was given in honor of Dr. John Clayton, one of our earliest American Botanists, who, about the middle of last century, together with Gronovius, a dietinguished Dutch natnralist, puhlished a Botany of Virginia, called Flora Virginica. More than a dozen species of the genns *Claytonia* are described by botaniets, all of which helong to North America, except one that is a native of Siheria. Spring Beanty is the common name for all of these. Of the American epecies, all belong to the Pacific Coast, but two, known for the sake of distinction as the Virginia and the Carolina Spring Beauty, one or the other of which is fonnd along the Atlantic Slope from New Hampshire and Wisconsin to the Gulf of Mexico. The Virginia Spring Beauty, with its grass-like leaves, and its delicate pink, star-shaped flowers, veined with deeper red, is, of all the epring flowers of the Gulf States, a special favorite among children.

But our species of Spring Beauty under discussion, the Wild Lettuce, can be readily dietinguished from all its kindred, and from the great maes of other plants, by a marked peculiarity, which is very apparent from the engraving. Each stalk that bears flowere has upon it but a single fleshy leaf, shaped like a shield, and passes directly through its center. This is the reaeon for its specific name, *perfoliata*, from the Latin *per*, through, and *folium*, a leaf. Such a leaf is called technically a perfoliate leaf, and a familiar example of it is seen in yellow and scarlet honeysuckles. A dense hunch of these stalks, rarely more than six inches high, eaoh growing direotly from the roots, and each with its single leaf near the top, eurrounded by a cluster of small white flowers tinged with pink, make up the entire plant with the exception of a few radical leaves. The latter are so called becauee they grow directly from the roots instead of from the stalk. The radical leavee of the Wild Lettuce are abont the size and shape of a willow leaf, thongh rather shorter, and each attached to the root hy a long elendsr stem. The lower part of these stems and the flower stalke are tinged with red, while the color of the leaves ie a light green, sometimes purplish ou the under surface. It is in flower from April to August, according to its locality on our plaine and mountains.

As a further deecription to practice our young friends in their leseon in botany, given while deecrihing the American Cowslip, we shall call attention to the facts, that the calyx of the Indian Lettuce ie divided into two scale-like sepals; its corolla into five petals; it has five stamens and one pistil, the latter three-cleft near the summit.

But so emall are its flowers, that, to be qnite certain of eome of these points, you will find a pocket microscope useful, as ie the caee in the study of various other flowers, and of many interesting facts in botany.

San Joaquin Valley, August, 1873.—*By Ralph Rambler, in Illustrated Press for August.*

The Wood Flumes of Nevada.

Much is eaid about the wood flumee of this State, hut it is probahle that few persons who have not visited the lumhering regions of the Sierra Nevada Mountains have a proper appreciation of their utility, extent or cost. The general idea of them outside of the State would appear to be that they are nothing more than so many rickety troughs, eet npon poles, which serve ae a sort of make-shift by meane of which to eend wood and lumber from the top of a single hill to the level ground at ite hase. The fact is that the majority of these flumes are very suhstantial structures, in most inetances eeveral milee in length, the construction of which hae cost from $30,000 to $50,000. They are huilt upon a certain grade and pass over and wind around many hille in their course to the valleys, or other places where the wood and lumber carried down may be reached hy teams or by side tracks from the railroad. These flumes are huilt so large that timbers 16 inches sqnare and as many feet in length may be floated down them. Down a properly constructed flume these large timbers are floated hy quite a emall head of water; and not eingle sticks but long processions of sticke. Wood and lumber, are carried off by the same meane as fast as thrown into the flumes and dumped milee awae in an almost incredibly short time. By the use of the flume, wood, lumher and timber can by easily brought down from points in the mountains which would be qnite inacceesihle to teams. In eome places, where the ground ie very eteep, there are to be seen dry finmee, if we may so call them, or tronghs, down which wood is sent without the aid of water. These, however, are but straight chutes, running from the top to the bottom of a single hill or range of hills. In some places, also, there are chutes formed by laying a timher track, down which huge logs are sent. Along these tracks, where very steep, the lo s rnsh at railroad spsed, leaving behind them a trail of fire aud smoke. Such log-ways are generally to be eeen ahont the lakes, and are so contrived that the logs leap from them into water of considerahle depth, otherwise they wonld be shivered to pieces and spoiled for use in the mannfacture of lumher. The piles of wood to be seen at the bottom of some of the wood flumes are immense, amounting to thousands upon thousands of cords. —*Virginia Enterprise.*

Useful Information.

What to Do in Case of Accident.

Prof. Wilder, of Cornell University, gives the following short rules for action in cases of accident, which it will be found useful to preserve or remember:

For dust in the eyes, avoid rubbing; dash water into them; remove cinders, etc., with the round point of a lead pencil.

Remove water from the ear by tepid water; never put a hard instrument into the ear.

If any artery is cut, compress above the wound; if a vein is cut, compress below.

If choked, get upon all fours and cough.

For slight burns, dip the part in cold water; if the skin is destroyed, cover with varnish.

Smother a fire with carpets, etc.; water will often spread burning oil, and increase danger. Before passing through smoke, take a full breath and then stoop low; but if carbonic acid gas is suspected, walk erect.

Suck poisoned wounds, unless your mouth is sore; enlarge the wound, or, better cut out the part without delay; hold the wounded part as long as can be borne to a coal or end of a cigar.

In case of poisoning, excite vomiting by tickling the throat or by warm water and mustard.

If in water, float on the back, with the nose and mouth projecting.

For apoplexy, raise the head and body; for fainting, lay the person flat.

Washing Compound.—The use of soda for washing linen is very injurious to the tissue and imparts to it a yellow color. In Germany and Belgium the following mixture is now extensively and beneficially used:—Two pounds of soap are dissolved in about five gallons of water as hot as the hand can bear it; then next is added to this fluid three large-sized table-spoonfuls of liquid ammonia and one spoonful of best oil of turpentine. These fluids are incorporated rapidly by means of heating them together with a small birch broom. The linen is then soaked in this liquid for three hours, care being taken to cover the washing-tub by a closely fitting wooden cover. By this means the linen is thoroughly cleaned, saving much rubbing, time and fuel. Ammonia does not affect the linen or woolen goods, and is largely used as a liquor in the North of England.—*Rural New-Yorker.*

Utilizing Pine Leaves.—Pine leaves are largely utilized in Europe. They are converted into a kind of wool or wadding, which is used for upholstery instead of hair. A kind of flannel is also made from this fiber, which is said to be very superior for many hygienic uses, as for rheumatism and skin diseases. Vests, drawers, loose shirts, etc., are also made. In the process of manufacture an etherial oil is also obtained, very useful as a solvent, and as a curative agent. Gas is also made from the refuse and used for lighting the manufactories; or the entire refuse may be pressed into the form of bricks, when it becomes a most excellent substitute for coal.

An Indelible Red Ink.—Dr. Elsner states that an indelible red ink can be prepared as follows: Equal parts, by weight, of copperas and cinnabar, both in fine powder and sifted, are rubbed up with linseed oil with a muller, and finally squeezed through cloth. The thick paste can be employed for writing, or stamping woolen or cotton goods, and the color remains fast after the goods have been bleached. The reds usually employed are not fast colors, and do not resist the action of bleaching agents.

Shaping Soft Rubber with a File.—President Morton, of the Stevens Institute, states that he finds the ordinary thick sheet rubber, used in making up lantern tanks, and for many similar purposes, may be readily dressed into an exact shape with a file, if only it is supported by being clamped between plates of wood or metal in the vice. The file is used dry, and in all respects as in working on wood or metal.

To Crystalize Grasses, Flowers, Etc.—Dissolve six ounces of alumn in one quart of water, boil until dissolved; steep the grasses or flowers in the solution while hot. By the time the water is cold, the crystals are too large, add more water. Separate the little branches gently, taking off the superfluous lumps. Fern leaves oats, flax, and the long feathery grasses are the most beautiful for crystalizing.

A Good Cement.—A very adhesive cement, and one particularly useful for fastening the brass mountings on glass lamps, as it is unaffected by petroleum, may be prepared by boiling three parts of rosin with one part of caustic soda, and five parts of water, thus making a kind of soap, which is mixed with one-half its weight of plaster of Paris. Zinc white, white lead, or precipitated chalk may be used instead of the plaster, but when they are used the cement will be longer in hardening.—*Am. Artizan.*

Scent Powder.—A charming recipe for scent powder, to be used for wardrobes, boxes, etc., far finer than any mixture sold at the shops, is the following:—Coriander, orris root, rose leaves and aromatic calamus, each one ounce; lavender flowers, two ounces; rhodium wood, one-fourth of a drachm; musk, five grains. These are to be mixed and reduced to a coarse powder. This scent on clothes is as if all fragrant flowers had been pressed in their folds.

A Good Disinfectant.—Dissolve a bushel of salt in a barrel of water, and with the salt water slack a barrel of lime, which should be wet enough to form a kind of paste. For the purpose of a disinfectant, this home-made chloride of lime is nearly as good as that purchased at the shops and drug stores. Use it freely about sinks, cellars, gutters and outhouses, and in this way prevent sickness, suffering and expense.

Good Health.

Eating When Exhausted.

When the strength or nerve power is already worn out or used up, the digestion of food only makes a fresh demand upon it, and if it be unable to meet the demand, the food is only a burden upon it, producing mischief. Our bodies have been compared to steam engines, the food being the fuel and the steam produced the nerve power. The analogy holds good to a certain extent. If, when the steam is low, because the fire is low, you pile in to fast, a quantity of coal, you put out your fire, and if you have depended upon steam power to fan your fires, that is also extinguished. Beyond this the comparison fails. You may clean out your furnaces and begin again; but in the body the consequences of this overloading are dangerous and sometimes fatal. No cause of cholera is more common than eating freely when exhausted. The rule should be to rest for a time, and take some simple refreshment, a cup or a part of a cup of tea, a little broth, or even a piece of bread, or anything simple and in small amount, just to stimulate the stomach slightly and begin to restore its power. After rest, a moderate quantity will be refreshing. Never eat a full meal when you are exhausted. Take first a quantity of anything single which may be handy, and rest. Then after a time, proper food will be a blessing, not a burden. The fires will burn, the steam will be up, and you can go on your way safely. It is no amiss, in this connection, to say that children would avoid many a feverish night and many an attack of disease, if mothers would follow this rule.—*Ex.*

How Long Shall We Sleep?—The fact is, that as life becomes concentrated, and its pursuits more eager, short sleep and early rising becomes impossible. We take more sleep than our ancestors, and we take more because we want more. Six hours' sleep will do very well for a plowman or bricklayer, or any other man who has no exhaustion but that produced by manual labor, and the sooner he takes it after his labor is over the better. But for a man whose labor is mental, the stress of the work is on the brain and nervous system, and for him who is tired in the evening with a day of mental application, neither early to bed or early to rise is wholesome. He needs letting down to the level of repose. The longer the interval between the active use of the brain and his retirement to bed, the better his chance of sleep and refreshment. To him an hour after midnight is probably as good as two hours before it, and even then his sleep will not so completely and quickly restore him as it will his neighbor who is physically tired. He must not only go to bed later, but lie longer. His best sleep probably lies in the earlier morning hours, when all the nervous excitement has passed away, and he is in absolute rest.—*Christian Advocate.*

Aids to Digestion.—Dr. Marcet writes, reports the *Lancet*, in a pamphlet just issued from the press ("On a New Process for Preparing Meat for Weak Stomachs," London: Churchill, 1867). "I have often thought that, if there were a means of preparing meat, so as to enable its easy digestion by weak stomachs, a great boon might be conferred on a very large class of sufferers; and it has occured to me that by submitting cooked meat to some process similar to that which it undergoes in the stomach, food thus prepared would require but very little effort of the stomach to complete its digestion, and thus the body could be efficiently nourished, notwithstanding a debilitated condition of the digestive organs." Hydrochloric acid and pepsine being the principal natural agents for the digestion of meat in the stomach, he has thought that these substances might be applied to digest cooked meat in some degree previously to its being eaten, and that by giving the stomach animal food thus softened and dissolved, sufferers from disease of nutrition, causing wasting and emaciation, and who can take but little food, which they have much trouble in digesting, and others miserably tormented with dyspepsia, whose irritable stomachs cannot digest animal food, let it be ever so carefully cooked, might be enabled to take a little meat, and digest it well, the stomach being saved a certain amount of work. The food obtained by the process is a fluid "holding in suspension a light pulpy substance, most of which, when the liquid is allowed to remain undisturbed in a glass, is seen to fall to the bottom; it is, in a great measure, to this substance that its nutritious properties are due; but the pulpy mass is so minutely divided and so soft, as to be swallowed unperceived." It is a very palatable food, and is said to be acceptable to invalids.

What We Need.—Dr. Hamilton, of Buffalo, very plainly and tersely remarks: We need for our dwellings more ventilation and less heat; we need more outdoor exercise, more sunlight, more manly, athletic and rude sports; we need more amusements, more holidays, more frolic and noisy boisterous mirth. Our infants need better nourishment than colorless mothers can ever furnish, purer milk than our distilleries can manufacture; our children need more romping and less study. Our old men need more quiet and earlier relaxation from the labor of life. Men, both young and old, need less medicine and more good counsel. Our cities need cleansing, paving and draining. The Asiatic cholera, the yellow fever, the plague, and many other fearful epidemics, are called the approbia of our age, and our fellow citizens upbraid us with feebleness and inefficiency of our resources. When will they learn that, although we do not fail to cure these maladies, the more precious secret of prevention is in our possession and has been for these many years.

The Philosophy of Ill Health.—Sickness is very largely the want of will. Everything is brain. There is thought and feeling, not only, but will: and will includes in it far more than mental philosophers think. It acts universally, now as upon mind, and then just as much upon the body. It is another name for life, force. Men in whom this life or will power is great; resist disease, and combat it when attacked. To array a man's mind and will against his sickness is the supreme art of medicine. Inspire in men courage and purpose, and the mind-power will cast out disease. "Nothing ails her. It is only imagination," said the nurse to him one day.—"Only" the imagination? That is enough. Better suffer in bone and muscle than in the imagination. If the body is sick, the mind can cure it; but if the mind itself is sick, what can cure it?—*Norwood.*

Skin Diseases—Little black specks are occasionally observed on the nose and forehead of some individuals. These specks, when they exist in any number, are a cause of much unsightliness. They are minute corks, if we may use the term, of coagulated lymph, which close the orifices of some of the pores or exhalent vessels of the skin. On the skin immediately adjacent to them being pressed with the finger nails, these bits of coagulated lymph will come from it in a vermicular form. They are vulgarly called "flesh-worms," many persons fancying them to be living creatures. These may be got rid of, and prevented from returning by washing with tepid water, or proper friction with a towel, and by the application of a little cold cream. The longer these little piles are permitted to remain in the skin, the more firmly they become fixed.

Domestic Economy.

Squirrel Stews.—Half a dozen of these marauders make a nice dish to set before as many grown-up people who relish fresh meat for dinner. He lives upon the best of food, and lives a free, active life, but its very activity gives its muscle a tendency to toughness. This can be overcome by sufficient boiling. Thus, in the first place, it must be carefully skinned and dressed while yet warm. If the entrails are left in the animal until the body is cold they will injure the flavor of the meat more or less. Put them in cold water enough to cover them, and skim the pot carefully when it comes to boiling (this always in boiling or stewing meat or making a soup). Two hours gentle boiling is not too much for young squirrels, and three hours for old ones. Never season them until they are done tender, and then you will add salt and cream, or a bit of yellow butter, according to your judgment. A little thickening (a tablespoonful of flour stirred smooth in half a cup of milk or water) stirred in while the pot is boiling will make a nice gravy. Pour the whole over slices of bread or split gems. The strong flavor of squirrels comes from fat. Cut this all away carefully before cooking.

Salmon Cutlets with Caper Sauce.—Take a slice of salmon two inches thick, carefully remove the bones and skin, cut it into slices half an inch thick, and flatten each on the chopping-board with a cutlet bat dipped in water. From these slices cut as many cutlets of a uniform shape as you can. Place them quite flat on a well-buttered baking tin, sprinkle pepper and salt over them, and, ten minutes before they are wanted, put them into the oven with a sheet of buttered white paper over them. Put all the trimmings of the salmon into a saucepan with carrots, onions, thyme, parsley, a bay leaf, a few cloves, some whole pepper, salt to taste, and a little more than a pint of good stock. Leave this to boil gently till reduced one-half, then strain the liquor into a basin, and remove any fat there may be. Melt a piece of butter the size of a walnut, add to it a teaspoonful of flour, and stir it on the fire till it is well colored. Add the liquor to this, and continue stirring until the sauce boils, then add a heaped teaspoonful of capers; pour the same over the cutlets, and serve.

How to Bleach Cotton Cloth.—It may sometimes become necessary or convenient to bleach a piece of cotton cloth, although as a general thing it is better to obtain white clothes already bleached. Home-bleaching, moreover, is apt to injure the fabric more than the process in use at the factories, especially when manipulated, as it always is there, by skilled hands. However, cloth may be bleached as follows:

To five pounds of cloth take twelve ounces of chloride of lime. Dissolve the lime in a small quantity of boiling water; when cold, strain it into a sufficient quantity of water to cover the cloth. This must be boiled fifteen minutes in strong soapsuds, and rinsed well in clear water. Then put it in the lime-water from ten to twenty minutes, airing it well by lifting up and down. Rinse thoroughly in warm or cold water.

Orange Pudding.—Take four fair-sized oranges, peel, seed, and cut in small pieces. Add one cup of sugar and let it stand. Into one cup of nearly boiling milk, stir two tablespoonfuls of corn starch, mix with a little water and the yolks of three eggs. When done, let it cool and mix with the orange. Make a frosting of the whites of the eggs and half a cup of sugar. Spread over the top of the pudding, and put it into the oven for a few moments to brown.

Parsnip Stew.—Pare and slice together, in the proportion of one large parsnip to three or four medium sized potatoes. Cook thirty or forty minutes in a small quantity of water, so that when you have put in a little flour thickening it will be nearly as dry as hash; though some might prefer it more moist. A little cream improves it. With no other addition than a little salt, this forms a delicious food.

A Good Recipe for Yeast.—Take three large potatoes, grate them, pour on them one quart of boiling water, add to them one quart of water in which a small handful of hops has been boiled; half a cup of sugar; the same of salt, and two-thirds of a cup of yeast. Bread made from this yeast will never sour. The hop tea must cool before being mixed with the other ingredients.

MINING AND SCIENTIFIC PRESS.

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San Francisco:

Saturday Morning, Sept. 20, 1873.

Legal Tender Ratee.—S. F., Thure., Sept. 18.—buying 88⅛; selling 89⅜.

TABLE OF CONTENTS.

GENERAL EDITORIALS. — Huerne's Self-Cleaning Filter; The Utah Mining Swindlers, 177. Indian Lettuce, or Wild Lettuce, 182. The Labor School Question; The Science of Soil; Academy of Sciences, 184. The Occult Sciences and Mibing; Westcott's Universal Chuck; Mining District in Ventura County; The State Fair, 185.

ILLUSTRATIONS.—Huerne's Self-Cleaning Filter, 177. Indian Lettuce, or Wild Lettuce, 182. Westcott'a Universal Chuck, 185.

CORRESPONDENCE.—Notes of Travel in Utah Territory, 178.

SCIENTIFIC PROGRESS.—The Heat of the Moon; Annealing; Lunar Light Upon Vegetation; The Origin of Meteore and Comets; Making Mistakes; Test for Sewage in Water; A New Red Coloring Material from Anilin, 179.

MECHANICAL PROGRESS.—Utilization of Furnace Slag; A New Ice-Machine; A Fire-proof Stove; Mr. Bessemer's Channel Steamship; Improved Steam Rock-Drill; Hail Columbia; Gas Fokers, 179.

MINING STOCK MARKET.—Table of Daily Salea and Pricee and Comparative Prices for the Week; Notices of Assessments; Meetinga and Dividends; Review of Stock Market for the Week, 180.

MINING SUMMARY from various counties in California and Nevada, 181.

USEFUL INFORMATION. — What to Do in Case of Accident; An Indelible Red Ink; Shaping Soft Rubber with a File; A Good Cement; Scent Powder; A Good Dieinfectant, 183.

GOOD HEALTH.—Eating When Exhausted; How Long Shall We Sleep; Aids to Digestion; What We Need; The Philosophy of Ill Health; Skin Diseaséa, 183.

DOMESTIC ECONOMY.—Squirrel Stews; Salmon Cutlets with Caper Sauce; How to Bleach Cotton Cloth; Orange Pudding; Parsnip Stew; A Good Recipe for Yeast, 183.

MISCELLANEOUS. — Twenty-Ounce Diggings; The Alaska Mines; Prevention of Waste in Manufacture; Colossal Dam, 178. The Coal Fields of Coos Bay; New Mode of Lead Assay; The Wood Flnmea of Nevada, 182. A Training Ship and Labor Schools; Skillful Navigation in a Fog; Astronomical Notes; Water in the Minea, 186.

The Calistoga Gold Mine.

We have seversl times alluded to the St. Helena Gold mine in Napa County, and published extrscts from other journals in relation to the mine. Its msin peculiarity lies in the fact that it is situated in the Coast Range where we do not expect to find gold in paying qnantities. Our friend, W. A. Skidmore, recently paid a visit to this miue and as he has had con iderable experience iu such matters, heiug a deputy of the United Ststes Mining Commissioners, we asked his opinion of the mine, which is more to be relied on than the statements of interested parties. He eays:

In the course of my rambles I came upon a veritable quartz ledge—a novelty in the Coast range. It is known as the St. Heleua and is situated on the S. E. slope of the mountain of the same name in a formation of porphyry and trachyte. The rock is peculiar in ite crystalization and granulation and rather puzzling to one accustomed to the quartz of the gold belt of California and the silver regions of Nevada. But there it is, four to six feet in width, good walls, bold croppings, and all the concomitants of a first class mine, such as wonld, if situated in Pioche or Washoe, break many a heart and pocket, or make the owner's fortune ou the stock board. The quartz carries gold and silver, associated with cupriferous pyrites. Average assays show $20 to $25 silver, and $10 to $15 gold. It was discovered several years since hy Richard Swift, a prospector, who, however, did not think enough of it to take it up until last spring. They now have ont 150 tons of fine looking quartz. It is being worked by our irrepressible Alex. Badlam, in connection with a few citizens of San Francisco, among whom are a well kuown speculative business man and a member of the board noted for his boldness and sagacity iu stock operations. If the St. Helena was not so near home it would create a sensation iu mining matters.

THE Grove Tunnel Company's hoisting works, ore-house and other buildings, at Austin, together with a large amount of wood, were destroyed by fire on the 11th iust.

The Labor School Question.

Ou page 186 of the present issne we have printed in full the bill and its provisions, looking to the establishment of labor schools in connection with our common school system, which the Mechanics' Deliberate Assembly of this city has had drawn up, with a view to its publication and general criticism by the press of the State, previous to its final revision by that body, and submission to the action of the next Legislstnre.

The people are becoming more aud more convinced of the importance of some practical move in this direction. It is nearly as essential, at least with the grest msss of our hoys and girls, that each individusl should be properly fitted for earniug a livelihood, as it is that they should be instructed in the ordinary brsnches of a commou school education. Nine-tenths of our people work for a living; how important then, that iu their youth they should be properly taught some trade or other means by the exercise of which they may earn that living.

Time was wheu there was little difficulty in finding opportunities for boys to euter the varions shops of mechsnical iudnstry, where they might learu such trades as they or their guardians might elect; but for various reasons, which we hsve here no time to consider, such opportunities are now rare, and our boys are necessarily compelled to grow up in idleness, or seek casual employment, which fails to fit, or rather which sbsolutely unfits them for any permanent or regular business. The evil of such a state of things has long been a subject of anxious and earnest comment; and perhsps in no portion of the Union is it more general, or attended with worse consequences than here in Ssn Francisco. So great has this evil become, that a large number of our most snbstantial citizens have sssociated themselvea together, and held numerons meetings, at great sacrifice of time aud personal comfort, to devise some remedy therefor. The result of their deliherations has culminated in the Bill for a law to which we have already alluded, aud a careful consideration of which we would commend to all onr resders.

Some plau mnst be devised to meet the grave emergency which is upon us, but we think no one who has had a hand iu maturing the one proposed, will presume to say that it is perfect, or will feel aggrieved at any houest criticism upon its merits. It has now been before the public for some cousiderable time, (since the 10th iustaut), and thus far has elicited very little adverse criticism—the best evidence thst it is at least a fair opproximation to the desired end.

The plan proposed is not altogether new, nor needit cost any very large sum to give its general principles a fair trial. As drawu up it may be somewhat too general in character. As it is quite experimental, it wonld probably be better to move slow in getting it into execution—that is let it be first connected with some one or two ouly, of our grammar schools—that number would we quite sufficient to enable us to watch the progress and judge of the merite of the proposed system. Neither would be necessary to experiment outside of Ssn Francisco, until experience had shown its value and practicability. We see no reasou why labor should be compulsury, either npou all schools, or all the individuals of any particular school. Let the lahor portion he a voluntary act on the part of the child or guardian, and accompanied, perhaps with a less number of studies thau may be taken up by the pupil who choses to devote all his time to study.

It is well knowu that a system of labor iu conuection with study has long been connected with many of onr academies and colleges; the writer wae a participant in sueh labor during his academical studies, some forty years ago. The plan is known to work well, and is more than self-sustaining, as students are able to make it a partial means of support; but, as now practiced, it is not accompanied with mechanical instruction. Still we see no reason why it might not be made nearly or qnite self-sustaining, even with all needed instruction, especially after the first outlay or plant has been provided. If we are not mistaken, the plan, precisely as contemplated iu this hill, has already been introduced into the G rard Orphau School, at Philadelphia.

By all means let us have a beginning at once; connect shops with at least two of our grammar schools; establish a polytechnic school and a school ship.

PROSPECTORS have been at work in a lively manner in Montana, this season, aud have had good success.

Academy of Sciences.

The regular semi-monthly meeting of the Cslifornia Academy of Sciences wss held on Monday evening last, R. E. C. Stearns in the chair. Messrs. Louis Gerstle and Simon Greenwald, both of the Alaska Commercial Co., were elected life members. Quite a number of

Donations to the Cabinet

Were made. Dr. F. Steindachner presented a male specimen of the "Cock of the Rock" (*Rupicola Peruviana*). H. G. Bloomer presented a female belted Kingfisher preserved by an improved process of embalming. C. D. Gibbes presented a collection of pebbles and shells from Pigeon Point and the Pescadero Pebble Beach; also a number of sea weeds; specimens of minerals from Californuia and Arizona by Mr. Durand. A collection of 58 fossil shells was sent from Sau Diego by Henry Hemphill. They were obtsined while digging a well at a depth of from 120 to 125 feet, and belong to the post-pliocene division of the tertiary epoch. Most of the species are still found in the bay. A hranch of California Nutmeg from Redwood Forest, on the stage road between Redwood aud Pescsdero, was received. Rev. S. W. Blakislee sent some fresh water *Algae* from Mammoth Springs, Lassen county, Cal. They were found growing 12 feet under the surface of clear spring water. They are egg-shsped, hollow, contaiuing a liquid and a soft nuclens. There were two new forms presented. The usual donations to the lihrary were received and also several new hooks.

Relics of the Aborigines.

Dr. A. W. Saxe called the attention of the members to a locality which hss never been examined to any extent, which is probably rich in archæological relics. It is situated just south of the mouth of Laguna Creek, six miles north of Santa Cruz. At this place there is a mound about 15 feet deep aud about 70 feet ahove sea level, which was apparently collected by the aborigines of the county. Parts of the mound can be readily examined. The face opening towards the gorge has broken off and deposits of different eras can be seen, in which are to be found all kiuds of implements, such as arrow heads, the crescent-shaped knife, loug spear heads, etc., in all styles of manufscture. The most interesting fact conuected with this discovery is the fact that tons npon tons of chalcedony rock like that below Monterey, are found there, some having the appearance of geodes, but mostly solid. These boulders have an average diameter of four inches, noue less thau two and few exceeding five. A ship-load could, perhaps, be procured there. They were evidently carried from a long distance to this locality. He could find more like them from the north of Pescadero Creek for some distance down the coast. The bluff upon which they sre fouud ie composed of sedimentary rock. The Doctor could form no conjecture as to the purpose for which these rocks were carried thither. He suggested that some of the members should go and examine the locality carefully, as he was eure it would be of interest.

The European Sparrows

Were the subject of a few remarks by Dr. Geo. Hewston. He could see no ressou for the Were the subject of a few remarks by Dr. introduction of a foreign bird, when a native bird, the Western white crowned sparrow, is just as good. There are a few in the gardens in the southern part of the city. This native hird can easily be domesticated and has none of the objectionable points which the English Sparrow has. It frequents the neighborhood of gardens aud has a very sweet song. This bird destroye caterpillars, grubs, etc., and is easily domesticated but is easily destroyed by cats. A pair of these birds came to this garden and reared a brood; while they were there he had no trouble from caterpillars or bugs. A cat killed one of them and next year they did not come, and the garden was overrnn by insects. He thought that these birds ought to he protected, instead of introducing others.

The Chairman read a note from Presideut Davidson, stating that the Trustees had several conferences with Mr. Lick in regard to the difficulties that accompany his conditional deeds. They had found him earnest and willing to make such amendments as would bring about a practical and complete solution of the problem, and the members could rest assured that the prospects of a favorable ending of the negotiatione at an early date are very cheering. Dr. Henry Gibbons, made a few remarks about the proposed balloon voyage across the Atlautic and agreed that there wae some reason to believe in the existence of a strong westerly air current. He thought the project much less chimerical than many projects before intro-duced; there is a permsnent upper current from west to esst. This is not only worked out theoretically but is demonstrated by the course of high cirrus clouds. Mr. Stearns said thst they would undonbtedly gain scientific data of importance if the voyage wss eveutnally csrried out. Dr. Gibbons did not commit himself to the balloon enterprise, but thought they ought to go first from the Pacific to the Atlautic Coast. This idea had been suggested by Prof. Henry to Prof. Wise, but the latter had preferred in case of accident to fall on water rather than on land. Robert E. C. Stearns, read a paper entitled "Remarks on the Upper Tuolumne Vslley," which we will give in fnll in our next issue, want of space forbidding our printing it in this number.

The Science of Soil.

The proper crop to be planted iu a giveu soil, that which will grow to the best advantage and produce the largest yield, is a question of vital importance to the settler upon newly located lsnd, and even to those who hsve long tilled the land under their care without reference to its natural qualities. Land may he occupied for yesrs, and still he cultivated on a system purely experimental. As a result the full capability of the soil is not utilized—not that it should be exhausted. There is nesrly always a choice of crops, some one of which will succeed better than any other. Then there are uses to wbich land msy be put besides cropping. It may he employed as pasture for cattle, or retained as a sheep range; whatever be its destiuation, there is a preference. True, additional elements must be considered, as climate, market, home wants, etc. Our position is that, taking all these into sccouut, mnch more depends ou the character of the geological formation thsu is generally admitted.

How shall we know what is the hest use of a particnlar soil? By the experience of others, verified by our own observatiou. This experience is garnered in the mnch ahused agricultural books, where men collate the facts noted as results of their own prsctice, snd compare with the opinions of others, thns enabling the reader to form sn independent estimate.

Soil, it is known, comes from the wear and tesr of nature. It is the dust of the great workshop wherein we dwell. The ever active agencies of wind, water and frost, chemical and volcanic changes, together with the gentler influence of orgsnic life, have made soil whst it is. Consequently the vsrious minersl species may be expected to exist in irregular proportions in different localities. And such is the case. The exhaustless forces of nature have crumbled and overlapped and mixed the coponent materisls of the earth's crust, nntil every kind, eandy, calcareous, or clayey, is commingled on the surfsce. This gives rise to diversity, and hence accepted laws of selection, such ae these: Where a thin chalk overlies au upper green saud, a soil suitsble for wheat and hops is to be looked for; from au overlspping clay, often a good barley lsnd, while a plastic clay produces a heavy wheat land. Rich, loamy soil is, however, caused by the mixtnre of all three kinde of stratified rocks, the limeetone, the sandstone snd the clay. Among unstratified rocks there are granite, trap and lava, speaking broadly; the first gives a very poor, the secoud a good, aud the last a very fertile soil. Instances proving these seemingly arbitrary assertions are not wanting. Much, too, depends on the order of position in the strata, as regards drainage or retention of moisture. Thus we fiud that geology, one of the yonugest of the eisterhood of science, may be properly classed among the so called (an invidious distinction) practical ones. Here is a field where geology, mineralogy and chemistry mutually overlap one auother, just as do the constitnent strata of the crust, forming a firm basis on which to plant seeds of progress.

THE DIFFERENCE IN TEMPERATURE of Virginia City and Gold Hill, Nevada, is about five degreee, although the two towns are but one mile apart. Gold Hill has a temperature five degreee warmer than Virginia, a fact which the *Enterprise* accounts for hy statiug that the former town is situated in a cañou, with hills of considerable hight on both sides.

THE tailings mill, near Shermantown, White Pine, has been sold by J. B. Oshorne, to the Eberhardt and Aurora Company, at Eberhardt, and will continue to be worked under their administration.

The Occult Sciences and Mining.

We have heard of a good many instances where miners have started a tunnel in the side of a hill and kept at it with commendable pluck and faith, not only for months, but years, always incited to renewed energy, with the hope of striking gravel ahead. Sometimes the golden goal has been reached, and again, after all their resources were exhausted, they gave it up for awhile, only to begin their labors anew, or else have sold out to persons who hoped to reap the reward with little trouble. A case in point is that of the Pioneer Tunnel, at Sebastopol, which was started in 1856, and has been worked intermittently ever since. Many thousand dollars have been expended and a long tunnel run, but pay gravel was not reached. The tunnel has now been sold to a Mr. Billings, who, according to the *Mountain Messenger*, has taken spiritual advice, and feels confident that he knows pretty near where to work for gravel.

Here then is a gentleman who hath no faith in mining experts, no desire for accurate surveys, no necessity for doing hard work, but hopes to make his fortune by faith in spiritual advice. It seems to us that Mr. Billings, being on such good terms with the spirits, is in a measure throwing away his advantages by going into a small tunnel speculation. He has faith, evidently, for he has put money up, and it requires a large amount of faith to do that in mining operations. Now we opine that if this gentleman would come to this city and succeed in imbuing some of our capitalists with some of his faith, he might transfer some of their money to his own pockets. What a jewel he would be for a mining ring to operate, and his reports as an expert would have the effect of putting out our Jauins, Kings, Sewells, Phillips and a host of lesser lights. If some of our numerous mining trustees and Presidents could only see down into the Comstock lode as Mr. Billings sees through the heading of the Pioneer Tunnel, what a jolly thing it would be—for them. They would pay Mr. Billings a princely salary to lend them his eyes, or his faith, or his "spiritual" charms, whichever it is that sees through geological formations, as common mortals do through glass. Or the gentleman would doubtless stand a good chance of a fat job from Government, under the United States Mining Commissioner, for instance, as then the Commissioner would not be under the necessity of depending upon owners of mines for descriptions of them for his report; his deputy could see the whole thing at a glance. He might do well going round the country to tell some of our smart mining men when their mines were about to "peter out," so that they could sell them to our English cousins in time. But if Mr. Billings would see through the ways of some of our Mining Trustees and Rings, he would perform more service to the country than in any other manner.

We have heard of several instances where men went into this business under the same auspices as Mr. Billings, but as far as we know their profits have been "spiritual" as well as their informants. The days of divining rods, willow switches, portents, astrologers, etc., in connection with mundane affairs have gone by, and those who trust in them lean on a broken reed. For the consolation of a few of our readers, however, we will relate one instance in our experience where "spirits" were influential in picking out a good ledge.

A few years ago when we were "in the mines," a new district attracted our attention, which promised to be a camp of considerable importance. We remained there several months, and shortly after our arrival there came to the little town a diminutive Dutchman of bibulous propensities, who, though drunk more than half his time, seemed to have unusually good luck in making locations. On one occasion while he and a congenial companion were on a "spree," they made such a disturbance in the little place that threats of a ducking were freely made. Somewhat alarmed at their hostile demonstrations they each procured an extra bottle of aguadiente, and left town, wandering off several miles into the brush, where, after protracting their debauch as long as possible they fell into the sleep of the innocent—or the drunkard—which we all know is sound. On awaking in the morning, our little Dutchman found that he had for a pillow a boulder of quartz croppings almost as big as a bucket. While lying there meditating on the uncertainty of human affairs and the propriety of going back to town for more whiskey, he did what any honest miner would do—spit on the rock and rubbed it with his fingers. Thoughts of whiskey and duckings were quickly banished by the sight of gold in the rock; not only a scattering here and there, but a plentiful sprinkling of the yellow color. In miners' parlance the boulder was "lousy" with gold. That ledge has since sprung into prominence and is at this time being worked with good profits, although the discoverer sold his interest for only $5,000. This is the only case we ever knew where "spirits" had anything to do with the discovery of a mine that was worth anything.

The Westcott Patent Lathe Chuck.

The accompanying cuts are representations of the new combination (universal and independent) three or four-jawed lathe chuck, invented by John H. Westcott, of Oneida, Madison Co., N. Y. The chucks are made at the Oneida Steam Engine and Foundry Co., at that place, under the supervision of the inventor. The claims of the inventor for superiority of this tool over others of like character are: First—Its simplicity, strength and facility with which it can be changed from a universal to an independent action of the jaws. Second—The reversibility of the jaws, enabling the workman to chuck a much larger piece on the same sized tool than can be done on any other chuck in use. The shape of the jaws, which is such that by reversing them any chuck will hold securely the largest or smallest drill or reamer.

The improvement in this invention consists

Fig. 1

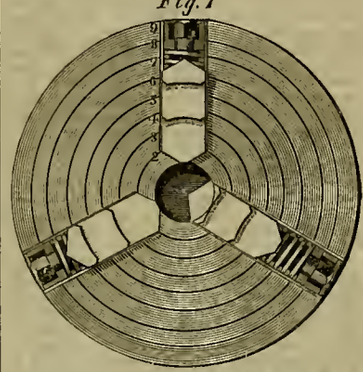
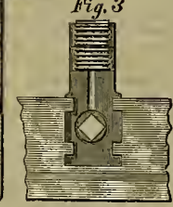


Fig. 2

Fig. 3



WESTCOTT'S UNIVERSAL CHUCK.

in not only making the dogs reversable, but also in making them to act independently of each other, when required, as well as to act concentrically and simultaneously. The chuck is, therefore, enabled to seize and hold firmly irregular forms, or, to hold a piece of work in an eccentric position.

Fig. 1, is a front view of the face plate of the Chuck. Fig. 2 is a vertical section, and Fig. 3, is a plan view of one of the dogs, reversed.

B, figure 2, is one of the dogs, not reversed. *B*, is a screw which works the dogs, independently of the other dogs. The dog slides into a groove in another sliding piece, or block, a section of the grove in this block being shown in figure 3. The block *C* has at its back a spiral screw plate, which is engaged by an annular ring, *D*, which, also, has on its front face a corresponding spiral screw thread. The annular ring *D* is held to its place by a nut *E*, threaded upon the boss, *F*, of the face plate. The whole screws on to the lath spindle, in the usual manner. It is evident that all which is necessary to reverse the dogs, is to take out the screws and turn them the other side up. In this position they may be made to hold a very small piece of work. The Chuck is adapted to a greater variety of work, than almost any other we have seen.

What one Manufactory will Do.—One manufactory employing a hundred men will support an additional 500 people. Three hundred families will disburse annually, on the average, $250, or $75,000 in the aggregate. This money will be drawn into the town from the outside, where the manufactured goods are consumed, and the interest of this $75,000 at ten per cent. would be $7,500. Three hundred families, too, would require a hundred houses, thousands of pounds of agricultural produce, and thousands of yards of cotton and woolen goods, thus giving health and impetus to every branch of industry.—*American Manufacturer.*

A Mining District in Ventura County.

Mr. A. D. Brown called on us this week and gave us some items in relation to Lockwood District, a new mining locality in Ventura county. It was first discovered a year ago last July, but little work was done there at the time. Parties came in from the agricultural districts in the vicinity, and made a few locations on general principles, but no developments of any account were made. There are perhaps twelve or fourteen locations. The district is in the northern end of Ventura county, at the headwaters of Piru Creek. There is plenty of timber in the vicinity, and some of the claims are within a hundred yards of the creek, in which there is water all the year round. Mr. Brown says there are about 200 inches of water there now at this dry season. It is 45 miles from the mines to Bakersfield, and about 100 from Los Angeles. A few men are there now working these localities.

Mr. Brown has located a ledge and sunk upon it 15 or 20 feet. He has had a number of assays made of the ore, one of which showed a value of $199 in gold and $33 in silver; another $285 in gold and $19 in silver; and still another $505 in gold and $16 in silver. The claims are located on a belt of slate formation which is about five miles in length and three-quarters of a mile wide. The ledge Mr. Brown owns, he tells us, is some thirty feet wide and crops for 2,700 feet. A district has been laid out and a recorder appointed. The country near by is not settled up much, there being only a few sheep and cattle ranches near by.

The tops of the mountains in this vicinity are said to contain gravel deposits which spread over quite an area of country, but are universally on the summits or table lands of the mountains. For this reason they are not worked, water not being readily procured. Some large deposits of gravel have been found at a place called San Feliciana, about 18 miles below; these mines are what were worked many years ago. A Spanish ranch was "floated" over these mines so they are not now worked. They cannot get fall enough to work them conveniently, but the owners of the ranch, or their agents, recently made a survey to see if they could not tap the creek above and get water down to the ground. Last winter a few men worked on the south-west branch of the Piru Creek, about three miles from Lockwood, but there was no water in the summer. The north-west branch of the creek is fed by springs from Lockwood Valley, which run all the year round; but the south-west branch is dry in the summer. At this place the gravel was of the same class as that on the top of the hills, but in this particular locality it was low enough down to get water. Mr. Brown is trying to get some one interested to go down and see the mines at Lockwood in hopes that they will develop the large ledge so as to make it a paying property. A mill is needed of course, but according to his account water power is very handy. He ought to have no trouble in inducing parties to invest, if his statements are verified by practical miners. A ledge 30 feet wide which assays from $70 to $505 per ton will not go begging long wherever it may lie. The occurrence of gold in other localities near by ought to encourage others to visit these mines and examine them closely.

The Lost Ledge quicksilver mine, near the Geysers, Sonoma county, has made its first shipment of metal—five flasks—and shipments hereafter will be made regularly.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, DEWEY & CO., Publishers and U. S. and Foreign Patent Agents.]

By Special Dispatch, Dated Washington, D. C., September 16th, 1873.

For Week Ending September 2d, 1873.*

Heater and Blower.—William M. Jackson, Woodland, Cal.

Boot Crimping Blocks.—Henry Bordner and Dennis Sullivan, Virginia City, Nev.

Manufacture of Pipe.—Geo. L. Eagan, S. F., Cal.

Governor Cut-Off Gear.—Herman H. Meyer, Denver, Colorado Ter.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

The State Fair.

The twentieth annual Fair of the State Agricultural Society is now in progress and bids fair to equal if not excel any former exhibition. Monday, the opening day, as usual was mostly occupied in the reception of stock at the cattle grounds and the reception and arrangement of articles at the grand Pavilion; and though the day was one of busy preparation with all interested, the evening showed a remarkable and pleasing progress. The Pavilion is tastefully decorated which adds greatly to the display.

The usual races, that now make so prominent a feature at most of our agricultural fairs, were indulged in on Monday and better attended than on any other first day of former State fairs, and passed off quite to the satisfaction of all interested—except, we suppose, those who lost their money.

It is impossible for us to give in detail an account of the stock on exhibition; but among the first of the more interesting will be that of the Angora Goat and its grades; a large number will be exhibited and will as surely command special attention. There is also an excellent show of fine horses, that will do credit to the State; whilst the exhibit of fine blooded cattle will be superior to any former one.

Tuesday, Second Day.

There is an immense throng of visitors in the city to-day, which will doubtless be greatly augmented to-morrow. The display in the Pavilion is emerging from the chaos of yesterday and is rapidly assuming a charming and most attractive appearance. The fruits are now mostly upon the tables and are the admiration and wonder of Eastern visitors particularly, of which a considerable number are present.

A grand stock parade was had at the Park today, of which Californians have reason to be proud, for here, from mountain and valley, hill and plain, the length and breadth of the State, are collected many of the finest specimens of thoroughbred animals in the world. Among them the noble short-horn stands preeminent for size, docility and beauty, and is largely represented. Alderneys, Ayershires and Jersoys, are also creditably represented in numbers and command a full share of curions and critical attention, gems as they are among the bovine family for cheese and butter yielding qualities.

The number of fine horses on exhibition run up into the hundreds, embracing roadsters and trotting horses, racers, brood mares and colts in large numbers. It is evident from the attendance at the grand parade of stock to-day and the satisfaction apparent everywhere and with all classes, the ladies included, that the daily display of animals at the stock grounds, is every year becoming more and more a prominent feature of our agricultural fairs. The races to-day were witnessed by a largely increased number over yesterday, and seem to draw upon all classes more completely than any other one feature of the Fair.

The attendance at the Pavillion, however, in the evening was large, the display vastly improved over that of yesterday, and universal satisfaction at the very creditable display, is everywhere manifest.

Wednesday—Third Day.

Visitors are still pouring in to the already burdened city, and the wonder is where any more are to find accommodations; but the increased facilities provided by the citizens generally for the occasion, will doubtless be fully equal to the emergency, and all will find a place. Whether all will be comfortable is quite another matter, for the heat is simply unbearable with any sort of patience. Still there seems no flagging of interest in all that pertains to the successful prosecution of the grand carnival.

The Regatta of to-day brought out a large attendance and conduced to a most exciting and enlivening scene. The races as usual were immensely patronized, and the Pavilion thronged with spectators, evidently, in the main, *not* to listen to the President's Address, but to see and be seen, quite regardless of the buz and hum occasioned by the movement of countless feet upon the uncarpeted floor. We shall endeavor to give the address in a future number.

A Training Ship and Labor Schools.

The question "What shall we do with onr hoys,?" which has heen uuder discussion for some time in this city, has not yet been decided. A "Deliberatives Assembly" was orgenized, which bss teken the suhject under advissment. This essembly is now in session in this city. On ths 10th inst, the committee on "Training Ship" reported and reed the following hill for a lew to estahlish labor schools in our community.

The Bill and Its Provisions.

An Act supplementery to, end amendatory of, the several acts in relation to the Public of Common Schools, conteined in Volume 1 of the Political Code of California, Chapter 3, Sections 1,517 and following, and "An Act to provide for ths support of the common schools of tbs city and county of San Francisco, end to defins the powers and duties of ths Boerd of Educatiou thereof," epproved April 1, 1872.

The people of the State of California, represeuted in Senate and Assembly, do enact as follows:

Section 1. The Board of Education of the city and courty of San Francieco shall have power—

First, To connect with the common schools which now exist in said city and county of San Francisco, and which may be hereafter estahlished therein, a syetem of mechanical lahor, to he taught in the said schools hy competent persons ekilled in the several branches to be designated hy said Board, in pursuance of the provisione of this act.

Second, To fix the salariee or compensatione to be paid the several instructors, hoth male and female, who shall be employed in the mechanical departments of the said schools, and the amount of compensation that ehall be allowed to said instructors, shall not be less than that allowed to principals of the grammar schools in eaid city and connty.

Sec. 2. The hranches of mechanical labor which ehall first be taught in said schools shall be those that require small capital, small space, and the prosecution of which is not attended with much noise; euch as printing, bookhinding, tailoring, ehoemaking, peper hox making, and the like trades. And in the femsle schoole, cutting, fitting, and making garments for females and children, and tbe use of sewing machines.

Sec. 3. No pupil shall he required to receive instruction in any mechauical business or trade nntil he or ehe shall have entered a grammar class; after which he or she shall be required to devote not less than one-third of the time designated for school hours in receiving iuetruction in mechanical labor.

Sec. 4. The Board of Edncation of said city aud county is hereby authorized and directed to cause to be provided, ae soon as practicable, suitable apartments or buildings either witbin or adjecent, or convenient to the public school honses, with the necessary stock, materials and machines required for operating the several trades, whicb may be introduced into the common schools of said city and county, and to appoint the necessary instructors for that purpose.

Sec. 5. Section 9 of the Act to provide for the support of common schools, approved April 1, 1872, is ameuded as follows: The Board of Education of the City and County of San Francisco is hereby authorized and directed to procure a ship of snitable size and tonnage, with all the necessary tackle, furniture and equipments, on board of which to instruct uot less than two hundred boys of depraved character in seamanship and mechanical tredes, to be called a "Training Ship." Said ship shall be anchored in the Bay of San Francieco, within the corporate limits of said city, except during such time as she may be employed in cruising, for the instruction of the pupils on hoard; and to supply said ship with all the stock, materials, implements and machines necessary to operate efficiently, the trades and business which shall be taught on board of said ship; and the eaid Board is hereby authorized to apply to the United States Government for tbe use of vessels and supplies for the purposes above meutioned.

Sec. 6. Said Board shall adopt rules and regulations for the government, inetruction and reformatiou of the boys placed on board of ssid ship, appoint all necessary instructors and employés required to perform the various duties designated by said Board, fix their salaries and compensation, and require the Principal or Superintendent to furnish to said Board quarterly reports of the number of pupils, their character, deportment aud progress.

Sec. 7. Said Board is herehy authorized to remove from the Industrial School, in said city and county from time to time, those boys who are most depraved, and place them on the Training Ship, and to classify and grade those that remain in said school, according to their moral character and geueral deportment for good conduct, so that the more vicious shall not corrupt those of lese evil tendenciee and habits, and that the several classes and grades shall be kept and instructed in separate apartments.

Sec. 8. That said Board ie herehy authorized (whenever a majority of two-thirds of all its members shall so determine) to establish in said city and county a school to be called "The Polytechnic Institute," in which shall be taught mechanical engineering, civil engineering, architecture, drawing and deeign, chemistry, and such other branches of scientific knowledge as may tend to qualify the pupils for the practicel husiness of life, and to provide the buildings, furniture, fixtures, apperatus, mschinery, and all tbe uecessery materials required for tbe efficient prosecution of said studiss, and to appoint tbe necessary professors, instructors, and all other ageuts and servants, and to fix their salaries and compensation, and to prescribs their duties; hut no pupils shall be received into said Instituts who ars not graduetes of the High School eud are adjudged by ths City Boerd of Examination to possess particular aptness in ecqniring soms or all of the hranches teught in said Institute; *Provided*, that the amount reqnired to estab·lish provide all the hnildings, furnish all the materiels, machinery, furniture and fixtures, and pey all the expenses of seid institution from year to ysar after said Institute shell be put in operation, shall not exceed one hundred and fifty thousand dollars in gold coin of the United Stetes, which said sum shell be provided as prescrihed in section 20 of the act approved April 1, 1872, the honds required to he issued heing mede payeble ten years after the date of issuance.

Sec. 9. All the powers and authority conferred upon the Boards of Eduestion and Supervisors of the City and Ccuuty of San Francisco, and the dutiee enjoined therenpon by the several provisione of the act approved April 1, 1872, to whicb this act is supplemental and amendatory, are hercby made applicable to this act, eo far as they may be necessary to carry out fnlly its provisions.

Sec. 10. The Boards of Trustees in the several counties of the State, and the Boards of Edncation in the sevcral cities tbereof, are hereby authorized and empowered to connect with the public Schools in said cities and counties, and canse to be taught therein, mechanical labor, in pursuance of the provisione of this Act; and all the provisions of said Act, having reference to, and which confer authority upon the Board of Education of the City and County of San Francisco, so far as the same will apply, are bereby made applicable to the cities and countiee of said State; and the Boards of Supervisors of the said counties are hereby anthorized and directed to levy a sufficient tax, in addition to that heretofore authorized to he levied, to meet the necessery expenses that may be incurred under Section 10 of thie Act.

Sec. 11. The City Board of Examination for the city and connty of San Francisco is hereby authorized and directed to examine all those pupils (graduates of the High School in said city) who may from time to time apply to be admitted to the Polytechnic Institute; and those who shall be found to be qualified in pursuance of the provisions of Section 8 of this Act, shall receive from said Board a certificate expressing said qualification, which shall admit them into said institution, and entitle them to all the privileges of said institute.

Sec. 12. All acts and parts of acts, so far as the same may he inconsistent with the provisions of tbis act, are hereby repealed.

Sec. 13. This act ehall take effect and be in force from and after the date of its passage.

Reserved for Consideration.

The committee also reported the following resolution:

Resolved, Thst the Act jnst reported be laid upon the table, and that the publishers of newspapere in this city and State, favorable to the objects expressed in said Act, are hereby respectfully requested to pnblish it, with such comments and snggestions as to them may seem proper, to the end that this Assembly may be aided and assisted in perfecting an act to be presented to tbe Legislature for its adoption.

After considerable discnssion, the resolution was adopted unanimonsly. The next meeting of the Assembly will be held at the Police Conrt Room on the 24th inst., and every Wednesday evening thereafter, until the bille are complete and ready to be presented to the Legislature.

Skillful Navigation in a Fog.

A correspondent to the Boston *Advertiser*, who writes from London, after completing his voyage across the Atlantic, says: The Siberia, of the Cunard line, sailed from Boston, July 1st, on the new southerly course for Liverpool, and striking iuto the fog on the first day out, did not meet with fifteen minutes clear weather, when an obeervation could be taken, for almost eight days. But no paius were spared by the officers to make the dead reckoning accurate. The log was thrown every two hours, day and night. On the evening of the eighth day, our latitude was estimated to be north 49°36′, but the fog was still dense enough for the fog whistle to be blown. A little later it lifted very suddenly, then the clouds broke, disclosiug the pointers of the Dipper, and a moment later the North Star itself was visible. The chief officer hastened for his sextant, carefully took the altitude of the star, aud found it to be 49°36′ to a second. And on the tenth day we csme in eight of the Skillings, and hore up the coast of Ireland to the Fastnett Light without chsnging the course a fraction of a point. And this was the first time the Siberia had sailed upon the new couree, and during three-fourths of the time she had been enveloped in fog.

It is estimated thst themills in California consume 61,700 pounds of quicksilver per month.

Astronomical Notes.

Tbe intra-msrcurial planet still keeps up astronomical discussions. Leverier, whose celculations on the irregularities of the farthest planet Uranus led to the discovery of Neptune, still fartber off, deduced, in 1851, from irregularities in Mercury's motion, thet another planet mnst exist still nearer to the sun; but as there are yet no well authenticeted evidencss of ths transit of this planet over the sun's disk, estronomers in general will not commit themselves in favor of or egainst its existeuce. Prof. Kirkwood is now inclined to accept the existence of two intra-mercurial plenets—one of a period of 36 deys, the other of 16 days; while Prof. Alexandsr even argues ths existencs of a gronp of plenets at a distance of 20,000,000 miles from the snn, or ahout one-fifth of the distance of our eerth from the sun.

Thet ths sun hed in Juns, last year, an infusion of maguesium vapor into its atmosphere is verified from the concordant results of various investigations. It appears, therefore, that our sun is by uo means an immutahle source of light snd heat, hut is suhject to ontbursts of conflagrations of diverse materials as well es the stars, for instance, that in the corona borealis, which a few years ago suddenly increased twenty times in hrightnees by a great conflagration of hydrogen. If a similar thing happened to our sun there would at once come an end to all our specnlations, rivalries, wars, empires, etc., and our earth be thrown hack in one of those stages of her gcological history wheu organic life did not yet exist.

The atmosphere of Uranus has been fouud to consist chiefly of hydrogen, as proved hy the spectroscope. This iuvolves an ahseuce of oxygen, or a hydrogeu fire, continnally hurning at the present time. In either case, organic life, like that ou our planet, can not exist on Uranus; while also its ahsence on Jupiter aud Saturn is proved.

The one hundred and thirty-first little planet wes discovered in Washington, and the news of its discovery and its correct position at once transmitted by cable to Europe. From Paris the news was at once transmitted to all tbe astronomical observatories in France, aud that at Marseilles was the first to find it tbe same evening that the dispatch was received. It is very remarkahle that the thirty-first of these planete was, in 1854, also discovered in this country, where the oue hundred and thirty-first was discovered this year—nineteen yeare later.

We remind those of our readere not posted in astronomical metters, that the space between the orbite of the planets Mere and Jupiter, for many centuries eupposed to be vacant, was at first found to be filled, not by the orbit of one planet, bnt hy that of four planets, which were called Pallas, Ceres, Vesta and Juno, and that later many more fragments of smaller size were discovered. It was at first snpposed that one planet primitively occupying that orbit had exploded like a bomb-shell into the fragments now found; but tbe modern theory is that all tbe planets have slowly been built up from such fragments, gradually coming together by gravitation, aud that in the case in question this hae not yet taken place. It is supposed that every planetary orbit was primitively a ring consisting of millions of solid meteorites, as still is the case with the ring of Saturn; that theee gradusslly have coalesced hy gravitation and formed hundreds of larger masses, ae is the case with the belt of tbe 131 or more planets in question, (also called asteroids,) and that finally these masses, gradually dimiuishing in numbers and individually increasing in size, leave at last either a single one, as is the case with Mercury, Venus and Mare, or two, as is the case with our Eartb and Moon, or any other number; for instance, five, as we eee in Jupiter and its four moons, or more, as ie the case with Satnrn, Urauus, Neptune, or other planets which may yet be discovered outside of the orbit of the lster.—*Manufacturer and Builder.*

Water in the Mines.—The Butte *Record* says: Tnrton & Knox hsve fourteen white men and thirty Cbinamen at work on their extensive reservoir at the hesd of Bnsh creek, in Plumas county. The *National*, speaking of thie enterprise, says the water-right formerly belonged to Jabe Serrin, who sold to Turton & Knox. These gentlemen are erecting at the point mentioned a capacions reservoir, with a dam, which will be forty feet high. The work will be completed in two months, and will carry a large volume of water to the rich claims along the east branch of the North Fork of Feather River. The great desideratum in this region is water. For many years the patient miuers of Butte, Yubs, Sierra, Plumas and Lassen counties have strnggled to hold their claime, and eudured great privations, sustained always by the knowledge that they possessed the richest gold placers on this planet, and buoyed up by the hope that some day enterprising capitalists would assist them in unearthing the precions treasnre. The attention of capital is at last turned thitherward, and the time is not far distant when the roar of the hydraulic pipe will be heard in every gulch and ravine in that rich mining district.

The stagnation of Freuch metallurgical affairs has become more decided, and extends to all the centers of French metallurgical indnstry. While fnrnaces are being blown out in in the Champagne group, new ones are being equipped in tbe Meurthe et Moselle district.

The Louisiana sugar crop of 1872 wes a smell one, compared with tbe previous years, yielding 108,520 hogsheeds, whils in 1871 tbe yisld wes 128,461 and in 1870 144,881 hogshesds. The rehellion broke np this brench of agriculturs, which the year before, tbe war, yisided 459,000 hogsheads. In 1870, however, it hegan reviving, hut political troubles and other ceuses conduced to a decline lest year. This year's crop, which is now growing, we are informed, covers more surface than lest year's, end is expected from present indications to bs a hetter ous thsn that, altbough, like every crop this ssason, it is backward.

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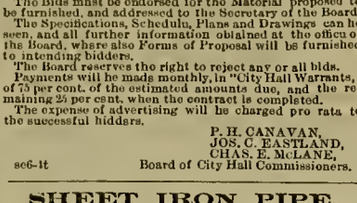

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September, 1873.

OFFICE of Dr. Lane, Surgeon and Physician, also Fire, Life and Accidental Insurance Agent, Mendocino City, Cal., August 28, 1873.—Messrs. DEWEY & Co.—Gentlemen: The Letters Patent have been received, also the copies of Specifications, for all which many thanks. Since I received my patent I get more letters and circulars from patent agents and brokers than is essential for practical purposes. One I just received from * * * *****, who claims to have an office near you; and, taking his word for it, would suppose him the only man capable of obtaining a foreign patent. All right! I shall make it a principal point to see you as soon as I arrive in the city. Yours truly, N. W. LANE.

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N. B. Information regarding the legal publication of mining notices, and blanks for assessments and sale notices, will be furnished free on application.

GENERAL MERCHANDISE.

WEDNESDAY NOON, Sept. 17, 1873.

Bags and Bagging are still weak. Rice is also in too great abundance to meet with ready sales and fair rates. One cargo was actually shipped back to China. Coffee is firm, with an upward tendency, sympathizing with the Eastern market. Prices of Soap remain unchanged, but considerable activity is felt. The Standard Soap Company are selling an article, called the "Carbolic," used as a sheep wash, at 12½ cts per gallon, and at $9 per dozen for 5 lb caddies. Oils are steady, some of large's Devoe's Petroleum, at 37 to 39 cts, according to style of can.

BAGS.			Devoe's Petro'm	37	@ 39
Eng. stand. Wh't	12¼	@ 13	Barrel kerosene	30	@ —
Detrick's Mach e Sewed, 22 x 36,	—	@ 13	Downer Kerosene	50	@ 52½
Gilmer F.....	13½	@ —	Gas Light Oil	37½	@ 40
do, 2x36, do W	12¾	@ 13	**PAINTS.**		
do. 22x40, do...	13½	@ —	Atlan. W. Lead.	11¾	@ 12
do, 23x40.....	13¾	@ —	Whiting	1½	@ 1¾
do, 25x40.....	15½	@ —	Putty	—	@ 4
Flour Sacks ½s..	13	@ 15½	Chalk.....	—	@ 1
" " ¼s.	8¼	@ 9	Paris White.....	2½	@ —
Stand. Gannies..	—	@ 20	Ochre.....	2½	@ 3
" Wool Sacks.	—	@ 62½	Venetian Red...	3	@ 3½
" Barley do..	—	@ 15½	Red Lead.....	10¼	@ 11
Hessian 45-in.gds	—	@ 11½	Litharge.....	10	@ 11
do 60	—	@ 15	**RICE.**		
Burlaps, yard....	10¾	@ 10¾	China No. 1, ₰ lb	5	@ 5½
CANNED GOODS.			do 2, do.	5½	@ 6
Asst'd Pie Fruits in 2½ lb cans.	3 00	@ —	Japan.....	7	@ 7½
do Table do...	—	@ 4 00	Siam Cleaned...	7	@ —
Jams & Jellies	4 00	@ 4 50	Patna.....	7	@ —
Pickles, ½ gl..	—	@ 3 50	Hawaiian.....	5	@ 5
Sardines, qr box	—	@ 2 15	Carolina.....	10	@ 10½
do hf boxes.	—	@ 3 15	**SALT.**		
COAL, Jobbing.			Cal. Bay, per ton.	12 00	@15—
Australian, ₰ ton	19	@ 00	do Common...	5 00	@8 00
Coos & Bel. Bay.	8 50	@10—	Mexican.....	14 00	@15 00
Seattle.....	—	@11—	Carmen Island..	14 00	@20—
Cumberl'd, cks...	—	@ —	Liverpool fine...	22 00	@ —
do bulk..	21 00	@22 50	do coarse	21 00	@21 50
Mts. Diablo.....	5 50	@8 50	**SOAP.**		
Lehigh.....	14 25	@ —	Castile ₰ lb....	10	@ 13½
Liverpool.....	11 00	@12—	Local brands..	5	@ 9
West Hartley....	12 00	@14—	**SPICES.**		
Scotch.....	11 00	@ —	Allspice, per lb..	15	@ 15
Scranton.....	10 00	@ —	Cloves.....	—	@ 40
Vancouver's Isl..	12 00	@14—	Cassia.....	27½	@ —
Charcoal, ₰ sk....	75	@ —	Nutmeg.....	1 12	@1 15
COFFEE.			Whole Pepper...	—	@ 26
Sandwich Island	19½	@ —	Gr'nd Allsp'rd'z	—	@1 00
Costa Rica per lb	22	@ —	do Cassia do..	—	@1 50
Guatemala.....	20	@ 21	do Cloves do..	—	@1 25
Java.....	—	@ 26	do Mustard do	—	@1 25
Manilla.....	19	@ 20	do Ginger do..	—	@1 00
Ground in bbls	25	@ —	do Pepper do..	—	@1 00
Chicory.....	10	@ —	do Mace do...	1 20	@1 30
FISH.			**SUGAR, ETC.**		
Pac. Dry Cod, new	—	@ 7½	Cal. Cube per lb..	11	@ —
cases.....	8	@ 9	Powdered.....	—	@ 11¼
Eastern Cod.....	9½	@ 9¾	Circle A crushed	11	@ —
Salmon in bbls.	8 00	@9 00	Granulated.....	10½	@ 11
do ½ bbls	4 50	@5 00	Extra do.....	10¾	@ —
do 2½ lb cans	—	@ —	Hawaiian.....	7½	@ 9½
do 2 lb cans.	3 75	@4 00	Golden C.....	9½	@ —
do 1 lb cans.	2 25	@ —	do Roy'g grade	7	@ —
Do Col. R. ½ lb..	4 50	@5 00	Cal. Syrup in bls.	32½	@ —
Pick. Cod, bbls.	22 00	@ —	do in ½ hls.	35	@ —
do ½ bbls	11 00	@ —	do in kegs..	40	@ —
Bos. Sm'k'd Her'g	40	@ 50	do Hawaiian..	20	@ 22½
Mack'l, No. 1, ½ bbls	10—	@10 50	**TEA.**		
" Extra....	—	@12 50	Colong, Canton, lb	19	@ 25
" in kits...	2 75	@ —	do Amoy...	28	@ 50
" Ex mess..	4 25	@4 50	do Formosa	40	@ 80
" Ex mess, ½ bs	—	@13 00	Imperial, Canton	25	@ 40
NAILS.			do Pingsuey	45	@ 80
Assorted size, lb..	—	@ 7	do Moyune.	60	@1 00
NAVAL STORES.			Gunpo'der, Cant.	30	@ 42½
Tar & Pitch, ₰ lb	7	@ 8	do Pingeney	50	@ 90
Oakum per bale 50 lb	4	@4 50	do Moyune..	65	@1 25
Rosin.....	5 00	@ 5 50	Y'ng Hy., Canton	28	@ 40
Anchors.....	8	@ 8½	do Pingeuy	40	@ 70
Chains.....	7	@ 7½	do Moyune..	65	@ 85
OILS.			Japan, ½ chests, Dulk.....	30	@ 75
Pacific Glue Co. Neat Ft'n No. 1.	—	@ —	Japan, lacquered bxs, 4½s and 5 lbs	45	@ 67
Parc.....	1 25	@ —	Japan do ½ lb bxs	45	@ 90
Castor Oil, No. 1.	1 40	@1 45	do pl'n bx, 4½s	60	@ 65
do No. 2..	1 25	@1 35	do ½ & 1 lb paper	30	@ 55
Cocoanut.....	55	@ 60	**TOBACCO—Jobbing.**		
Olive Flagniol..	5 00	@ —	Bright Navye....	50	@ 60
do Passel....	4 75	@ —	Dark do	45	@ 50
Palm.....	9	@ —	Dwarf Twist....	57	@ 62½
do Bagicalupi.	—	@ —	12 inch do	57	@ 52½
Linseed.....	90	@ 95	Light Pressed...	65	@ 75
China nuts....	82½	@ 85	Hard do ..	60	@ 70
Sperm, crude..	1 25	@ —	Conn. Wrap't....	40	@ 50
do bleached..	1 90	@ —	Penn. Wrapp'r..	35	@ 45
Coast Whales...	37½	@ 40	Ohio do ..	30	@ 45
Polar, refined...	55	@ —	Vrigi'a Smok'g..	60	@ 95
Lard.....	85	@ 95	Fine cut chew'g..	8 50	@9 25
Coal, refined Pet	37½	@ 40	Fine cut chewing, bucts. ₰ lb..	75	@ 90
Oleophine.....	37½	@ 40	Banner fine cut..	8 75	@9 25
Devoe's Bril't...	43	@ 45	Eureka Cala....	8 00	@8 50
Long Island....	37½	@ 40	**TURPENTINE.**		
Eureka.....	37½	@ 40	Eastern.....	67½	@70

San Francisco Metal Market.

WEDNESDAY, Sept. 17, 1873.

IRON.—			
Scotch Pig Iron, ₰ ton	$52 50	@	—
White Pig, ₰ ton	52 50	@	—
Refined Bar, bad assortment, ₰ lb	—	@	4
Refined Bar, good assortment, ₰ lb	—	@	4½
Boiler, No. 1 to 4	05½	@	06
Plate, No. 5 to 9	06½	@	07
Sheet, No. 10 to 13	07½	@	—
Sheet, No. 14 to 20	08	@	08½
Sheet, No. 24 to 27	08	@	09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	9½	@	—
Norway Iron	8	@	—
Rolled Iron	5	@	—
Other Irone for Blackesmithe, Minere, etc.	5	@	—
COPPER.—			
Brazers	35	@	38
Copper Tin'd	60	@	—
C. Niel's Pat	55	@	—
Sheathing, ₰ lb	—	@	25
Sheathing, Yellow	—	@	25
Sheathing, Old Yellow	—	@	12
Composition Nails	25	@	—
Composition Bolts	25	@	—
TIN PLATES.—			
Plates, Charcoal, IX ₰ box	14 00	@	14 50
Platee, I C Charcoal	13 00	@	13 50
Roofing Platee	13 00	@	13 50
Banca Tin, Slabs, ₰ lb	40	@	42½
STEEL.—English Cast, ₰ lb	18	@	22
Drill	18	@	22
Flat Bar	18	@	22
Plough Points	16	@	17
ZINC	9¾	@	10
Zinc Sheet	9	@	10
NAILS—Assorted sizes	5¾	@	8
QUICKSILVER, per lb	—	@	1 10

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

We note no important changes in the Leather market this week. Better feeling of late has prevailed and business has been a trifle more active, without, however, largely influencing prices. We quote as follows:

City Tanned Leather, ₰ lb	26@29
Santa Cruz Leather, ₰ lb	26@29
Country Leather, ₰ lb	25@28
Stockton Leather, ₰ lb	26@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 13 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 15 Kil. ₰ doz	55 00@ 70 00
Cornellian, 12 to 15 Kilo	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 15 Kil	66 00@ 72 00
Beaumorville, 15 Kil	60 00@ —
Simon, 15 Kil., ₰ doz	60 00@ 62 00
Simon, 20 Kil. ₰ doz	65 00@ 67 00
Simon, 24 Kil. ₰ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₰ lb	1 00@ 1 30
California Kip, ₰ doz	40 00@ 60 00
French Sheep, all colors, ₰ doz	8 00@ 15 00
Eastern Calf for Backs, ₰ lb	1 00@ 1 25
Sheep Roans for Topping, all colors, ₰ doz	9 00@ 13 00
Sheep Roans for linings, ₰ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 4 50
Best Jodot Calf Boot Legs, ₰ pair	5 00@ 5 25
Good French Calf Boot Legs, ₰ pair	4 00@ 4 75
French Calf Boot Legs, ₰ pair	4 00@ —
Harness Leather, ₰ lb	30@ 37½
Fair Bridle Leather, ₰ doz	48 00@ 72 00
Skirting Leather, ₰ lb	34@ 37½
Welt Leather, ₰ doz	30 00@ 50 00
Buff Leather, ₰ foot	19@ 22
Wax Side Leather, ₰ foot	17@ 19
Eastern Wax Leather	—@ —

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Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

California Silk Manufacturing Company—

Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California.

NOTICE is hereby given, that at a meeting of the Board of Directors, held on the 29th day of August, 1873, an assessment of Five Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at his office, No. 569 Market street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the first day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. D. M. BOKEE, Secretary.

Office, 569 Market street, San Francisco, Cal.

The Confidence Mining Company—Location of works, Tuolumne County, State of California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment (No. 1) levied on the 4th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Ortificate.	No. Shares.	Amount.
H E Halsoy	8	100	$175 00
J L de Pourtales	9	200	350 00
H Hampton, Trustes	32	250	437 50
H Hampten, Trustes	37	100	175 00

And in accordance with law, and an order of the Board of Directors, made on the 4th day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the company, on Monday, the 22d day of September, 1873, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

H. HAMPTON, Secretary.

Office—217 Sansoms Street, San Francisco, California.

se6

Day Spring Gold Mining Company----Location of principal place of business, city and county of San Francisco. Location of works, Kelsey Quartz Mining District, El Dorado county, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Fourth day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Thos G Maguire	20	250	$12 50
Wm J Boiley	Unisaued	500	25 00
Benj Morgan	Unissued	500	25 00
A C Rand	17	500	25 00
Danl S Shuts	Unissned	500	25 00
Wm C Pease	Unissued	500	25 00
Mrs T J Bass	Unissued	500	25 00
H Carlton, Jr, Trustee	3	500	25 00
John Sipp	Unissued	500	25 00
Arthur W Moore	Unissued	500	25 00
D R Coleman	Unissued	500	25 00
C J C McAllister, Truatee	15	980	49 00
Mullenbrinck	Unissued	500	25 00
Jamea Wightman	Unissued	500	25 00
Peter Oraig	Unissued	500	25 00
T H Maxie, Trustee	11	300	15 00
T H Maxie, Trustee	12	100	5 00
T H Maxie, Trustee	13	70	3 50
D W Emerson	Unissued	500	25 00

And in accordance with law, and an order of the Board of Directors, made on the 4th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by John Middleton, auctioneer, at his office, No. 310 Montgomery street, San Francisco, Cal., on the first day of October, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. F. BROWN, Secretary.

Office, 302 Sansome street, San Francisco, Cal. a13

Gold Run Mining Company—Principal place of business, San Francisco, Cal. Location of works, Nevada county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, corner of Market and Spear streets, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

Office, corner of Market and Spear streets, San Francisco, Cal. se15-s&d C. O. PALMER, Secretary.

Excelsior Silver Mining Company—Principal place of business, 640 Washington street, San Francisco, Cal. Location of works, Yellow Pine District, Nye County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 16th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ashley, S J	174	50	$22 50
Bulletti, C	21	100	45 00
Bulletti, C	84	50	22 50
Bulletti, C	111	100	45 00
Bulletti, C	110	100	45 00
Baldwin, M M	175	50	22 50
Burke, E	175	50	22 50
Boden, John H	178	50	22 50
Catanich, Peter	179	100	45 00
Cadenasso, G	83	50	22 50
Cadenasso, G	not issued	230	103 50
Donato, Joseph	193	25	11 25
Ferrette, G	163	50	22 50
Ferretts, G	198	50	22 50
Ferrette, G	199	180	81 00
Grosette, John	46	100	45 00
Gorman, John	not issued	280	126 00
Gabrielle, A	185	50	22 50
Henderson, James	14	25	11 25
Hendarson, James	43	20	9 00
Henderson, James	107	20	9 00
Henderson, James	127	100	45 00
Henderson, James	not issued	115	51 75
Henderson, Edward	15	25	11 25
Henderson, Edward	30	20	9 00
Hendarson, Edward	105	20	9 00
Henderson, Edward	128	100	45 00
Henderson, Edward, not issaued		115	51 75
Hicks, Thomas	209	280	126 00
Jackson, Walter	not issued	280	126 00
Jury, Louis	not issued	280	125 00
Lauricelle, Raffelle	121	300	135 00
Larkin, Frederick	183	25	11 25
Larkin, Frederick	207	75	33 75
Larkin, Frederick	208	180	81 00
Linari, G	194	25	11 25
Linari, S	195	25	11 25
Maccary, G	not issued	280	126 00
Marchella, D S	197	50	22 50
Macey, Albert	22	25	11 25
Macey, Albert	not issued	255	114 75
Murray, Wm	28	10	4 50
Magueral, S	161	25	11 25
Magueral, S	205	75	33 75
Magueral, S	205	180	81 00
Malatesta, N	196	50	22 50
Maggio, F	192	25	11 25
Onesti, G	188	125	56 25
Onesti, G	not issued	155	69 75
Pardini, N	182	50	22 50
Pardini, N	not issued	230	103 50
Penella, G	85	100	45 00
Reade, William	167	50	22 50
Reade, William	168	50	22 50
Reade, William	203	180	81 00
Robinson, T B	172	50	22 50
Robinson, T B	173	50	22 50
Rittori, A	181	50	22 50
Rittori, A	not issued	230	103 50
Silvestri, A	191	25	11 25
Silvestri, A	not issued	255	114 75
Volker, J	185	100	45 00
Whiting, Henry H	190	100	45 00
Whitiug, Henry H	not issued	180	81 00
Smith, A	16	25	11 25
Smith, A	177	50	22 50
Smith, A	not issued	205	92 25

And in accordance with law, and an order of the Board of Directors, made on the 18th day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 640 Washington street, San Francisco, California, on the 20th day of September, 1873, at the hour of 8 o'clock P. M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

W. A. KOLLMYER, Secretary.

Office—640 Washington street, San Francisco, California. ag21

Eureka Mining and Smelting Company—Principal place of business, San Francisco, Cal. Location of works, Eureka, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of twenty cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 217 Sansome street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. P. BEACH, Secretary.

Office, 217 Sansome street, San Francisco. an25

Equitable Tunnel and Mining Company—Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of Works, Alta City, Little Cottonwood, Utah Territory.

NOTICE.—There are delinquent, upon the following described Stock, on account of assessment (No. 3) levied on the eighth day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Saml. Baird	392	10	$1 00
Thomas Berwick	106	25	2 50
J W W Brown	18	20	2 00
Mrs Wm J Bryan	117	25	2 50
Chas S Buell	150	50	5 00
Peter Carter, Trustes	189	25	2 50
Peter Carter, Trustes	190	10	1 00
Clohecy & Wilson	584	57	5 70
Clohscy & Wilson	585	100	10 00
Olohecy & Wilson	585	100	10 00
Clohecy & Wilson	587	100	10 00
Olohscy & Wilson	588	100	10 00
Clohecy & Wilson	589	100	10 00
Clohecy & Wilson	590	100	10 00
Danl N Dole	187	100	10 00
Danl N Dols	188	100	10 00
G W Ellingwood	541	50	5 00
John Estsn	277	10	1 00
Wakefield Fenton	578	165	15 60
Wakefield Fenton	579	100	10 00
Wakefield Fenton	580	100	10 00
Wakefield Fenton	581	100	10 00
Wakefield Fenton	582	100	10 00
Wakefield Fenton	583	100	10 00
Julius Fischer	356	50	5 00
Arthur Foster	233	10	1 00
Arthur J Foster	234	10	1 00
Arthur J Foster	235	10	1 00
Arthur J Foster	236	20	2 00
E M Furbush	43	50	5 00
Jeruaha F Griswold	415	556	66 60
J S Higgins	527	20	2 00
J S Higgins	528	20	2 00
J S Higgins	529	20	2 00
J S Higgins	724	2	20
J S Higgins	725	3	30
J S Higgins	725	3	30
J S Higgins	741	1	10
J S Higgins	742	1	10
A Hinda	243	25	2 50
H E Leszinsky	538	50	5 00
Thos McCord	571	10	1 00
J E Mackley	145	10	1 00
Wm A Manning	576	10	1 00
B K Michaelis	170	20	2 00

Names.	No. Certificate.	No. Shares.	Amount.
George S Pet r	239	10	1 00
Joseph Santiff	637	25	2 50
Henry Simons	66	50	5 00
Elijah Sniffen	12	50	5 00
Elijah Sniffen	20	25	2 50
Elijah Sniffen	21	25	2 50
Elijah Sniffen	24	20	2 00
Wm F Smith	465	133	13 30
Richard Watt, Jr	769	20	2 00
J S Jamieson	95	100	10 00
J S Jamieson	98	50	5 00
Oscar Ames	116	25	2 50

And in accordance with law, and an order of the Board of Directors, made on the eighth day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the company, No. 35 New Merchants' Exchange, San Francisco, California, on Monday, the sixth day of October, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. se.0

Hasloe Mill and Mining Company—Location of Works, Gentry's Gulch, Mariposa County, California.

Principal place of business, San Francisco.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of August, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Geo H Baker	7	20	$ 15 00
Geo H Baker	8	15	11 25
Mrs Gwilt	11	10	7 50
Charles Leavett	26	5	3 75
E Riley	22	45	33 75
E Riley	31	5	3 75
T Y Julian	71	10	7 50
C J Eaton, Trustee	98	2000	1500 00
C J Eaton, Trustee	116	500	375 00
E J Jones	105	10	7 50
G W Woods	103	10	7 50
G W Woods	104	10	7 50

And in accordance with law and an order of the Board of Directors, made on the 13th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, 408 California St., room 14, San Francisco, on the 6th day of October, 1873, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. W. TRIPP, Secretary.

Office—408 California St., San Francisco, California.

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the 4th day of October, 1873, and the day of sale of delinquent stock is hereby postponed until Monday, the 27th day of November, 1873. By order of the Board of Directors of the above named company.

HENRY PICHOIR, Secretary pro tem.

Office, No. 603 Washington street, San Francisco, Cal. San Francisco, Sept. 1, 1873.

REMOVAL.—Office of Homiguera Mining Company is removed to office of L. L. Robinson, No. 603 Washington street, corner Montgomery, San Francisco, Cal.

HENRY PICHOIR, Secretary pro tem.

Ida and Rhoda Lewis Consolidated Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of the above named company, held on the twenty-eighth (28th) day of August, A. D. 1873, an assessment of ten (10) cen s par share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Tuesday, the thirtieth (30th) day of September, A. D. 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the twentieth (20th) day of October, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office - Room No. 12, Express Building, San Francisco, California. ac30

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the eighth day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Esten	68	10	$1 00
Jas S Higgins	251	1333	133 30
Jas S Higgins	334	100	10 00
Jas S Higgins	335	100	10 00
Jas S Higgins	338	3	30
Jas S Higgins	339	3	30
Jas S Higgins	342	3	30
Jas S Higgins	343	5	50
Jas S Higgins	367	261	26 10
Wm F Van Ness	314	20	2 00

And in accordance with law, and an order of the Board of Directors, made on the eighth day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, California, on Monday, the sixth day of October, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. se20

Land Purchasers Association—Office, No. 425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of the corporation, held on the 26th day of August, 1873, an assessment of ten dollars per share (being the 37th monthly installment on the subscription to the stock) was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. WRIGHT, Secretary.

Office, No. 425 Kearny street, San Francisco, California.

Lemon Mill and Mining Company---Location of Principal place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka county, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of August, 1873, an assessment of three dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the secretary, at the office of the Corporation, No. 608 Merchant street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the seventeenth (17), day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 8th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

L. P. MILLIKEN, Secretary.

Office, No. 608 Merchant street, San Francisco, California. aule-4w

Manhattan Marble Company of California

—principal place of business, San Francisco, California. Location of works, Oakland, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of August, 1873, an assessment of one dollar per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 319 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 23d day of September, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 13th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office—319 Pine street, San Francisco, California au23

McMahon Silver Mining Company---Location of Principal Place of Business, San Francisco, California. Location of Works, School Creek District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 4th day of September, 1873, an assessment (No 5) of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 320 California street, room No. 5, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 6th day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the Twenty-seventh day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

GEO. R. SPINNEY, Sec'y.

Office, 320 California street, San Francisco, California. se6

Phenix Tunnel and Mining Company—

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Second day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Brophy, Mrs J E	63	25	$2 50
Carter, Peter, Trustee	585	10	1 00
Carter, Peter, Trustee	586	10	1 00
Caddy, D	34	10	1 00
Caddy, D	35	10	1 00
Clohecy, Thos E	82	13	1 30
Clohecy, Thos E	85	50	5 00
Eddy, J M	32	25	2 50
Emery, George T	64	25	2 50
Emery, George T	639	15	1 50
Emery, George T	640	25	2 50
Esten, John	544	25	2 50
Esten, John	545	25	2 50
Esten, John	547	60	6 00
Esten, John	548	50	5 00
Esten, John	605	10	1 00
Esten, John	611	100	10 00
Esten, John	612	100	10 00
Esten, John	636	10	1 00
Fenton, Dr Wakefield	54	15	1 50
Fenton, Dr Wakefield, unissued		1000	100 00
Jackson, Alex	578	25	2 50
Jerey, Wm J	635	10	1 00
Lydston, Jas A	9	25	2 50
Lydston, Jas A	10	25	2 50
Lydston, Jas A	11	50	5 00
Lydston, Jas A	unissued	1000	100 00
McCord, Thos	566	10	1 00
McVicker, John	53	10	1 00
Miller, D D	503	100	10 00
Parlin, H T	512	25	2 50
Parlin, H T	513	25	2 50
Parlin, H T	514	50	5 00
Patterson, Mrs Adeline	135	50	5 00
Patterson, Silas N	56	50	5 00
Patterson, Silas N	508	25	2 50
Randall, H J	15	50	5 00
Randall, H J	30	25	2 50
Randall, H J	unissued	1000	100 00
Randall, H J	unissued	1000	100 00
Sherwood, W H	58	10	1 00
Sherwood, W H	59	10	1 00
Sherwood, W H	60	10	1 00
Sherwood, W H	61	10	1 00
Sherwood, W H	62	10	1 00
Simon, S	2	5	60
Stege, John C	596	50	5 00
Sutton Jr, Chas	568	10	1 00
Sutton Jr, Chas	591	10	1 00
Sutton Jr, Chas	594	5	50
Thompson, Dr J D	57	25	2 50
Thompson, Dr J D	unissued	1000	100 00
Thompson, Dr J D	515	25	2 50
Thompson, Dr J D	516	25	2 50
Thompson, Dr J D	517	25	2 50
Thompson, Dr J D	518	25	2 50
Thompson, Mary E	65	25	2 50
Thompson, Mary E	66	25	2 50
Thompson, Mary E	67	25	2 50
Thompson, Mary E	68	25	2 50
Thompson, Mary E	69	25	2 50
Thompson, Mary E	70	25	2 50
Thompson, Mary E	71	25	2 50
Thompson, Mary E	72	25	2 50
Thompson, R E	73	25	2 50
Thompson, R E	75	25	2 50
Thompson, R E	77	10	1 00
Thompson, R E	78	10	1 00
Thompson, R E	80	20	2 00
Thompson, R E	81	50	5 00
Thompson, R E	76	25	2 50
Thompson, R E	79	10	1 00
Thompson, R E	87	50	5 00
Thompson, R E	88	50	5 00
Thompson, R E	89	50	5 00
Thompson, R E	90	50	5 00
Thompson, R E	91	50	5 00
Thompson, R E	92	50	5 00
Thompson, R E	93	50	5 00
Thompson, R E	94	50	5 00
Thompson, R E	95	100	10 00
Thompson, R E	97	100	10 00
Thompson, R E	99	100	10 00
Thompson, R E	100	50	5 00
Thompson, R E	101	25	2 50
Thompson, R E	103	25	2 50
Thompson, R E	104	25	2 50
Thompson, R E	105	25	2 50
Thompson, R E	106	25	2 50
Thompson, R E	107	25	2 50
Thompson, R E	109	25	2 50
Thompson, R E	110	25	2 50
Thompson, R E	111	25	2 50
Thompson, R E	112	25	2 50
Thompson, R E	113	25	2 50
Thompson, R E	114	25	2 50
Thompson, R E	115	25	2 50
Thompson, R E	116	25	2 50
Thompson, R E	117	25	2 50
Thompson, R E	118	25	2 50
Thompson, R E	119	25	2 50
Thompson, R E	120	25	2 50
Thompson, R E	121	25	2 50
Thompson, R E	122	25	2 50
Thompson, R E	123	25	2 50
Thompson, R E	124	25	2 50
Thompson, R E	125	25	2 50
Thompson, R E	126	25	2 50
Thompson, R E	127	25	2 50
Thompson, R E	128	25	2 50
Thompson, R E	130	50	5 00
Thompson, R E	131	50	5 00
Thompson, R E	133	50	5 00
Thompson, R E	134	50	5 00
Thompson, R E	135	50	5 00
Thompson, R E	136	50	5 00
Thompson, R E	137	50	5 00
Thompson, R E	138	100	10 00
Thompson, R E	74	25	2 50
Walters, Abraham	1	10	1 00
Wilson, E M	83	12	1 20
Wilson, E M	84	50	5 00
Blank name	36	10	1 00
Blank name	42	20	2 00
Blank name	43	20	2 00
Blank name	44	20	2 00
Blank name	50	15	1 50
Blank name	51	10	1 00
Blank name	52	10	1 00
Randall, H J	24	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the second day of July, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, on Saturday, the twenty-seventh day of September, 1873, at the hour of eleven o'clock, A. M., of each day, to pay delinquent Assessments thereon, together with the costs of advertising and expenses of the sale.

CHAS. S. HEALY, Sec'y.

Office—No. 35 New Merchants' Exchange, San Francisco, California.

Stanislaus Water Company—Location of principal place of business, 626 Kearny street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
M A Wheaton	10	55,250	$1000 00
John Burcham	17	25	50
John Burcham	18	50	1 00
John Burcham	19	76	1 60
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2
E Tripp, Trustee	25	100	2
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
S W Newhall	35	67	1 14
A E McGregor	38	82	1 64
E A Richardsen, Trustee	55	56,250	1125 00
D E Hayes, Trustee	56	25,500	510 00
Charles Elliet	63	10,000	200 00
Charles Elliet	64	10,000	200 00
Charles Elliet	65	9,998	81 40
Charles Elliet	66	20,000	400 00
S O Field, Trustee	58	12,000	240 00
S C Field, Trustee	59	6,000	120 00
S O Field, Trustee	50	7,886	3 97

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 526 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON O. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON O. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 6th day of October, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

Stevens Pacific Smelting and Mining Company—

Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of September, 1873, an assessment of ten cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at 320 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the third day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. M. KNIGHT, Secretary.

Office, 320 Montgomery street, San Francisco, California.

San Francisco Co-operative Land and Building Association.

Office and principal place of business, 306 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co-operative Land and Building Association, up to, and including those for the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale. By order of the Board of Directors.

H. B. CONGDON, Secretary.

San Francisco, September 20, 1873. se20-1m

Sapphire Silver Mining Company.—Location of principal place of business, No. 438 California street, San Francisco, California. Location of works, Gold Hill Mining District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 5th day of September, 1873, an assessment (No. 2) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 30th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, Cal.

Southern Pacific Consolidated Gold Mining Company.

Principal place of business, San Francisco, California. Location of works, Kern County, California.

Notice is hereby given that at a meeting of the Board of Directors of the above named company, held on the 11th day of September, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the twenty-fifth (25th) day of October, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Tuesday, the twenty-fifth (25th) day of November, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale

C. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California. sep13

State of Maine Mill and Mining Company.

Location of principal place of business, San Francisco, California. Location of Works, Amador county.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 23d day of May, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buffington, J M, Trustee	84	260	13 00
Burr, Platt Trustee	49	20	1 00
Burr, Platt Trustee	50	20	1 00
Burr, Platt Trustee	51	20	1 00
Burr, Platt Trustee	55	50	2 50
Congdon, H B	35	20	1 00
Congdon, H B, Trustee	38	100	5 00
Congdon, H B, Trustee	39	100	5 00
Marks, S L	12	240	12 00
Marks, S L	21	500	25 00
Morse, A O, Trustee	44	100	5 00
Morse, A C, Trustee	45	100	5 00
Morse, A C, Trustee	40	100	5 00
Morse, A C, Trustee	48	100	5 00

And in accordance with law and an order of the Board of Directors, made on the 23d day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the auction rooms of John Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the 22d day of September, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON, Sec'y.

Office, No. 306 Montgomery street, San Francisco, California. sep6

Table Mountain Alpha Mining Company—

Location of works, Table Mountain District, California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment (No. 1) levied on the 8th day of August, 1873, the several amounts set oppoaite the names of the respective shareholders, as feltows:

Names.	No. Certificate.	No. Shares.	Amount.
T H Holt	40	901	$112 63
Wm L Ustick, Trustee	50	500	62 50
Wm L Ustick, Trustee	51	500	62 50
Wm L Ustick, Trustee	53	500	62 50
Wm L Ustick, Trustee	65	100	12 50
Wm L Ustick, Trustee	57	100	12 50
Wm L Ustick, Trustee	59	300	37 50
A Smith	11	600	62 50
A Smith	44	226	28 25
A Smith	62	500	62 50
A Smith	63	600	62 50
A Smith	64	90	11 25
B Marks	33	100	12 50
B Marks	36	450	56 25
W H Sharp	65	25	3 13
T F Cronise, Trustee	56	450	55 25
Lucinda Foreman	20	100	12 60
John Ashton	29	100	12 50
John Ashton	30	100	12 50
John Ashton	28	300	37 50
John Ashton	26	500	62 50
E A Richardson, Trustee	12	500	62 50
E A Richardson, Trustee	10	500	62 50

And in accordance with law, and an order of the Board of Directors, made on the 8th day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company No. 438 California St., up stairs, San Francisco, California, on Tuesday, the 7th day of October, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. F. CRONISE, Secretary.

Office—438 California St., up stairs, San Francisco, California. se20

Union Gold Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Howland Flat, Sierra County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 12th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Emeric, Joseph	252	200	$100 00
Emeric, Joseph, Trustee	253	100	50 00
Nelson, Mrs E	59	20	10 00
Austin, A C	55	15	7 50
Stuart, W A	90	7	3 50
Kilgeur, L, Trustee	126	10	5 00
Kilgour, L, Trustee	146	40	20 00
Gilbert, Mrs E W	250	25	12 50

And in accordance with law, and an order of the Board of Directors, made on the 12th day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal., on Monday, the 6th day of October, 1873, at the hour of 1 o'clock P. M. of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

ALFRED K. DURBROW, Secretary.

Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal. se17

Washington Mining Company—Principal

place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T B Wingard, Trustee	10	200	$400 00
Jno F Boyd	24	100	200 00
Thos Bell, Trustee	26	150	300 00
Geo E Welker, Trustee	55	100	200 00
W H Tuttle	49	175	350 00
Moses L Rodgers	53	50	100 00
Moses L Rodgers	65	50	100 00
J W Gashwiler	68	100	200 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at Maurice Dore's, 317 Montgomery St., San Francisco, on the 10th day of October, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office—317 Montgomery Street, San Francisco, California. se18

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Particular attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Hawes street, San Francisco. 3-qy

THE RISDON
Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore,	Jesse Holladay,	O. E. McLane,
Wm. Norris,	Wm. H. Taylor,	J. B. Haggin,
	James D. Walker.	

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,
Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC
Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

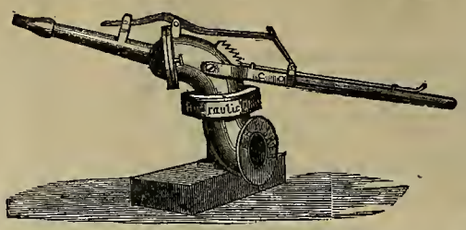
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

CAMERON'S
MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

Foundry Facings of the Best Quality

FOR SALE AT

THE WHELPLEY & STORER MILL.

☞ These are WARRANTED equal to the BEST. 5v57-3m

THOMPSON BROTHERS,
EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

BLACK DIAMOND FILE WORKS.

G. & H. BARNETT,

Manufacturers of Files of every Description,

Nos. 39, 41 and 43 Richmond street,
Philadelphia, Pa.

MILL SAW FILES A SPECIALTY.
18v25-1y

SAN FRANCISCO

SCREW BOLT WORKS,

PHELPS BROTHERS, Proprietors

MANUFACTURERS OF ALL KINDS OF

Machine Bolts, Bridge Bolts, and Ship or Band Bolts.

13, 15 and 17 Drumm Street, San Francisco. 4v24ly

Brittan, Holbrook & Co., Importers of Stoves and Metals, Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 173 J St., Sacramento. mr.-1y

Machinery.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

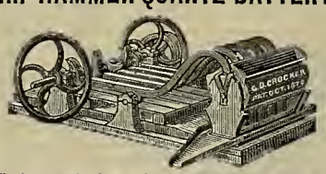
If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

CROCKER'S PATENT
TRIP HAMMER QUARTZ BATTERY.



The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

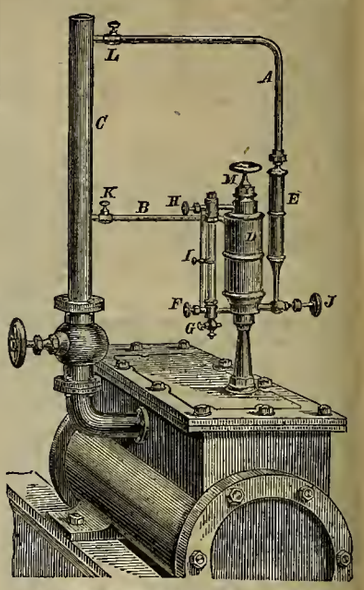
G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

10v27tf No. 32 FREMONT STREET.

N. Seibert's Eureka Lubricators.



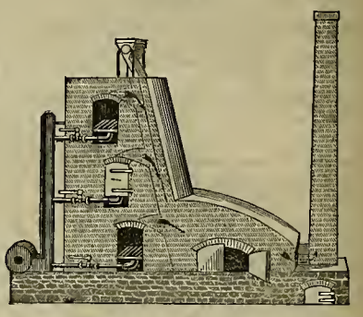
☞ THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

RODGERS, MEYER & CO.,
COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

CONSIGNMENTS OF GOODS.

4v16-3m

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

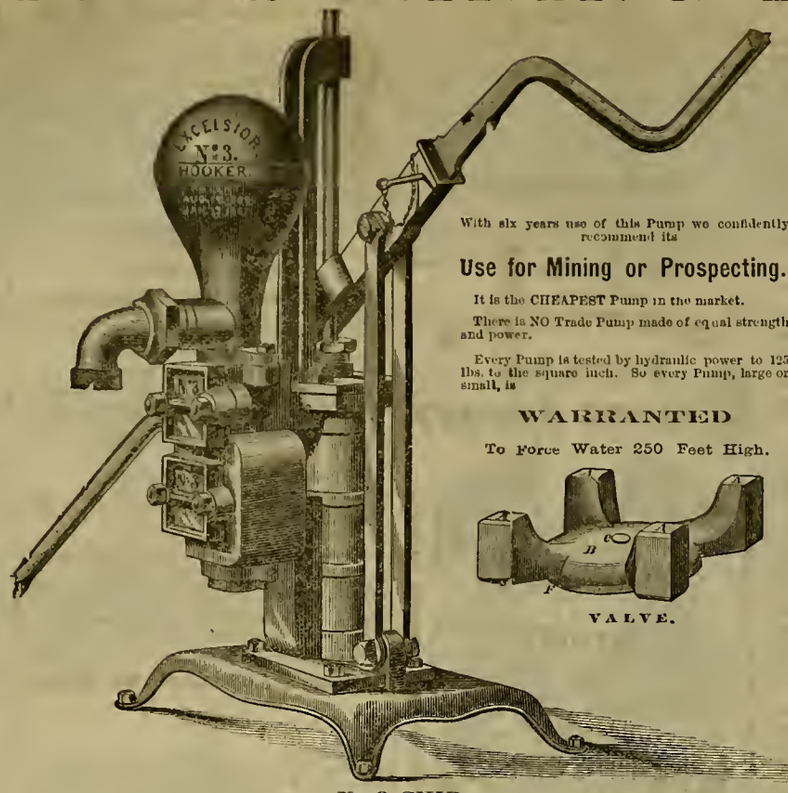
No. 611 Commercial Street,

(Opposite the U. S. Branch Mint.

SAN FRANCISCO CAL. 7v21-3m

EXCELSIOR MINING PUMP.

NO. 2—MOUNTED.



No. 3—SHIP.

With six years use of this Pump we confidently recommend its

Use for Mining or Prospecting.

It is the CHEAPEST Pump in the market.

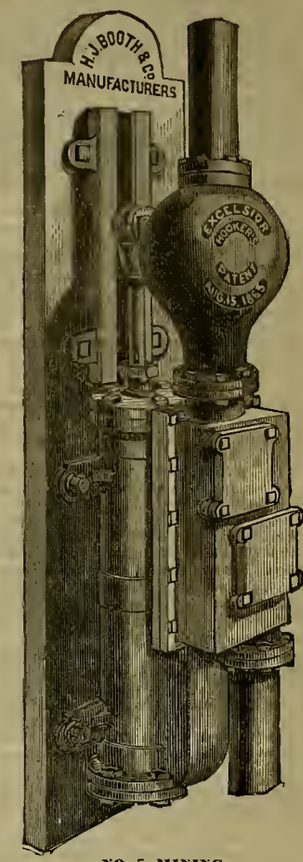
There is NO Trade Pump made of equal strength and power.

Every Pump is tested by hydraulic power to 125 lbs. to the square inch. So every Pump, large or small, is

WARRANTED

To Force Water 250 Feet High.

VALVE.



NO. 5—MINING.

ALL PUMPS WARRANTED. All Expense of Transportation Refunded if the Pumps are Proved Defective.

☞ Send for Circular.

Brittan, Holbrook & Co.,

111 and 113 California street, San Francisco, (and also Sacramento), General Agents.

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom,
SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks

Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. GEO. D. WYMAN,
5v27-3m Superintendent.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, nr will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows.

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco.

NICKEL PLATING.

The San Francisco Nickel Plating Company

Are prepared to plate articles of all descriptions, of any metal. Cutlery, Liquor Flasks, Pistols, Guns, Swords, Bridle Bitts, Pole Crabs, Hub Bands, Dash Rails, and all articles of household hardware plated at short notice, and warranted. Nickel Plate never tarnishes or corrodes, always retaining its polish until the article is worn out. Office at the KIMBALL MANUFACTORY WORKS, Cor. Fourth and Bryant Streets. 12v26-3m

Nevada Metallurgical Works,

21 First street.....San Francisco.

Ores worked by any process.
Ores sampled.
Assaying in all its branches.
Analysis of Ores, Minerals, Waters, etc.
Plans furnished for the most suitable process for Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

E. N. RIOTTE,
C. A. LUCKHARDT,
Mining Engineers and Metallurgists.

KROM'S DRY ORE CONCENTRATOR

Separates the METALLIC ore from the BARREN gangue by means of AIR instead of WATER. Cost nominal; concentration perfect. Every miner and business man interested in this invention which renders the working of low grade and "rebellious" ores PROFITABLE. The machine is in operation daily between 10 and 1, at 105 First street.

For information and pamphlets, address

W. H. STERLING, M. D.,
Corner Taylor and Vallejo,
Or
FRANK MOYER,
sel3-4t 137 Third street, San Francisco.

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WERKS,
655 Mission street, San Francisco.
2v25-3m E. G. DENNISTON, Proprietor.

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,
San Francisco.

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.
For all Laboratory and Manufacturing Purposes
H. M. RAYNOR,
25 Bond street, New York.
Platinum Scrap and Ore purchased.

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals, Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS
—AND—
Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

G. W. STRONG. W. L. STRONG.

C. W. STRONG & CO., Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 23v26 1y

Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

A. J. SEVERANCE & CO.
Office, No. 315 California street, Rooms 16 and 17.
24v26-tf

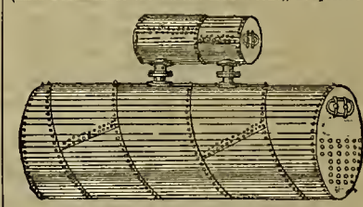
☞ BUY BARBER'S BIT BRACE. ☜

San Francisco Boiler Works,

123 and 125 Beale Street.....SAN FRANCISCO

F. I. CURRY.

(Late Foreman of the Vulcan Iron Works,) Proprietor.



High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTURERS OF THE CELEBRATED
SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,
Oregon street, below Front, San Francisco.

All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

JOS. THORNHILL. C. W. WHITE,
1612 Mason Street, near Green. 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORKS such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

[MINING SUMMARY — Continued from Page 181.]

various ore breasts are looking well as usual, with no new developments to note.

UTAH.—The pumps and pumping engines have been placed in position and are working splendidly, and the sinking of the main shaft is progressing rapidly.

CROWN POINT RAVINE.—The body of ore recently found at the 250-ft. level, 90 ft. south of the shaft, still shows finely and gives excellent assays.

SUCCOR.—Owing to the increase of water, the progress of work in the small new shaft, near the mill, is considerably impeded at present.

MINT.—The ore indications in the cross-cut from the main east drift at the second station continue looking very favorable.

CHOLLAR-POTOSI.—Daily yield 130 tons, ore improving in quality. It is being reduced at the Land, Winfield and Nevada mills.

OVERMAN.—The pumping and other machinery at the 1,100 ft. station being completed, sinking the shaft is resumed with good progress. The main west tunnel, at the 1,000-ft. level, together with its southwest and northwest branches, is making good progress toward where good ore should be found some day or other.

ARIZONA & UTAH.—The sinking of the shaft and incline is progressing rapidly. Passably good rock is being encountered in the shaft. Some low grade ore has been encountered. Prospects flattering.

HALE AND NORCROSS.—Daily yield from 40 to 50 tons of ore of medium quality, from the upper levels of the mine. Sinking the main incline has again been resumed, but as the winzes already extend 100 ft. below the present depth of the incline, a considerable period must elapse before any development can be expected from this quarter. Prospecting shafts are being extended at the various levels, none of which as yet have shown results worthy of note.

GOULD & CURRY.—About 40 tons of pay ore extracted daily, which is being worked at the Mariposa Mill. The various prospecting drifts and cross-cuts are being pushed ahead with every possible dispatch. The heavy flow of water has nearly abated. Four large boilers arrived yesterday and will soon be placed in position.

JUSTICE.—Drifting, both north and south, at the 400 ft. level, in the Waller Defeat section. The face of the east drift is in softer rock, showing small stringers of quartz, with clay seams. The 300 ft. level, north works, is 150 ft. north of the main shaft, and shows about 3 ft. of good milling ore, which increases and improves as farther drifted upon.

BALTIMORE CONSOLIDATED.—At the first or 225-ft. level the ore holds out well, and occasional bunchos of a very high grade article are met with. At the second and third levels work is progressing as usual with a view to anticipated good ore developments.

Arizona.

SWANSEA.—Arizona *Miner*, August 29th. We had the pleasure the other day of taking a look through the Swansea Works, with the Manager. The arrangements for desulphurizing the pyrites are very perfect, and do their work well—the bright yellow iron that goes into the furnaces coming out almost as black as ebony, and deprived of nearly all the sulphur. This is subsequently carried by a railroad to the smelting furnace, where it is subjected to an intense heat, all the valuable metals being drawn off together in to matte or "regulus"—the gold, silver, copper and lead all being saved,—while the slag, which floats on the molten mass, is drawn off above. We found the roasting furnaces in full operation, and the sulphurous fumes which filled the air in the vicinity admonished us to see all we could in a very short time. The smelting furnace was receiving a new roof of fire brick, but will be in full blast again next week. These works are adapted to the treatment of pyrites. The matte has hitherto been reparated at Swansea, Wales, but will perhaps hereafter be treated in our own Territory.

SPECIMENS.—Jesse S. Randal has just received from his father, 400 pounds of specimens gathered in San Louis Park. Among them are some of the largest and finest pieces of chalcedony we ever saw; also fine specimens of obsidian, alabaster, pearlstone, and some unnamed varieties of volcanic rock. He has also received a number of ore specimens from the San Juan mines, and from Lake District.

THE Marshall Silver Mining Company are driving their various drifts, shafts and stoping at a lively rate now-a-days. Gen. M. informs us that there are now employed in the various workings of the Company's property a force of fifty-four men.

MAGNOLIA.—A shaft on the Magnolia lode, on the east side of Leavenworth mountain, 20 ft. deep, shows 2 inches of ore in the bottom, and a drift of 25 ft. shows mineral all the way. A small lot of second class ore from this shaft, treated last Saturday, showed a yield of 471 ounces per ton.

THE Peruvian mine, at Peru, opened by a cross-cut, shows from 3 to 6 ft. of crevice carrying galena, at 19 ft. It is owned by Johnson, Honsen & Shepherd.

OUR minors are to be represented at the Fair. No doubt on that point. Messrs. Streeter & McCunniff's contribution from the Pelican mine can be seen in front of the bank. It is a chunk of mineral weighing 1,572 pounds, and showing to very good advantage the different kinds of ore found in the vein, together with small pieces of porphyry embedded in the ore.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's Office, San Francisco:

McGILLIVRAY HYDRAULIC M. Co., Sept. 16.—Location: Trinity Co., California. Directors: Geo. A. Lathrop, George H. Mendell, Isaac E. Davis, Barnum W. Field, Winfield S. Jones. Capital stock: $100,000; in shares of $100 each.

STANISLAUS RIVER M. Co.—Object: To work the bed of the Stanislaus River, on certain portions thereof, for auriferous deposits. Directors: Thos. Derby, J. W. Harrison, B. B. Minor, L. Jaffe and William Stuart. Capital stock: $1,800,000, in shares of $100 each.

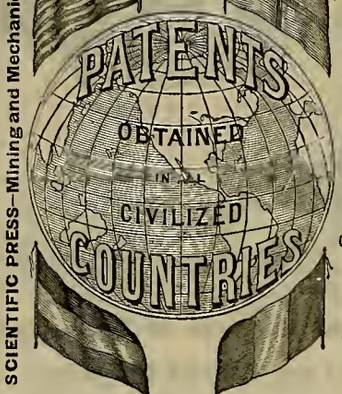
Meetings and Elections.

CALIFORNIA CONSOLIDATED M. Co.—Location: At the California, Illinois and Gold Tunnel claims in Nevada County. Directors: John W. Gashwiler, Joel F. Lightner, J. D. Fry, J. H. Helm and John F. Boyd. Capital stock, $4,000,000, in shares of $100 each.

DEWEY & CO'S

SCIENTIFIC PRESS

Patent Agency.



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Publishers, Patent Agents, and Engravers,

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We have numerous testimonials from Railroad Engineers and others, speaking in the highest terms of their superiority. The first one put in use on this coast is at the Pacific Saw Manufactory in this city. Parties desiring further information will please send for descriptive circular and price list, or call at our office.

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freihurg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two shoes per five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 23, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,

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MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, SEPTEMBER 27, 1873.

VOLUME XXVII. Number 13.

The Alaska Gold Mines.

We have several times alluded to the gold mines discovered in Alaska and recently received from A. H. Prince, Secretary of the Alaska Gold Mining Company, several specimens of the ore from those mines. He writes us that there are at present only two ledges being worked—Mooney's and the Alaska Gold Mining Company's. Mooney's is situated about nine miles down Silver Bay, about 100 yards from the beach, alongside of which vessels of any size can go. Work was recently started up in this claim. The ledge is well defined and some very good looking rock is coming out.

The ledge belonging to the Alaska Gold Mining Company is situated on Cedar Creek, about two and a half miles from the head of the bay, 14 miles from Sitka, but a shorter and better road to the mine will probably be soon built, which will lessen the distance one-half. The ledge is held by a party of seven. Up to the present time a short tunnel has been run, the rock looking well, being in most places heavily charged with ore. Two tons of this ore have been sent to this city to be crushed. The rock sent is said to be fully equal, if not superior to that sent to Mr. Fisk, an assayer in Portland, and which gave returns of from $100 to $276 to the ton, in gold. Mr. Prince says that if the ore turns out as well as they expect, and gives a fair yield they have plenty more on hand ready to ship. A quartz mill is needed there but the miners being all poor men, they are unable to procure one,

The whole district where the mines are found abounds in quartz ledges. Numerous discoveries have been made, and Mr. Prince writes that they have found copper, cinnabar, silver and coal in different places. The discoverers all being poor men, they are unable to do anything with the locations, but are, like many other miners, waiting for capitalists to help to develop the miners' fields of our new Territory.

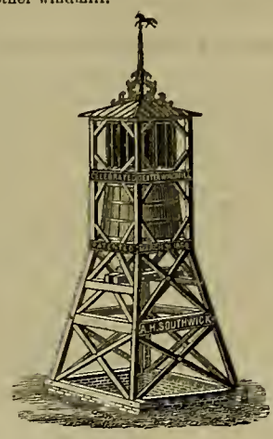
A prejudice exists against the climate of Sitka, but Mr. Prince says it is not as bad as painted. Out door work, he says, can be prosecuted all the year round, the same as elsewhere. Living, he tells us, is as cheap as at any place on the coast. Venison sells for 50 cents per quarter, salmon, when in season, from 15 to 25 cents each. There is plenty of good timber and water everywhere. The Indians are peaceably disposed and work for 50 cents a day. The rock sent us is a white quartz sprinkled with free gold, and very much resembling the class of ore coming from some of the San Diego mines. It can be seen at the editoral rooms of this journal, 414 Clay street.

The Kimball Manufacturing Company of this city, received a gold medal at the Vienna Exposition, for the best light carriages exhibited. The medal for heavy carriages was awarded to a Vienna firm. The carriage exhibited by the Kimball company was a C-spring wagon, weighing 125 pounds, which has been described at length in our columns, by our correspondent in Vienna during the exposition. Mr. Knetel wrote us that many of the people there did not believe that the vehicle was intended for use, but merely for show, as they had never seen such a gossamer-like conveyance before. Two persons had to ride in it before the committee of awards in order to prove to them that it would hold grown-up people.

The telegraph reports the discovery of an immense cave in the Fuller mine, Little Cottonwood, Utah, 225 feet deep, exposing large deposits of mineral. There is said to be much excitement over the matter.

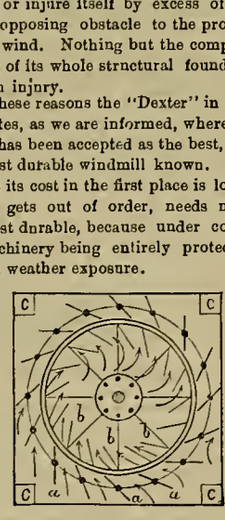
The Dexter Windmill.

In our engraving we present an illustration of the celebrated Dexter Windmill, which to the people of California is comparatively unknown. A peculiar feature of this and one which distinguishes it from all other of the more common windwheels consists in its being always ready to take the wind, come from what quarter it may. Its shaft being vertical instead horizontal, and resting upon a hardened steel point running in oil, it has less friction than any other windmill.



In addition to the merit of being always ready for the wind, it is always in order and regulates its own speed. It requires no care or watching during the most violent gale, because its construction is such that it cannot be injured or injure itself by excess of speed, or as an opposing obstacle to the progress of a violent wind. Nothing but the complete overturning of its whole structural foundation can work an injury.

For these reasons the "Dexter" in the Eastern States, as we are informed, wherever introduced, has been accepted as the best, cheapest, and most durable windmill known. Cheapest, because its cost in the first place is low, and as it never gets out of order, needs no repair. The most durable, because under cover, itself and machinery being entirely protected from sun and weather exposure.



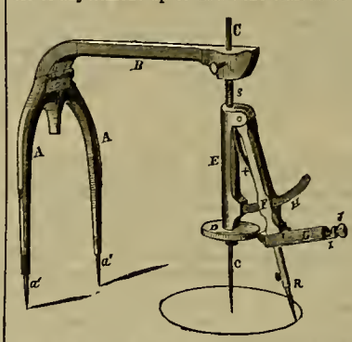
The above cut is a lower sectional view, showing the position of the shutters and fans, as also the direction and action of the wind upon the wheel, as indicated by the arrows. By noticing the arrows it will be perceived the wind acts on every part of the wheel, either going in or passing out. For private residences it is simply unequalled, being a thing of beauty instead of an ungainly, rickety, noisy concern. At the late California State Fair, the "Dexter" was awarded the Society's Diploma.

Full information regarding it can be had on application to A. H. Southwick & Co., 408 California street, San Francisco.

An Improved Ellipsograph.

The accompanying cut is a representation of an improved ellipsograph, the invention of Andrew Smith of Dayton, Oregon. The object of the invention is to provide a simple and effective instrument for drawing ellipses, and it is so constructed as to be adjusted to produce figures of any practicable size and shape. The mode of operation can be seen by reference to the cut. *A* is a bifurcated standard, arranged with its forked end downwards and terminating in sharp brads, a', a', which hold the instrument firmly on the paper or drawing card. At its upper end this standard terminates in a hinge which connects it to a horizontal arm, *B*. *C* is an upright metalic staff terminating at its lower end in a needle, c, which sticks into the drawing paper and with the two needles a', a', holds the instrument in position.

A short distance above the needle and capable of adjustment up or down the staff so as to



SMITH'S IMPROVED ELLIPSOGRAPH.

enlarge or diminish the figures without changing their shape, is a pattern, *D*, of elliptical shape. At its upper end the staff extends through the end of the arm, *B*, and may be clamped in any position by means of a set-screw. This staff, thus constructed and attached to the arm, *B*, serves to support a vertically-sliding and horizontally-revolving block, *E*, which is pressed downwards by a spring, *s*, at the upper end. This block is provided with legs, *e*, to which is joined an arm, *F*.

The arm, *F*, at its lower end is attached to, and supports, a nearly horizontal piece, *G*, that serves, among other uses, as a handle by which to rotate the arm, *F*, and its supporting block, *E*, about the vertical staff, *C*. The inner end of the part, *G*, presses against the periphery of the pattern, *D*, against which it is held by the action of the spring, *t*, A curved guide and brace, *H*, attached to the block, *E*, extends through a slot in the arm, *F*, and may be employed to prevent the joint at *e*, from injury by torsion. In a groove in the under side of the piece, *G*, is fitted a metalic slide, *I*, which can be adjusted in or out with reference to the spindle, *C*, by a thumb screw, *J*. The pencil, *R*, is attached in the usual manner.

The under side of the part, *G*, may be graduated so that the effect which any movement of the slide, *I*, will have upon the figure to be drawn may be accurately calculated before hand. The advantages claimed for this instrument are—that the legs support it firmly, the joint or hinge admits of its being folded into small compass; easy adjustment of the pencil; ease of adjustment; convenience in moving the pencil, etc. Wieeter & Co., No. 17 New Montgomery Street, will furnish further information concerning this instrument if desired.

Encouragement to Inventors.

The St. Joseph Industrial Fair which is to be held at St. Joseph, Mo., beginning on the 29th inst., offers some features which might well be adopted by similar associations all over the country. The Board of Directors believe that patentees and owners of patents deserve more than a mere passing notice at Expositions, and that it is not more than justice to have arrangements made by which visitors can obtain all the information they desire about each model, machine or invention, and inventors can dispose of their patents or bring their models or machines before the public to the best advantage. To accomplish this desirable feature, the association holds out special inducements to inventors and owners of patents only. They give quite a lengthy list of inventions and state that a gold medal will be given for the best and most useful in the list, and silver medals in *each* of the classes as well as a large silver medal for any useful invention not mentioned in the list.

Inventors are allowed to advertise in the building and have their full address and price attached to any model or full sized machine and are allowed to state what territory is for sale, if any. Goods, models or machines are placed in the building free of charge, and arrangements have been made with the express companies to have them forwarded at lower rates than usual. The managers of all the fairs ought to take special care to encourage inventors and induce them to bring their models or inventions to the Exhibition. It would not only benefit them but the inventors also, who are generally rather impecunious. When people see a number of machines of the same class, together, they can judge of the relative merits of each one and which would suit their needs the best. Inventors generally speaking have considerable difficulty in introducing their inventions, and anything which will encourage this most useful class of the community to renewed efforts, aids materially the progress of civilization, and redounds to the honor of our country.

"The Graphic" monster balloon which was to have crossed the Atlantic, was a failure and did not start according to programme. There seems to have been some feud between the parties interested and Prof. Wise, the æronaut, says that the agreements made by the *Graphic* people with him, were not carried out by them. The balloon was not constructed of the material he suggested, nor in the manner he suggested. Popular opinion is to the effect that the whole affair was a gigantic advertising scheme, but Professor Wise says he is ready to make the attempt to cross the Atlantic if he has a reliable air-ship. It is to be deplored that the balloon did not go, as there is but little doubt but that important scientific data could have been obtained.

Good Work.—The upright engine now being constructed at the Pacific Iron Works for the Pacific Rolling Mills, is the largest stationary engine yet made on the coast. The fly-wheel is an enormous casting, and weighs twenty-five tons, or fifty thousand pounds—not twenty-five thousand, as erroneously stated by a morning cotemporary. The whole work is finely executed, and the engine a credit to the shops of our city.

Imports of silver ore into Liverpool in August amounted to 213 tons and of silver lead ore 143 tons. The smelters are buying Caracoles ore at a reduction of about 10 per cent on rates previously paid by them.

CORRESPONDENCE.

The Proposed Bear River Tunnel.

EDITORS PRESS:—In the PRESS of August 30th you have an article on "Filling up and Cleaning Out of Modern Rivers, etc." The object of the writer of that article was to show the feasibility of driving a tunnel from the north fork of the American River through the dividing ridge (near Cape Horn, on the Central Pacific Railroad) to Bear River, and the great profits to be realized by working the tailings that have accumulated in the last named stream.

To construct a tunnel through 12,540 feet of solid rock is no small undertaking, and the enterprise should be carefully investigated before the work is commenced. The tunnel, it must be remembered, will be very near two and a half miles long, 12 feet wide and 9 feet deep, and will be run on 6-inch grade; that is, it will have a fall of 6 inches to every 12 feet; this is half an inch to the foot, so that 12,540 feet must give 522½ feet fall instead of 394 feet, as stated.

A flume is to be laid down in the tunnel its full width, and the same kind of structure will be laid down in Bear River. A flume in this grade will have a fall of 220 feet in a mile, allowing Bear River to have 70 feet fall to the mile, (which is probably liberal). The flume at the end of the first mile will be 150 feet above bed-rock, 90 feet above the tailings proposed to be washed, less the four feet that the tunnel *sets in below the bottom of Bear River*. The tailings are said to be on an average above Colfax 200 feet in width and 60 feet in depth; this will require over 21 miles of channel to contain the "50,000,000 cubic yards, worth $30,000,000." It is fair then to assume that in order to reach this vast body of tailings the proposed flume must be laid down in Bear River at least 10 miles, which would place the upper end 1,500 feet above bed-rock, and if the flume be placed at one-half the above grade, to wit: 3 inches to 12 feet, (a doubtful grade) it would be then 400 feet above bed-rock.

Now had Bear River ordinary sluice grade, the tailings would not have accumulated to the extent they have.

From what data do you estimate 400 tons of quicksilver deposited in Bear River, and thus a quarter portion of it is amalgam—800,000 pounds of amalgam with (say) $8 per ounce, or as we usually estimate it, at $100 per pound, would give $80,000,000, a very flattering prize indeed, but it must be remembered that "all is not gold that glitters."

Would it not be better for capitalists to embark in operations where one-fourth the proposed money to be expended in the Bear River Tunnel will open deep placer mines where the ground is sure to carry more gold than the tailings in any of the rivers. W.

Oakland, September 13th, 1873.

Notes of Travel in Utah.

[By our Traveling Correspondent.]

Bingham Mining District

Is situated in Salt Lake County, Utah Territory, and is bounded as follows: Commencing on the north, the 40th parallel west from Greenwich, running along the south end of Great Salt Lake forms the northern boundary of this district; 38 miles south of the above line, and near the foot of Utah Lake an imaginary line running east and west forms the south boundary; the eastern boundary is the Jordan river, and the western boundary is the watershed of the Oquirrh range of mountains, making the district about 38 miles long north and south by 20 miles wide east and west. This district first opened books for recording mining claims in 1863, and on the 17th day of September 1863, claim No. 1 was recorded, Geo. B. Ogilvie was the discoverer, and Mr. A. Gardner was the first Mining Recorder. Henry Thompson is the present Mining Recorder of this district.

Bingham Canon Town

Is in Bingham Cañon, about the center of the district, and distant from Salt Lake City 25 miles, in a southwest direction; and at an elevation of 5,700 feet. This district contains about 2,000 inhabitants, and the town of Bingham Cañon contains about 1,200 inhabitants. There are three hotels in this place, and if all are as good as the one at which we spent several days, then are the people blest. We stopped at "Griffin's Hotel," kept by R. S. Griffin. The "Dixon House" of this place claims to accommodate 100 persons first-class. Mr. R. D. Clark is proprietor. The Bingham House is presided over by O. E. Penwell Esq. The town has but one street and that follows the windings of the Cañon, and more closely resembles a California mining town than any I have visited in this Territory. The character of ores in this district is principally base or smelting ores, although there are, besides, free milling ores, copper mines, placer gravel mines, and deep channel diggings. The ores are lead, galena, silver, ruby and black sulphurets of silver, copper, gold, iron, also arsenic and antimony. The country rock is limestone, quartzite and granite, and there are at the present writing 2,528 claims recorded in this district.

The Principal Mines

Are the Jordan M. Co., Spanish Hill M. Co., Utah Co., Last Chance M. Co., Winnamuck S. M. Co. (Limited), Silver Hill M. Co., Neptuns S. M. Co., Kempton Mine, Northern Light S. M. Co., Vespasian S. M. Co., Bins Jacket Co., Bemis & Hiatt M. Co., Western Chief, New-Perces Chief Mins, Osceola and Lucky Boy, Royal Lode Mins, Bald Eagle Co., Nahoh Mins, Seaman Mins, Oregon Mins, Peahody Mins, Agnes Mine, Akey Mins, Moose Mine, Wall Street, Burton and Co's. Mine, Rainbow, Ten Forty, Clipper, Thrush, Yo-Semite Mins, Captain Jack, Klopenstein, Miller & Co's. Mine, Eagle Bird, French Spy, John Bull, Crœsus Mine and Orphan Boy. Each of the above named companies are shipping more or less ore, and altogether the above mentioned mines are producing and shipping an aggregate of 200 tons daily, the average value of which is about 25 ounces silver and 45 per cent. lead. Miners' wages here are $3.50 per day (currency), working eight-hour shifts; and about 450 are now here under wages.

To Get to Bingham Canon

There are two ways from Salt Lake City; one direct—all stage distance, 25 miles; fare, $2.50; the other is *via* the Utah S. R. R. to Sandy Station, and thence *via* Kelly & Benham's stage line. Rail, 12 miles; stage, 16 miles; fare, $2.50. The latter is the most comfortable way. The expense is the same by either route.

Spanish Hill M. Co.

This is an incorporation with a capital stock of $500,000, working under the corporate laws of the State of New York. Mr. E. Eichel is the Superintendent and Captain J. J. Stewart underground foreman. This company own five different locations, as follows: Spanish, Black Hawk, Queen, El Dorado and Buckeye; aggregating 3,000 feet of ledges, located in close proximity to each other, and situated about 2¼ miles southeast of Bingham Cañon town, in main Bingham Cañon. The main ore bodies of this company's mines run northeast and southwest, and dip to the southeast at an angle of about 25°. These locations are being developed by tunnels principally.

The Present Development

Is being done upon the Spanish and Black Hawk; their main tunnel is in 400 feet on the Spanish, connecting with the Queen shaft, tapping the ore body at a depth of 95 feet from the surface. Four different shafts have been sunk upon these locations, varying from 40 to 200 feet deep, and some 3,000 feet of crosscuts and tunnels have been run upon the same. They have about 300 tons of ore now upon their dumps that averages about 15 ounces in silver, 4-100 of an ounce in gold, and 50 per cent. in lead to the ton. This company are working 35 men regularly and extracting 50 tons of ore daily, which they are having reduced at their own

Smelting Works,

Which are located at Little Cottonwood Station, seven miles south of Salt Lake City, and distant from their mines 25 miles. This ore is transported (at present) on wagons to the furnace, at a cost of from five dollars to six dollars per ton. I neglected to state above, in speaking of this corporation's mines, that their ore bodies run from 10 to 25 feet wide, and in places neither side, top nor bottom is anything but ore. Their furnaces, two in number, are water jackets, and have a capacity combined of smelting, from 35 to 40 tons of ore. From two and a half to three tons of bullion.

Galena & Jordan Mines,

The above mines are owned by capitalists in Boston, principally, but some shares are owned in Salt Lake City, Messrs. Carson & Buzzo, attorneys of Salt Lake, are Managers of this Mine. Thos. H. Low is Supt., and Mr. A. Gauchat is principal foreman. These mines are located about 3 miles south of Bingham Cañon Town, and at an elevation of about 7,000 feet, or 1,200 feet higher than the Town of Bingham. The ore body of these mines runs nearly north and south varying about 17° eastward. This company's mines are nearly a mile in extent. The Jordan location contains 5,200 feet, and the Galena 2,200 feet. These two locations run in the vicinity of each other near the center. The development on these mines consists of an

Immense Open Cut,

Run upon the ore body, from the north end of their Galena location, for a distance of 150 feet, and they have stripped it for 700 feet farther; revealing an ore body from 20 to 35 feet wide, and averaging at least 25 feet, and at one point in their open cut, the ore body open shows a depth of 60 feet; prospects show it from 60 to 75 feet below that point. The country rock here is quartzite. The ledge matter is known to be 75 feet thick; how much more is not known. Suffice it to say that there is more ore in sight in this mine than any other in this Territory, and I don't know but anywhere on this coast, outside the Comstock lode of Nevada. From 75,000 to 100,000 tons are now in open view, that will average about $22 in silver, $5 in gold, and 50 per cent. lead. At this writing they have 250 tons of first-class ore on their dumps, and are shipping from 40 to 50 tons daily to their smelting works, located on the Jordan River, close to the Bingham Narrow Gauge R. R., and distant from their mine 17 miles.

Other Developments.

They have sunk numerous shafts, aggregating 600 feet in all, and run some 1200 feet of drifts and tunnels. They employ 35 men.

Thrush and Iron Mask Mines,

Located near the Winnemuck furnace, about one mile northeast of Bingham Cañon town. The above named locations contain 2,300 feet, and are owned by four equal partners, Hugh McKee, James Duncen, Andrew Brown and Patrick Powers; Mr. Brown, of San Francisco, is Superintendent. The ore body of this mine runs northeast and southwest, and dips to the southeast. The country rock is porphyry and quartzite, the latter forming the foot-wall, and the former the hanging wall; the ledge or ore body is about 7 feet thick. The development consists of 3 different tunnels run into the ore body; one tops the ore body at 20 feet in; the second strikes it at 50 feet, and the third tunnel finds the ledge in 60 feet. The company have about 25 tons of ore of a high grade upon their dumps, that assays $111 in silver, $33 in gold and about 54 per cent. lead. Twelve men are regularly employed at this mine, working night and day. The narrow gauge railroad to Bingham (almost complete) runs within a few feet of this company's works. It is certainly the handiest mine to develop in the district.

The Winnemuck Furnace

Is located about ¾ of a mile north of Bingham Cañon town, owned by the Winnemuck Silver M. Co. (Limited) of London. The company own a mine by the same name adjoining their furnace at which they are at present working 50 men. They also own another location ¼ mile south of their smelting works, called the Dixon; working but few men, but extracting some ore. The smelting works of this company are run by steam, with engine of 30 horse power. These works contain two water jacket furnaces, with a capacity of reducing 20 tons each daily. At present they are reducing only about 30 tons daily; producing about 8 tons of bullion, the average of which runs about 150 ounces of silver and one ounce of gold to the ton of lead. Working regularly 30 men. From the Mormon capital, in my next.

L. P. Mc.

[To be continued.]

Comstock's Financial Transactions.

The Virginia, (Nev.) *Chronicle* tells this story: Comstock, the man that took all the prestige of the discovery that bears his name, sold out his interest here to Judge Walch, of Nevada, Cal., for $9,500. Comstock, about this time, made another important transaction. He had lots of money, horses and lands, and he set out to find a loving companion to share his worldly goods with him. A Mr. Carter, living near Comstock's camp, was poor, but he was possessed of a young wife, and upon the ground that a fair exchange was no robbery, they made a trade; Comstock gave a horse valued at $225 and $75 in money, making $300, for the wife, and to make the matter still more binding, Comstock gave Carter a bill of sale of the horse and Carter gave Comstock a similar document, with the usual guarantee, that the animal was sound, kind and true, and warranted not to kick in the harness. But the novelty of a transaction so revolting to a woman of any spirit soon wore away, and Comstock's wife and money left him about the same time. Soon after she left him, Comstock told the writer that he could compel her to live with him if he chose, and in proof produced his bill of sale. People who know nothing of the early history of this country and its prospectors, and the fame that went abroad concerning them, cannot realize how such a man as Comstock, half crazy or half idiot, should ever have gained so much notoriety, while the real discoverers of silver in Nevada are forgotten. Few of the early discoverers and locators that were here in 1859 are worth anything to day, and I cannot now call to mind one individual that holds to any of the first-discovered claims of the famous Comstock lode. Such was Nevada in 1859, at that time forming the western part of Utah Territory, when the initiatory step was taken to form a separate Territory, with Governor Roop, of Honey Lake, as its first executive. What a lesson the recollections of those times have taught, not only financially, but morally! We can trace the many murders committed here to one great cause—that giant of all evils that looms up higher than Mount Davidson and broader than the plains looking to the eastward from this city—and its name is INTEMPERANCE!

The Largest Steam Engine in the World.

Pittsburg claims to have in progress of construction a pair of engines which will be the most powerful in the world. Reducing the capacity of some of the largest pumping engines to a uniform lift of 100 feet in twenty-four hours, it is found that the one at the Lehigh zinc mines will lift 3,456,000,000 gallons; the pair at the Chicago water-works, 4,500,000,000 gallons; the pair at Haarlem, Holland, 10,000,000,000 gallons; while the new Pittsburg engines will lift 14,240,000,000 gallons. The pair will weigh 1,500 tons, and will cost $423,550. The following dimensions will serve to give some idea of the magnitude: Cranks, 9 tons; shaft, 24 tons; four sections of the two valve chambers 120 tons; fly-wheel, 70 tons. The four plungers will weigh upwards of 400 tons. Cylinder, 64 inches diameter; stroke, 14 feet. Plungers, 40 inches diameter; 11 feet stroke. This ponderous piece of machinery will be used to raise water into Highland avenue reservoir, in Pittsburgh, a hight of 356 feet. It is estimated it will raise 70,000,000 pounds of water for each hundred pounds of coal consumed, the cost being at the rate of one cent for every 3,070 gallons.

The Cornucopia Mines.

Captain C. C. Warner, who a day or two since arrived in this city from this new mining district, gives us some particulars in regard to mines and country.

A Town Without a Name.

A town has been laid out near the mines, but at the time the Captain left it had not been named. The inhabitants are probably waiting to see if it shall prove worthy of a name. It is a strange town, for, although it has a large number of inhabitants, it contains no houses. The people live in tents and brush shanties. Ere this, however, there are probably two or three habitations made of planks, as lumber was arriving. The site selected for the town is said to be a very pleasant one. There are in all about four hundred persons in the district. As yet there is no money there except the little in the pockets of prospectors.

The Mines

Look well on the surface and prospect well, which is about all that can be said of them, as no man can see into the ground. Captain Warner brought in specimens from the Leopard, Chloride, Black Diamond and one or two other leads. All these specimens appear to be rich in silver. They are mostly sulphuret and chloride ores, but one specimen shows streaks of bromide. The ledges do not appear to be very large. The Leopard is about three feet in width, and the chloride at the depth of fourteen feet, is about six feet in width. The shaft on the Chloride lead is probably the deepest in the district. The leads are in most places "blind." When they do crop out, they seldom rise much above the rank grass growing on the hills. There is a sort of family resemblance in the ores from all the leads in the district. In their present undeveloped condition, no one can give a decided opinion for or against the mines. They look well as far as they have been opened, but whether they will increase in size and richness as they are followed down, or whether they will pinch out and disappear, remains to be seen. There is much prospecting, and a large number of lands have been located, but as yet few know much about the value of their claims.

The Country

About the mines is well watered by clear and sparkling brooks, and there is almost everywhere a rank growth of excellent grass for hay and pasturage. In the immediate vicinity of the mines timber, even for fuel, is not to be had. The nearest timber land is distant about fifteen miles from the town and mines. Even this does not amount to much as timber, but there may be had sufficient fuel to last the camp several years.

Game and Fish

Are abundant. Beautiful brook trout may be caught in nearly all the streams in the neighborhood, and in the headwaters of the Owyhee River are to be caught salmon of considerable size, which come all the way up the Columbia River. Grouse, sage hens and prairie chickens are plentiful, as also are rabbits of all kinds. The prairie chickens, however, are the great game bird of the region. These birds seem to be steadily advancing westward. Captain Warner, who scented all through this country during the Indian war times of early days, and who has been back and forth through the country almost yearly ever since, is satisfied that they have moved a great distance to the West since he first met with them. It is a question whether they advanced from the great prairies of the West of their own accord or whether they were "planted" where they are now found. Captain Warner says there is a story current that many years ago some man took the pains to bring a lot from the prairies of the West and turn them loose in the region where they are now found. He does not much credit the story, but still is a good deal puzzled to know how they got across the Laramie Plains. They have very strong wings, and when they take the notion can very easily pass over from three to five miles of ground at a single flight, as all Western men very well know. From what is said of game and fish, it will be seen that Cornucopia is not a bad place in which to spend a few weeks, whether or not the mines prove valuable. We presume our Virginia prospectors will have some wonderful stories to tell upon their return of their hunting and fishing exploits.—*Virginia Enterprise, August* 30.

THE highest mountain on the North American continent is Mount St. Elias, in Alaska, whose elevation is 17,900 feet. Next to it comes the volcano of Popocatapetl, in Mexico, 17,884 feet, and Orizaba, also in Mexico, 17,373 feet. If the newly-discovered peak of the Holy Cross, in the Yellowstone region, found by the Hayden exploring party, be really 17,000 feet high as they estimate, it will be the fourth peak in elevation on the continent of North America, and the highest mountain in the United States, excluding Alaska. Heretofore the highest peak in this country was supposed to be Big Horn mountain, which is elevated 15,000 feet.

JAPAN has a population of more than 30,000,000 souls, and a history which runs back, by tradition, over 2,500 years, with authentic record for more than 1,100; while her neighbors in China, from whom Japan obtained her written language, and whose civilization Japan adopted about a thousand years ago, have a population of nearly 400,000,000, and a history covering 4,000 years.

SCIENTIFIC PROGRESS.

The Nature of Sunlight.

Dr. Draper, of New York, has lately published a summary of the views respecting the activity of the rays of the sun that have long been held by him. According to Dr. Draper, the calorific, luminous and chemical effects produced by the solar rays are not so many distinct forces or emanations coexisting in a beam of light, and that can be dispersed by a prism, according to a fixed law, over the length of the spectrum, but are, on the contrary only the various effects of one and the same force acting under different substances. He maintains (1) that the chemical action is not limited to the more refrangible rays, but is equally distributed over the luminous and calorific portions of the spectrum; (2) that the ray effective in producing chemical or molecular changes in any special substance is determined by the absorptive power of that substance: (3) that there is also no special localization of the visual or the thermal effects. In the case of the silver iodide so generally used by photographers, Draper shows that the more refrangible rays produce an effect contrary to that produced by the less refrangible. In the case of the bitumens and resins he shows that a properly prepared film of these is as sensitive to either the nitra red or the ultra violet rays as the silver iodide is to the latter rays only. In the highly important case of the development of the carbonic acid gas found in the atmosphere by the action of sunlight on plants, he shows that this is accomplished by the action of the rays between the orange and the green bands of the spectrum, the maximum effect being in the yellow. The vegetable colors and the colors of flowers are shown to be dependent each upon the chemical action of a corresponding specific ray or rays. The union of chlorine and hydrogen goes on under the influence of every ray of the spectrum, but with greatest rapidity in the violet. The effects of light on chlorophyl show that the vegetable colors are destroyed by rays complementary to those that have produced them. The second of the above propositions is supported by the observations on the decomposition of the silver iodide, in relation to which Dr. Draper develops a fact of much interest to photographers, i. e., that the ordinary collodion film absorbs only about one-fourth of the whole actinic effect of the rays falling upon it; the rest passes through and is lost. Could the film be made to absorb the whole, its sensitiveness would be correspondingly increased. The second proposition is especially supported by the direct experiments with chlorine and hydrogen. The solar rays having passed through a layer of chlorine are unable to cause the combination of a mixture of hydrogen and chlorine on which they are allowed to fall; without the intercepting layer of chlorine the solar rays cause the immediate combination of the two gases. Further experiments with absorbing media show that the more refrangible rays are the ones effective in causing the union of chlorine and hydrogen, and that, furthermore, the rays that are specially effective are those corresponding to the bands common to the spectra of the two gases. The process of union begins after the lapse of a certain time, during which the rays entering the mixture have been acting upon it to prepare it for the subsequent union. The actual union is a progressive phenomenon, the rapidity of which increases with the intensity and quantity of light. The action of light on the chlorine compounds of silver is precisely similar to that on the compounds with hydrogen, and "there is to practical photographers an advantage, both as respects time and correctness, in light and shade gained by submitting a sensitive surface to a brief exposure in a dim light, so as to pass it through its preliminary stage."

These views of Dr. Draper are interesting from the fact they are in many particulars new, and different from previously received theories. The statement that the chemical action of sunlight is *equally* disturbed over the whole spectrum, will certainly occasion some argument. The theory maintained by Tyndall and other scientists in regard to the relative distribution of the heat, chemical and visual rays, is in direct opposition to the views here advanced.

FREE ANALYSES.—The Paris School of Mines receives and analyses without charge mineral specimens of all kinds, from soils to metal works of art. In five years, from 1868 to 1872, the number of such analyses was 2,916, or an average of 583 each year. A Government can undertake a work like this but it is almost beyond the powers of a school maintained by receipts from private sources. The New York School of Mines had a similar practice when it began its existence, and many hundred specimens were received for gratuitous analysis. But in this country the 583 analyses made each year by the Paris School would represent a gift of not less than 20,000 to 30,000 dollars. The specimens received in New York were to a great extent totally uninteresting, and probably many of them were drawn from old collections and represented stones which some ignorant person had just enough curiosity about to secure an analysis of, when he could get it free. The attempt had to be given up, but it is one that we would like to see revived if it can be done under conditions that will secure really valuable results, and not suffer the work to become too onerous to the schools which undertake it.—*Engineering and Mining Journal.*

New Great Premiums for Discoverers and Inventors.

Considering the fact that by the progressive wants of civilization the time must come when there will be no more coal or other fuel to spare to feed our steam engine, and also a great scarcity of nitrogenized matter to manufacture artificial fertilizers which agriculture can not dispense with, and considering that perhaps our grandchildren may already see such calamity that will arrest everything on earth if inventive genius does not come to our help, the Count de Donhet made, before the session of the French National Assembly, on July 22d, 1873, the following proposition:

Two national premiums are decreed, one of 1,000,000 francs, and the second of 1,500,000, (respectively about $200,000 and $300,000.) The premium of 1,000,000 francs to be awarded to the inventor of one or more chemical nitrogenized products made directly and economically from the nitrogen of the atmosphere, being either cyanides, nitrates, or ammoniacal salts, so as to obtain an inexhaustible basis for nitrogenized fertilizers, independent of animal matter, and also realizing an economy of at least ten per cent. over the artificial fertilizers of the present day. Two hundred thousand francs will be given to compensate the labor of the inventor who succeeds in utilizing the natural phosphates called apatites, and abundantly found in geological deposits, for fertilizing purposes, either in mixing them with the nitrogenized products of the trade, or otherwise, so as to obtain a substitute for the guano imported from across the ocean, being also ten per cent. cheaper than the same.

A million and a half of francs will be given to the inventor of the application of any motive power, dynamic electricity or whatever new motor, which may by expansion, circulation, or any other motion of fluid bodies, be adapted to mechanical and industrial progress, locomotion, or traction on rails or ordinary roads. The use of steam pressure and explosive gases are excluded, and the premium will not be allowed if the system does not unite with the impossibility of explosion or conflagration a saving of some twenty-two per cent. over the present motors.

It is expected that the proposition will be accepted unanimously. The inventions required are very difficult, therefore the danger of having to pay the premiums is not very great; but even if the problems were solved and the premiums had to be paid, it is considered in France to be a very desirable investment, as it would double the fortunes of the country and enrich the whole human race generally, so much so as to reduce a few million francs to such a comparative trifle that a country possessing the inexhaustible resources of France, can easily afford to compensate the inventor with due liberality.—*Manufacturer and Builder.*

Polar Regions.

The information developed by the investigation in connection with the loss of the Polaris, abounds with facts of much scientific interest. In the first place the cold was not so extreme as had been anticipated. In the next place the Polar regions are by no means devoid of vegetable or animal life. Among the contributions of the Polaris are skins and skeletons of musk oxen, bears and other wild animals; different species of birds and their eggs; numerous marine invertebrates; plants, both recent and fossil; minerals, etc.

Not the least interesting were the specimens of drift-wood, picked up in Polaris Bay, among which were recognized walnut, ash and pine. The dip of the needle amounted to 45 degrees; its deviation to 96 degrees. Auroras were frequent, but by no means brilliant. The rise and fall of the tides were about 5¼ feet. The greatest depth of water about 100 fathoms. The coldest weather was 58 degrees below zero. The prevailing winds were from the northeast, with occasional tempests from the southwest. Rain was occasionally observed.

During the summer the extent of both lowlands and elevations was bare of snow and ice, excepting patches here and there in the shade of the rocks. The soil during this period was covered with a more or less dense vegetation of moss, with which several Arctic plants were interspersed, some of them of considerable beauty, but entirely without scent, and many small willows, scarcely reaching the dignity of shrubs.

The rocks noticed were of a schistous or slate nature, and in some instances contained fossil plants, specimens of which were collected. Wolves, bears, foxes, musk oxen and other animals were repeatedly observed. Geese, ducks and other water fowls, including plover and other wading birds, abounded during the summer. Land birds were comparatively few; among these were the pelican and snow partridge. The waters abounded in shrimps, jelly fish and marine invertebrates. It is said that seals depend upon the former for subsistence.—*Odd Fellow.*

We may add that in all probability the results of the cruise of the unfortunate Polaris will not be lost, as it is supposed that all papers were carefully "cached" when the vessel was abandoned.

MECHANICAL PROGRESS.

Crystallization of Wrought Iron.

It has been a question long in dispute, says the *Mining Journal*—conceded by one authority, and denied by another—that the continued wear on iron, (as in the use of rails), caused a crystallization of the atoms composing the metal, which would sooner or later make the iron brittle and rotten. That is, the lamination, would so separate the atoms as to disturb their adhesion, or affinity, and thus destroy the strength of the iron. But it is more than likely that this hypothesis will never be proven to be a fact. Actual wear and tear upon iron will separate the fibrin, and in case of rails, will "broom" it, but it does not appear that what is known as crystallization follows, else the rails would break off short within a given length of time, and we would have but little less than a crumbling mass for what is usually regarded as imperishable iron.

A writer in the *Artisan* agrees with us when he agrees as follows with another contributor to the *Artisan:* Practically there is no limit to the life of iron, and the crystallization notion is only a theory. It is the practice, and a good one, perhaps, to use car axles for passenger coaches from one to three years, and then transfer them to freight cars, where they generally run till the journals get heated and cut down too small. Even then they might be bushed, and used an indefinite length of time, or a sleeve might be put on at first, to be renewed when accidentally injured. The car axles which break usually have sharp shoulders where the journal is turned off to fit the wheel, and the fracture usually occurs there. The observations and experiences of thirty years warrant me in doubting the truth of the crystallization theory, in any respect. I know of both cast and wrought steamboat water-wheel shafts that are twenty years old, and as good as when first used. This is also the case with line shafting, sixteen or eighteen years in use, to my knowledge.

A Gas-Propelled Boat.

Mr. William A. Leggo, of Montreal, Canada, is the author of a novel method for propelling vessels, designed especially for canal boats, to overcome the difficulties of horse towage. He discards steam wheels, ropes and other common contrivances. All that Mr. Leggo uses is a large bent pipe which is attached to the stern of the vessel, the mouth of the pipe being placed under water, pointing stern-wise. The pipe rises to the deck, and at the upper end of the pipe is a gas light and valves that open inward for admission of hydrogen gas and atmospheric air. As soon as enough hydrogen and air have entered, to wit, two parts of hydrogen to one of oxygen, the mixture takes fire from the gas light, an explosion ensues, the valves are closed, and the great pressure produced finds vent at the mouth of the pipe, acting against the water and driving the boat ahead. The valves then open again, the gases flow in, a new explosion takes place, and so on. These explosions follow with as much rapidity as the motions of a steam engine piston, and thus the boat soon acquires a regular velocity. Whether the manufacture, cost, and storage of the gas, and the working of the gaseous motor, will equal the economies and conveniences of steam power, and its propelling appurtenances, remains for Mr. Leggo to ascertain by trial. — *Scientific American.*

It is well known that all alloys containing copper, even in minute proportions, are readily acted on by acids, which makes them dangerous when used for household utensils. M. Helouis has proposed an alloy, under the name of platinum bronze, which is entirely inoxydizable. It is a nickel alloy, prepared from nickle made thoroughly pure by various processes and maceration in concentrated nitric acid. The proportions employed are nickel 100, tin 10, and platinum 1—the two latter metals being added to the fused nickel in the proportion of 4 of tin to 1 of platinum, and the remaining 6 parts of tin added subsequently. For bells and sonorous articles, the proportions are slightly varied, viz: nickel 100, tin 20, silver 2, and platinum 1.

GOLD PEN POINTS.—Gold pens are dipped with iridium, making what are commonly called "diamond points." The iridium for this purpose is found in small grains in platinum, slightly alloyed with the latter metal. In this form it is exceedingly hard, and well adopted to the purpose of the gold pen maker. The gold for pens is alloyed with silver to about sixteen carats fineness, rolled into thin strips, from which the blanks are struck. The under side of the point is notched by a small circular saw to receive the iridium point, which is selected by the aid of a microscope. A flux of borax and n blow pipe secures it to its place, and the point is then ground on a copper wheel with emery.

Enamelled Iron.

M. Peligot has made a report to the Society for the Encouragement of Industry, on the enamelled wrought and cast iron work introduced by M. Paris about twenty-five years ago, and for which the Society have awarded him two medals. According to the report in question, the enamel used is a true transparent glass, which allows the color of the iron to show through, very tenacious, having the same power of dilatation as iron, and capable of resisting powerful acids. The ordinary white enamelled ware of Paris generally contains lead, and often in large proportions, and is liable to be attacked by very weak acids.

M. Paris' ware has been employed for many purposes; cast-iron vases for gardens, decorated in imitation of old Rouen ware, have been exposed to all weathers without suffering any injury; a chimney in enamelled plate-iron was set up at the Mazas prison in 1849; the doors of the gold-assay furnace in the laboratory of the Paris mint are of the same, and have borne the effect of nitrous vapors since 1850; in 1866 this enamelled iron was selected for street names and house number plates, in several districts of Paris, and the report states that while other manufacturers make enamelled ware of the same appearance as that of M. Paris, the latter has shown its superiority in resisting the effects of time.

Specimens of new applications lately introduced by M. Paris, were presented to the Society, and included chairs, tables and stools for gardens, enamelled on sheet-iron and mounted on castings; and stands for dishes, decanters, etc., made in imitation of ancient earthenware, but presenting the superior advantage of bearing heat well.

THE POWER OF NITRO-GLYCERINE.—Dynamite, ignited by a violent percussion, such as is occasioned by the detonation of a strong fulminating cap, gives an explosion even in the open air, and, if confined, produces such an effect that one pound of nitro-glycerine corresponds to at least ten pounds of ordinary gunpowder.

Ignited without percussion, and by any other means, it merely burns in the open air, but if confined may give an explosion. Yet this explosion, whatever may be the temperature and the pressure to which the substance is subjected, is of an entirely different nature from that produced by percussion. In place of an explosion of the first order, or that caused by percussion, it is an explosion of the second order, of which the effect is such that one pound of nitro-glycerine is equal to about two pounds of gunpowder.

From this we conclude that dynamite accidentally ignited, as, for example, in the midst of a conflagration, would not explode unless confined.

Second, it may give an explosion of the second order analogous to that of powder. Third, the maximum intensity of this explosion, that is the greatest tension that can be produced when the package or magazine in which it is confined is of great strength, will be such that one pound of nitro-glycerine represents two of powder.

Dynamite then may, according to circumstances, produce explosions of an entirely different character. Percussion alone will produce an explosion of the first order. The presence and temperature to which the substance is subjected does not change the conditions of the phenomenon.

RAILWAY SPEED. — The London *Engineer* states that the highest railway speeds in the world are attained in England, and that the highest of all is reached on the Great Western railroad—the speed on the latter being given roundly as fifty miles an hour. Instances are given, however, of sixty-five and seventy miles an hour, and the *Engineer* believes that it would be possible to lay permanent way so well, and to maintain it in such excellent order, that trains might travel on it with perfect safety at one hundred miles an hour—indeed, miles upon miles of such track are now to be found on most of the great main lines, but nowhere can one hundred consecutive miles of permanent way in perfection be found; and, as a chain is no stronger than its weakest link, so a few hundred yards of bad track would spoil for the purpose of traveling at one hundred miles an hour a whole line. The really important question, argues the *Engineer*, is, given the line and the cars fit for it, what shall the engine be like, and is it possible to construct an engine at all which, with a moderately heavy train, will attain and maintain a velocity of one hundred miles an hour, on a line with no grade heavier than, say 1 in 300. After a thorough examination of the question, in all its bearings, the *Engineer's* figures prove that it is absolutely impossible to obtain a speed of one hundred miles an hour on a railway, if the resistance is anything like 120 pounds per ton.

A GREAT ENGINEERING FEAT ACCOMPLISHED IN ST. LOUIS, MISSOURI.—The two center sections of the arch between the western abutment and the first of the bridge, each consisting of an upper and lower rib, were completed, September 18th, by the insertion of the key or center tubes, and that portion of the arch is now finished, demonstrating the feasibility of the original plans, and its success is regarded as one of the greatest triumphs of engineering skill the world has ever seen. The two remaining ribs of this arch, which are only partially constructed, will be finished at once with ease. The three grand arches of the bridge were expected to be finished by the middle of December.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Sept. 25, 1873.

NAME OF COMPANY.	IN MINE.	FEET IN MINE.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co							
Alpha Consolidated		300	6000	22	20		4
Alta		3600					
American Flat			30000	6¾	5¾		⅜
Arizona & Utah		1900	18000	1⅜	1		⅜
Bacon Mill & Mining Co		60	24000	2	1		1
Baltimore Consolidated			54000	9½	7¾		⅝
Belcher		1010	104000	70	62		
Beet & Belcher		224	22300	5¾	5		⅜
Bowers		20	5000				
Buckeye			16000				
Bullion		2500	25000				
Caledonia Silver M. Co		5000	20000	20	17½		1⅞
Central		150	10800	2¼	2		2½
Central No. Two		100	20000	6	6		2½
Challar-Potosi		2800	28000	35½	35		4
Confidence Silver M. Co		130	24960	6¾	5⅝		⅛
Cons. Gold Hill Quartz		345½	20000	2¾	2½		2¾
Consolidated Virginia		1160	23600	101	96		3
Cook & Geyer		1600	24000				
Crown Point G. & S. M. Co		600	100000	88½	83		
Daney		2000	24000	1¾	1⅝		
Dardanelles		1200	24000				
Eclipse		70	25000	4¼	4½		1
Empire Mill & M. Co		75	50000	3¾	3¼		⅜
Exchequer		400	8000	8	7½		½
Flowery		3000	12000				
Franklin							
Globe			20000	1	75c		¼
Gould & Curry S. M. Co		1200	48000	12	10		2
Hale & Norcross		400	16000	29	25		1
Imperial		184	100000	4½	4		
Indus							
Insurance		2000	30000				
Jacob Little							
Julia Gold and S. M. Co		2000	30000	1⅞	1⅝		⅛
Justice		3000	24000	9	6		1½
Kentuck		85	30000	10½	9¼		1⅛
Knickerhocker		1200	24000	4	3⅜		¼
Lady Bryan							
McMeans		3600	36000				
Mint Gold & S. M. Co		1600	16000	25c	25c		17½c
Nevada		3900	40000				
New York Consolidated		3600	36000	62½c	62½c		⅛
Occidental		800	10000				
Ophir Silver Mining Co		1400	18000	57	22		26
Overman Silver M. Co		1200	12300	10¼	6¾		2½
Phil. Sheridan		1200	24000				
Pictou		2000	30000				
Rock Island			24000				
Savage		100	16000	47½	40		16½
Segregated Belcher		160	6400	44	32		9
Segregated Caledonia			10000				
Senator Silver M. Co			24000				
Sierra Nevada			20000	12	10		2¾
Silver Hill			24000	15½	12		½
South Overman			24000				
Succor Mill and M. Co		7600	22800	2	1½		¼
Sutro			24000				
Trench		20	5000				
Tyler		2200	33000	1	60c		⅞
Union Consolidated		803	20000	1⅞	1¼		
Utah			20000	1½	1⅜		⅛
Woodville G. & S. M. Co		1300	28000	1⅝	59c		⅜
Yellow Jacket		1200	24000	43½	42		
NEVADA.							
Adams Hill			50000	12½c	12½c		
Allpor Mining Co		800	30000	87½c	35c		27½c
Amador Tunnel & M. Co							
American Flag M. & M			30000	3¾	3⅜		⅛
Arkansas		300	30000				
Belmont				2¼	2		⅛
Bowers			30000	50c	50c		
Chapman Mill & M. Co			30000				
Charter Oak S. M. Co		1000	30000				10c
Chief of the Hill			30000	80c	40c		
Chief East Extension			30000	25c	25c		
Columbus M. & M. Co		10000	60000				
Condor			25000				
El Dorado South				3½	3⅛		
Eureka Consolidated			50000	12⅜	11⅜		⅜
Excelsior			12000				
Harper Silver Mining Co			30000				
Hermes		1000	30000	3	3		¼
Home Ticket							
Huhn & Hunt S. M. Co		3500	30000	75c	75c		
Ingomar Silver M. Co		1000	30000				
Ivanhoe			30000	62½c	25c		
Jackson			50000	25c	17½c		7½c
Juniata Consolidated		5000	50000				
K. K. Consolidated			4	4			
Kentucky Gold & S. Co		1000	30000	2	2		
Kinston		1000	30000				
Lehigh		1000	30000				
Lillian Hall		1000	15000				
Louise		2400	30000	40c	35c		15c
McMahon		1000	30000				
Marion			30000				
Meadow Valley		24025	60000	18¼	15⅞		⅜
Mocking-Bird		1200	30000				
Monitor Belmont							
Murphy		2000	60000				
Newark Silver M. Co		800	32000	1⅞	1¾		⅛
Pacific Tunnel & M. Co							
Page & Panaca S. M. Co		2400	40000	87½c	31½c		⅜
Peavine		1000	30000				
Phoenix			50000	30c	25c		5c
Pioche Silver Mining Co			20000	6¼	4½		1½
Pioche West Extension			25000	1	1		
Pioche-Phœnix			40000				
Portland							
Raymond & Ely		5000	30000	71	65		1½
Silver Peak			30000	50c	50c		½
SilverWest Consolidated							
Standard Mill and M. Co							
Star Consolidated		18000	50000				
Stella		6900	25000				
Sterling			30000				
Spring Mount			25000				
Spring Mountain Tunnel			20000				
Ward Beecher				3	3		
Washington and Creole		200	30000	2¼	1⅞		
Yellowstone							
CALIFORNIA.							
Alpine		1200	12000				
Bellevue		8000	20000				
Calaveras Gold M. Co		3200	20000				
Cederberg Gold M. Co			24000	3¾	3½		⅛
Consolidated Amador							
Cottonwood Creek			20000				
Dunderberg M. & M. Co							
El Dorado Ind. Quartz M							
Eureka Gold Mining Co		1680	20000	20	19		
Gillie			24000				
Independent Gold M. Co		1800	25000	1⅛	1½		⅜
Keystone Quartz			10000				
Mt. Jefferson		1500	25000				
Oakville Quartz M Co							
Rye Patch			10½	9			¼
St. Lawrence M. & M. Co							
St. Patrick		1800	20000				
Tecumseh		3000	30000				
Yule Gravel		400	10000				
IDAHO.							
Empire			25000	3¾	3½		⅜
Golden Chariot		750	10000	25½	21⅝		4⅛
Ida Elmore		1300	10000	5	4		1⅛
Mahogany G. & S. M. Co		720	10000	8¼	8		1½
Minnesota Gold & Silver		1070	20000	15½	14½		2⅛
Red Jacket							
South Chariot		600	20000	3½	2¾		¼
War Eagle		1000	10000	3	3		
WHITE PINE.							
General Lee		1000	20000				
Mammoth Silver M. Co		1200	30000	25c	20c		
Noonday		1000	20000				
Orig. Hidden Treasure		800	21333	7⅞	5		⅛
Silver Wave							
Ward Becoher			24000				
UTAH.							
Deseret Consolidated		2400	30000				
Wellington			50000				
OREGON.							
Virtue		2300	20000				

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of hat date. The delinquent datee given in this list are those of the mining officee.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt.	Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business.
Arizona & Utah M. Co.	Nevada	6	50	Sept 8	Oct 13	Oct 31	J. Magnire	418 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 23	C. F. Balcom,	426 Montg'y st
Belmont M. Co.	Nevada	1	1 00	Aug 15	Sept 20	Oct 13	O. H. Bogart,	411½ California st
Chief of the Hill M. Co.	Ely District	3	50	Sept 11	Oct 16	Nov 7	C. S. Neal,	419 California st
Chapman M. & M. Co.	Ely District	4	25	July 26	Sept 2	Sept 26	Frank Swift,	415 Montg'y st
Cons. Gold Hill Quartz M. Co.	Nev.	1	75	Aug 2	Sept 3	Sept 29	R. Wegener,	414 California st
South Eureka M. Co.	Nevada	5	50	Aug 30	Oct 6	Oct 27	T. F. Cronise,	438 California st
Empire M. Co.	Idaho	4	3 00	July 16	Aug 26	Sept 22	C. F. Balcom,	426 Montg'y st
El Dorado South Cons. M. Co.	Nev.	1	1 00	Aug. 6	Sept. 12	Oct. 2	Wm. Willis.	419 California st
Eureka M. & S. Co.	Nev.		50	Aug. 21	Sept. 22	Oct. 13	T. P. Roch.	217 Sansome st
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Huhn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 7	Oct 23	T. L. Kimhall,	419 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	C. S. Neal,	419 California st
Justice M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener,	414 California st
Julia C. & S. M. Co.	Washoe	15	75	Aug 30	Sept 8	Sept 27	A. Noel,	419 California st
Kentuck M. Co.	Washoe.	11	1 00	Sept. 16	Oct. 21	Nov. 11	Frank Swift.	415 Montgomery st
Lady Emma M. Co.	Cal	4	15	Aug 20	Sept 20	Oct 13	A. D. Carpenter,	605 Clay st
Mint G. & S. M. Co.	Washoe		10	Aug 20	Sept 24	Oct 18	P. A. Jennings,	401 California st
McMahon S. M. Co.	Nevada	5	25	Sept. 4	Oct. 6	Oct. 27	Geo. R. Spinney.	320 California st
New York Cons. M. Co.	Nevada	5	25	Aug 4	Sept 6	Sept 25	H. C. Kibbie,	419 California st
O. H. Treasure M. Co.	White Pine.		1 00	July 31	Sept 6	Sept 30	D. A. Jennings,	401 California st
Overman S. M. Co.	Washoe.	27	2 00	Sept. 16	Oct. 21	Nov. 8	W. W. Stetson.	414 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 19	Sept 26	Oct 23	C. E. Elliott,	419 California st
Peavine S. M. Co.	Ely District	5	25	Aug 28	Oct 4	Oct 28	C. F. Balcom,	426 Montg'y st
Phœnix S. M. Co.	Eureka, Nevada		25	Aug 5	Sept 11	Oct 2	J. Magnire,	419 California st
Page & Panaca S. M. Co.	Ely District	4	50	Aug 12	Sept 16	Oct 6	L. Kaplan,	Merchants' Ex
Rose Creek M. Co.	Nev.	1	10	Aug. 5	Sept. 9	Sept. 30	S. Phillips.	408 California st
South Chariot M. Co.	Idaho.		50	Sept 29	Sept 8	Sept 19	J. L. King,	411 California st
Silver Peak M. Co.	Ely District.	3	5 1	Sept. 19	Oct. 27	Nov. 17	G. T. Grimes.	240 Montgomery st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A. Jennings,	401 California st
Tecumseh G. S. & C. M. Co.	Cal		25	Aug 1	Sept 5	Sept 30	J. F. Hermann,	418 Kearny st
Union G. M. Co.	Cal	7	50	Aug 12	Sept 15	Oct 6	A. K. Durbrow,	Merchants' Ex
War Eagle M. Co.	Idaho	2	2 50	Aug 13	Sept 22	Oct 13	C. F. Balcom,	426 Montg'y st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings,	401 California st
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 6	A. Noel,	419 California st

Other Companies (not on the Lists of the Boards.)

Adams Hill Con. M. Co.	Nevada.	4	10	Sept. 24	Oct. 28	Nov 20	W. W. Traylor.	418 California st
Auburn G. M. Co.	Placer Co., Cal.	5	1 00	Aug 9	Sept 15	Oct 6	R Wedzener,	414 California st
Buena Vista Vinecultural Society.	Cal		5 00	Aug 5	Sept 8	Oct 1	N. Selmer,	409 Battery st
Bunker Hill Quartz M. Co.		11	10 00	Sept. 16	Oct. 13	Nov. 5	Walcs L. Palmer.	19 First st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C. F. Elliott,	419 California st
Cincinnati Gold and S. M. Co.	Kelsey Dist		50	Sept 18	Oct 20	Nov 10	Wm. Small,	331 Kearny st
Day Spring G. M. Co.	Cal		5	Aug. 4	Sept. 10	Oct. 1	C. F. Brown.	302 Sansome st
Equitable M. Co.	Utah	3	10	Aug 8	Sept 12	Sept 29	C. S. Healy,	Merchants' Ex
Europa M. Co.	Nevada	1	25	Sept 2	Oct 4	Oct 21	R. R. Noyes,	411½ California st
Empire Tunnel & M. Co.			3	July 22	Aug 20	Sept 22	P. A. Rakine,	220 Kearny st
Gold Sun M Co.	Nevada Co., Cal.		25	Sept. 13	Oct. 20	Nov 10	C. C. Palmer.	Cr. Market & Pearl sts
Hasloe M. & M. Co.	Cal	2	75	Aug 13	Sept 13	Oct 6	J. W. Tripp,	408 California st
Homeguera M. Co.	Lower Cal.		3 00	July 29	Sept 5	Oct 27	J. H. Applegato,	729 Montg'y. st
Ida & Rhoda Lewis Con. M. Co.			10	Aug. 28	Sept. 30	Oct. 20	O. J. Eaton.	12 Express Building
Kincaid Flat M. Co.	Cal		00	Aug 6	Sept 8	Sept 29	R. H. Cornell,	247 Sansome st
Lady Esten M. Co.	Utah	4	10	Aug 8	Sept 12	Sept 29	C. S. Healy.	Merchants' Ex
Lucky G. M. Co.	Cal	1	10	Aug. 6	Sept. 6	Sept. 29	R. R. Noyce	411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 13	G. R. Spinney.	320 California st
Mazeppa S. M. Co.	Ely District	2	50	Aug 19	Sept 20	Oct 8	M. F. Game,	320 Sansome st
North Bloomfield Gravel M. Co.	Cal	27	1 00	Aug. 22	Sept 26	Oct 14	Thos. Denby.	320 Sansome st
North Star G. M. Co.	Cal		4 00	Aug 13	Sept 17	Oct 8	D. A. Jennings,	401 California st
National M. Co.	Nevada		50	July 31	Sept 5	Sept 29	B. B. Minor	411½ California st
Occident G. & S. M. Co.	White Pine.	3	5	Sept. 14	Oct. 21	Nov. 15	J. A. McClelland.	414 Montg'y st
Pacific Coast Packing Co.	S. F.		5 00	Aug 5	Sept 12	Oct 6	G. S. Pratt,	204 Montg'y st
Pride of the Mountain M. Co.	Nevada		10	Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Red Branch G. & S. M. Co.	Cal	1	5	Aug 16	Sept 26	Oct 20	F. D. Cleary,	Merchants' Ex
Silver Wave M. Co.	White Pine		40	Sept 20	Oct 30	Nov 25	J. W. Clark,	418 California st
Stevene Pacific S. & M. Co.	Cal		10	Sept 11	Oct 15	Nov 3	T. M. Knight,	320 Montg'y st
Southern Pacific Cons. C. M. Co.	Cal		10	Sept 11	Oct 25	Nov 25	O. A. Eaton.	12 Express Build'g
Santa Cruz Coal M. Co.	Cal	3	5	Aug 19	Sept 23	Oct 11	L. Kaplan,	Merchants' Ex
Sapphire S. M. Co.	Nevada.	2	20	Sept 5	Oct. 10	Oct. 30	Joel F. Lightner.	438 California st
Seattle Coal & Trans'n. Co.	Oregon		2 00	Aug 4	Sept 5	Sept 25	H. L. Hutchinson,	537 Market st
San Jose M. Co.	Nev.	3	5 00	July 24	Aug 25	Sept 25	A. Carrigan,	107 Front st
San Jacinto Tin Co.	Cal.	9	10	June 14	July 28	Aug 21	L. Franconi,	314 California st
San Marcial S. M. Co.	Mexico		1 50	Aug 22	Sept. 26	Oct 16	C. F. Schulze,	426 Monig'y et
Tecumseh C. S. & C. M. Co.	Cal		25	Sept 15	Oct 20	Nov 11	F. J. Hermann,	418 Kearny st
Washington M. Co.			2 00	Aug 11	Sept 16	Oct 10	T. B. Wingard,	318 California st
Wellington M. & S. Co.	Utah.	2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener.	414 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Alaska Con. M. Co.		Geo. R. Spinney.	320 California st.	Annual	Sept. 22
Baltimore Cons. M. Co.	Ely District	D. T. Bailey,	401 California st	Annual	Oct 2
Charter Oak S. M. Co.	Ely District	G. W. R. King.	411 California st	Special	Oct 6
Cons. Virginia M. Co.	Washoe.	Called by Trustees.	401 California st	Special	Oct. 18
Eureka M. & S. Co.	Nevada	T. P. Beach,	217 Sansome st	Annual	Sept 29
Golden Chariot M. Co.	Idaho.	Called by Trustees.	Merchant's Ex.	Special	Oct 20
Imperial Cons. M. Co.		W. E. Dean,	419 California st	Annual	Sept 22
McMahon S. M. Co.	Nevada.	C. R. Spinney.	320 Ca ifornia st.	Annual.	Sept. 25
North Star G. M. Co.	Craes Valley	D. A. Jennings,	401 California st	Annual	Sept 25
Segregated Belcher M. Co.	Washoe	E. F. Stone,	Merchants' Ex	Annual	Oct 7
Silver West Cons. M. Co., J. W. Brumagin,			Montgomery Block	Annual	Oct 6
Table Mountain Blue Gravel M. Co., W. M Helman,			401 California et	Annual	Sept 29

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	F. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	5 00	Sept 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliott,	419 California St.	3 00	Sept 12
Cederberg G. M. Co.	California	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. G. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Sept 6
Mastodon Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Sept 19
K. K. Consolidated M. Co.		B. B. Minor,	411½ California st.	25	Sept 15
La Grange Ditch & Mining Co.		H. Athey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willie,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Montgry, St.	1 50	Aug. ;
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California st.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 0

LATEST DIVIDENDS---MISCELLANEGUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Raleton, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	1½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r.	Mont'g. & Sac. sts.	2½ per cent.	April 1
Giant Powder Co.	S. F.	H. Pichoir,	Cor. Mont'g. & Wash. sts	1½ per cent.	Sept 15
German Savings & Loan Society,	S. F.	Geo. Leite.	526 California st.	S & 10 & 8 per cent.	July 16
Humboldt Savings & Loan Society,	S. F.	A. Harriman,	16 Geary st.	9 & 10, 8 & 4 per cent	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No 8 Post st	9.75 10, 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April
Pioneer Land & Loan Association.	S. F.	H. Kofahe, Ch'r.,	405 California st.	1 per cent.	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	C. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. B. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.	532 California st.	9 6-10 & 8 percent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

A PROPHECY FULFILLED.—In view of the late startliug crasb in the New York money market, we would call attention to a remarkable letter from our New York correspondent, published by us April 19tb, in whicb tbe present situation is accurately predicted. It eems that even at so early a date the market was not without premonitions of coming evil, and our correspondent was right in tben emphatically declaring that the country "was on the verge of great financial tronble."

GRASS VALLEY is in a very prosperous condition and more miners will be put to work, as some of the old mines are being prepared for resumption of work and several other mines will soon be eending rich quartz to the mill.

LEAD was quoted in Liverpool in tbe 1st inst., at £22. 10s. to £23. 5s. for good ordinary brands. James Lewis & Sons' report states that should the trouble in Spain continue the value is likely to advance.

Our Weekly Stock Review.

THURSDAY EVE., Sept. 25, 1873.

The Stock Market this week has been very quiet, and no operatione of great extent bave eccurred. The absence of any new developmente in Ophir, the New York financial trouble and the Jewish New Year — all prevented any great activity. The news of the Yellow Jacket fire, which did no great damage, had little effect on tbe market. Those who came on the market to buy at low prices, because of the financial depressions and troublee in New York, made a mistake in their calculations. They bad little effect on onr Stock Market here, wbich has been already sufficiently depressed for some time past. A smell business, however, has been done in stock8 during the week, more on account of the absence of Jewish operatore from the market than anything else.

An important legal decision was made thie week in the case of B. F. Sberwood *vs.* the Meedow Valley Mining Company, which affects not only brokers, but the general public. The Court held that a certificate of stock is not a negotiable instrnment and gave judgment for the Company. This constrnction of the law will severely interfere with the operations of the Stock Board by making stock operatione insecnre. The case in substance was as follows: B. F. Sherwood, in tbe ordinary manner, became the owner of a certificate of Meadow Valley stock, but which had been lost or stolen from the owner, Mr. Levy, for whom it was purchased by H. Schmiedell, it stood in his name on the books of the Company, and was not transferred. Levy and Schmiedel proved the loss of the certificate to the satisfaction of the Company, and a new certificate was issued to the latter as trustee, the same as before. When Mr. Sherwood became the owner of the last certificate, he applied to bave it transferred to him, and was refused on the ground that the certificate had been lost or stolen. It was determined to test the case in tbe Courts, and Mr. Sherwood commenced suit to compel the Meadow Valley Company to recognize his claim. It was admitted that previous to tbe purchase by the plaintiff of the certificate that he had no notice that Levy ever claimed to be the owner of tbe stock. It was also admitted that when snch certificatee of stock are drawn in favor of a well known and responsible trustee, it has been for ten years or more tbe practice of brokers, and is the usual practice in this market, to sell and deliver such certificates of stock eo drawn and endorsed, by the mere delivery thereof from hand to hand, without any transfer or other entry made on the books of the Company, unless on account of payment of dividende, election of officers, or for some other reason tbe holder wishes a transfer and a new certificate, and snch certificatee are so delivered from one to another, on sales of the stock, without making iuquiry at tbe office of the Company or elsewhere as to want of title in tbe seller or other defect in the stock sold.

The plaintiff contended that a party purchasing a certificate in good faith acqnired the title, although the same was lost or stolen, because of the custom of stock brokers of negotiating certificates of stock standing in the names of responsible trustees without any transfer or entry on the books of the company, or without making any inquiries as to tbe want of title in the seller. In deciding the case Judge Morrison said it turned upon the question whether or not a certificate of stock is negotiable in a commercial sense. If it ie, the purchaser takes the certificato irrespective of the manner in which the same psssed out of the bands of the real owner. But if it is not negotiable, another rnle applies, whicb is, that the purchaeer gets no better title tban his vendor had, and no one can transfer to another a better title than be hae himself. The legal title being in Schmiedell, and the equitable one in Levy, and both having secured a new certificate for tbe lost stock from tbe company, the Court could see no reason why the compsny sbould not be protected against the plaintiff's claim through the old certificate. Schmiedell was in comtemplation of law the owner of the stock and had a right to transfer it to Levy, and if the plaintiff wae injured in so doing it must be ascribed to thie fact. The Court adverted to the stresslaid upon the custom of the brokers in disposing of stock certificates, which, however nniform and long continued, cannot, bowever, chauge or effect the positive provision of tbe statute wbicb provides that no transfer shall be valid except between tbe parties thereto, nntil the same shall have been entered on tbe books of the company.

Mining Secretaries will now have much more work to do than drawing salaries and making np reports, and doubtless will be compelled to keep a heavier force of clerke. This being tbe case, increase of salaries in thie department of mining operations may be looked for.

CAPTAIN J. G. KELLY left Virginia City on tbe 15tb to go to the city of Mexico, nnder contract to build tbree of McGlew's Patent Cbloridizing Furnaces near that place. We gave an illnstration of this furnace in our issue of August 2d of this year.

MINING SUMMARY.

The following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

SILVER MOUNTAIN.—Alpine *Miner:* Mr. Chalmers is working ore from the Silver Mountain Mines, and is doing so well as to be entirely satisfied. The Pennsylvania is looking splendidly. We sincerely congratulate our Silver Mountain friends on the present cheering prospects.

THE SCHENECTADY MILL is again in operation. Mr. Hunter is making another run, using some of the rubbish ore from the upper dump, which has heretofore been pronounced unfit for working with present appliances. Mr. Hunter's former experiments with low grade ores have convinced him that a fair per centage of the precious metals can be saved by his process of wet, or raw crushing, and that the balance can be concentrated so as to materially lessen the expense of cloriuation by furnace. Mr. H. is entitled to great credit for his persevering efforts in this direction. He has already solved some problems in the working of ore, and is bound to settle others.

SILVER GLANCE.—In this mine the face of the west drift in the lower or main tunnel continues to show seams and crevices filled with sulphurets. On Thursday the miners struck a large vein of water, which continues to flow a steady stream. In a few days the new hoisting works will be in operation, when the downward movement from the bottom of the 100-foot shaft will be resumed. The last installment of machinery pertaining to the new steam hoisting works of the Silver Glance mine, arrived on Friday. It consisted of steam pump for shaft, steam pipe, couplings and other fixtures. Men are already engaged in putting the pump and pipe in position, and in a few days the whistle of the new boiler will call the laborers on the M. & N. Co.'s works from labor to refreshment and back again to labor. Everything about the Silver Glance works is assuming a lively and business-like appearance. Important surface improvements have been made already, and others are in contemplation.

AMADOR COUNTY.

A RICH STRIKE.—Sutter Creek *Independent* September 18: A few days since the workmen on the 600-ft. level in the Mahoney Quartz mine found a very rich lead of ora about 7 ft. thick. It lies on the west of what is known as the main ledge and the richest part of the ribbon rock is next to the hanging wall and is exceedingly clear and firm. Free gold can be seen all through the rock with the eye. Next to the foot wall a very heavy body of fine sulphrets is found, and altogether no discovery has yet been made that gives such flattering prospects as this one in the Mahoney.

TWO WEEKS RUN.—The consolidated Amador Mining Company after a run of two weeks cleaned up about $16,000 In this clean up only the plates were disturbed, and the mill did not stop five hours. The rock now being crushed is improving in richness and at the next regular monthly cleaning they expect to increase their figures several thousand dollars.

THE HOOPER.—Nothing but the best of reports comes from our mining interests. The Hooper is working a full force and is taking out large quantities of the precious metal. Several quartz mines are being opened hereabouts, and it is expected that by Fall several will be running.

OUR QUARTZ MINES.—Amador *Ledger*, Sept. 19: Reports from various parts of the county are very favorable in regard to our quartz interests. Developed mines are yielding very flattering returns, and indications and new developments are valuable to a long run of prosperity. The Kennedy mine, near Jackson, never presented a more favorable appearance than at present. The new ledge, recently discovered at a perpendicular depth of 400 ft., is daily proving to be of great value, the ledge being from 10 to 12 ft. in width, the rock well filled with free gold and rich sulphurets, and will yield $35 per ton by ordinary mill process. The work done since the discovery proves the recently developed ledge to be the main one of the mine, heretofore unknown to the owners. Evidently the new vein will reach to the surface, a distance of 800 ft. from the depth at which it was struck, following the incline peculiar to other vains of this mine. This alone will afford rock sufficient to keep the mill running for years to come. From all appearances, this discovery in the Kennedy is likely to prove the most valuable ever made in the county.

THE ONEIDA.—We are pleased to note the fact that a large vein of very valuable ore has been recently struck in the Oneida, permanent in appearance, and which will add largely to the gold yield of this valuable mine.

BUTTE COUNTY.

The Marysville *Appeal* of Thursday, has the following item: "Some time ago a cinnabar mine was discovered in the hills west of Colusa, not far distant from Wilbur's Sulphur Springs. The ore was tested by the company organized to work it, and it has been found to be rich. Two iron retorts were ordered made at the Empire Foundry in this city, about three months ago, and cinnabar was reduced, and the value of the mine by the result was further confirmed. The works are in charge of Superintendent Caswell, and on Tuesday he ordered two additional retorts, which are to be finished up with the necessary casings as speedily as possible. The company have a rich and extensive quicksilver mine, though they proceed economically by making the mine develop itself, as all expenses of working and for additional machinery are paid for by the products of the two retorts in operation. In a few years an extensive and very profitable quicksilver mine will be in operation on the site of these experimental works.

ITEMS.—The new quartz mill for the Gold Tunnel mine near Grass Valley has been completed. It is to be run by water-power, and will not commence operations until the rainy season sets in; meanwhile rock from the mine is accumulating on the dumps.

The Grass Valley *Union* states that a company of miners under the name of the White Oak Company, have been engaged for some time past in working a ledge in the vicinity of Allison Ranch, supposed to be an extension of the North Star mine. They have sunk a shaft 150 feet on the ledge, the rock taken from which has paid, we are informed, nearly $100 per load.

Lockwood & Co. have located a first extension of the North Star ledge. The quartz taken from the new shaft of the North Star mine is said to be very rich, and the locators have a prospect ahead of a very good paying claim.

CALAVERAS COUNTY.

COAL.—Calaveras *Chronicle*, Sep. 20: We have lately received samples of lignite from the Lancha Plana coal fields that compare well with the best productions of the Diablo mines. The coal sent us recently is of a much better quality than the first samples we received, the result reached by arriving at a greater depth upon the stratum. We are not informed how far below the surface the incline has been driven, but labor is being incessantly prosecuted. There is no longer a doubt but that the Lancha Plana fields will prove permanent and valuable. Prospecting enough has already been done to prove that coal exists there in inexhaustible quantities and of a better quality than is found elsewhere on the coast. We hear that the Central Pacific Railroad Company is negotiating for the purchase of a portion of the fields with a view to extracting coal for use upon their various roads. Should they be successful in their negotiations development will follow that will give fresh impetus to every branch of producing industry in the section in which the fields are situated. As yet we have not had time to practically test the samples sent us, but will do so and give the result in our next issue.

CLEANING OUT THE DITCH.—We understand that a large force of Chinamen is employed cleaning out the Water Company's ditch, between its head and Campo Seco. The sediment from the hydraulics above has settled in the ditch to such an extent as to materially lessen its carrying capacity. As there is but a very small quantity of water at present, and nearly all the claims are laid over until the rains set in, advantage is being taken of the opportunity to put the ditch in good repair.

NEW QUARTZ MILL.—Mr. C. J. Garland, proprietor of the Good Hope quartz mine, at Mosquito Gulch, is building a new mill. The battery will contain eighteen stamps, and when completed will be one of the most substantial and effective pieces of machinery, of a similar character, in the county. The mill is to stand on the site of the old one, but everything except the engine will be entirely new. About 30 men are now employed in putting up the machinery, which will be in readiness for operations in a few days.

EL DORADO COUNTY.

PERSEVERANCE REWARDED.—About 2 years ago some parties commenced sinking a shaft a little to the east of what is generally known as the "Mother Ledge," on top of the hill south of Ollis' old blacksmith shop. At a depth of 50 feet they drifted south on the ledge and took out rock that milled $24 per ton. At a depth of 70 ft. the shaft had to be abandoned on account of bad air. About this time the claim fell into the hands of its present owners, Messrs Mitchell and Holloway, who, nothing daunted, commenced running a tunnel to strike the chimney, on which the shaft was sunk, at a depth of about 120 ft. They have run their tunnel in 260 ft., and have struck a splendid body of ora, showing free gold plentifully. The width of the ledge cannot yet be determined, as they have not yet worked through the ledge, although they have developed a little over 3 ft. of splendid ora. The "hanging" or east wall is slate, and as smooth and well defined as could be wished. The rock resembles that of the old Pacific. We congratulate Messrs Mitchell & Holloway on their present prospects, and hope soon to be able to give a still better report of their mine.

NEVADA COUNTY.

THE WYOMING MINE.—Nevada *Transcript*, Sept. 19: This mine, situated near by, which is owned by San Francisco parties, is being put in thorough working order by Mr. Purinton, Superintendent. The company have erected hoisting works, formerly used by the Mt. Auburn Company, on Ragan Flat. An incline about 500 feet is to be put down as soon as water can be brought to the hoisting works to raise steam. The prospects from the ledge of the Wyoming are very encouraging. At a depth of 80 ft. where they struck water, the ledge was three feet thick, and showed very rich in free gold and sulphureta. Several boxes of the rock were sent to San Francisco, and the owners being satisfied with the result made a contract with J. C. Abbott to move the hoisting works and place them in their present position, which he has done to the satisfaction of the company. A new mill is to be built in the spring, by which time, under the superintendence of Mr. Purinton, the incline will have been sunk, and a large force of men will be employed in taking out rock.

CANADA HILL.—We made an item a short time since, of a very promising ledge having been discovered on Canada Hill, by Mike Enright. Since that time thirty tons of rock have been taken out by two men, and a crushing is now being had at the Oriental mill, on Deer creek.

TUOLUMNE COUNTY.

GOLD AND SILVER ROCK.—Tuolumne *Independent*, Sept. 20: Billy Littlefield discovered, week before last, a vein of gold and silver above the upper reservoir. The croppings show a width of 10 inches, and in sinking upon it, is in appearance a roof-shaped formation—widening out at a depth of 2 ft. very extensively. An assay has been made of near $30 in silver and $20 in gold.

NEW LEAD DISCOVERED.—Capt. Doudle, formerly of American Camp, recently discovered a monster quartz vein measuring 40 ft. wide, near the New Ditch tunnel and south and middle fork of the Stanislaus. The character of the rock is of a greyish color and carries gold and sulphurets. Mr. Sevenig, of Columbis, made an assay of $25.50 to the ton. Capt. Doudle and Jersey Dunster have located the vein.

Nevada.

ELY DISTRICT.

CHIEF OF THE HILL.—Pioche *Record*, Sept. 21: The shaft has now reached the depth of 122 ft. below the 210-ft. level, a progress of 12 ft. having been made in the past week. When the shaft is 30 ft. deeper, or a total depth of 250 ft., it is the intention to cross-cut for the ledge, which, it is believed, will be reached inside of 100 ft. In sinking the last 50 ft., numerous little stringers or feeders of ore and ora-bearing quartz have been encountered, and everything goes to show the near proximity of a valuable ledge. Drifting continues on the 210. ft. level with first-rate prospects. Working 2 shifts throughout the mine.

PIOCHE.—The work in the mine is going on about as usual. There are now on the dump about 70 tons of ore. The ore in which the men are at present working is very good, much better than reported the previous week. Milling will be commenced again about the first of next month. Fair progress is being made in the new shaft, which yesterday attained a depth of 250 ft. The grading for the machinery on this shaft is nearly completed.

SPRING MOUNTAIN TUNNEL.—There is but little change to note since last week. Sinking continues as before, a very satisfactory progress being made, considering the hardness of the ground. The shaft in No. 3 has now reached a perpendicular depth of 100 ft. It is expected to cut No. 2 ledge with the shaft at a further depth of 50 ft. They believe they will find ore be dies in No. 2.

RAYMOND & ELY.—The full force (160 men) is at work. There is a large body of very good ore in the 8th level. The drift from the 9th level is expected to strike the ledge almost any hour. The rock there is extremely hard. It is daily expected also to strike the ledge in the east drift from the 8th level.

ALPS.—The drift on the 300-ft. level is now in 350 ft. Everything looks favorable. The face of the drift is in quartzite. The vein in the winze from the second level is 4 ft. wide. The ore in this vein assays from $75 to $80.

CHAPMAN.—Drifting is being continued with a decided improvement in the appearance of the drift. The ledge is wider, more compact and uniform, and better defined. The ore is better at the bottom of the drift than at the top.

HAVANA.—Everything about this mine continues to have a favorable appearance, as the work goes on. The owners have great and increasing expectations of success, and, we think with reason.

CARGLINE.—The last contract for 100 ft. was completed yesterday. The shaft is now 325 ft. deep, and a new contract for 100 ft. more has been let.

SILVER PEAK.—The ore which is being taken out of this mine is good as usual. The incline is still being sunk. The usual force of men is employed.

AMERICAN FLAG.—There is no change to note in this mine since our last report. The American Flag mill is now crushing ore from the Newark mine.

LOUISE.—A drift is being run east from the 200-foot level. It is now in a distance of 150 feet. There is no change to note.

PACIFIC TUNNEL.—Mr. Church, one of the trustees of the company, will arrive here this evening, and work will be resumed on Monday.

PEAVINE.—The shaft is now down about 100 feet. There are some $300 rock in sight.

STILL SINKING.—The workmen in the Bowery, Portland, Ivanhoe, Piocha and South Side continue to sink their respective shafts.

WASHOE DISTRICT.

YELLOW JACKET.—Gold Hill *News*, September 19: The connecting drift with the Imperial mine, at the 1,300 feet level was completed. Last night a fire broke out in a blacksmith shop, 300 feet north of the shaft, on the 1,300 foot level, which has entirely destroyed the shop, and is still burning in the winze from the 1,100 foot level. The fire has been reached and attacked from both the Imperial and Yellow Jacket sides, and is entirely confined to the winze, so that there is a strong prospect of its soon being subdued. Nothing new to report of the prospecting drifts on the different levels.

CONSOLIDATED VIRGINIA.—The main drift north on the 1,200 foot level, from the Gould & Curry shaft, is making excellent progress, the face in fine ore, which is extracted and deposited on the dump for milling, just as it is taken from the face of the drift without any assorting whatever. The face of the drift is intensely hot, but it is expected that it will make connection with the south drift of the same level from the shaft by the middle of the coming week, which will give a good circulation of pure air, and greatly facilitate the work of cross-cutting the ledge and developing the mine. The water is apparently all drained from this level, so that no further trouble need be looked for in that respect until the main shaft is sunk some distance below the present level. A strong force of men is busily employed in raising the third compartment of the shaft, which was delayed in sinking by reason of the haste to reach the level of the lower tunnel as soon as possible, and begin drifting to connect with the Gould & Curry shaft. All the pump bobs, pump stations and bob pits are now completed, ready to put in the entire pumping machinery as soon as the main upright wheel of the pumping engine shall arrive from San Francisco, where it is now being manufactured. When fully completed, the hoisting and pumping machinery of this mine will be second to none on the line of the Comstock, and we confidently expect that it will not be many months hence before we shall place the Consolidated Virginia on our list of dividend paying mines.

CROWN POINT.—Daily yield 350 tons of ora, which is taken from the 1,000, 1,200 and 1,300 foot levels. The various braasts and ore stopas on the different levels are both looking and yielding splendidly. The north winze from the 1,300 to the 1,400 foot levels is down 72 feet, the bottom in hard coarse quartz, which gives small assays. Sinking the middle winze is making good progress, the bottom being in ora of a good character. Heretofore, owing to the slowness of drawing of the water through the main drift at the 1,400 foot level, but one shift of men has been employed in this winze. The water being now drained, three shifts have been set to work, so that much better progress will be made. The main south drift on the 1,400 foot level is being rapidly driven toward the Belcher line. The main drift south on the 1,500 foot level is being rapidly pushed ahead, the rock in the face blasting and working well.

BELCHER.—Sinking the main inclina is making good progress, the bottom still continuing in hard blasting rock. The main east drift from the inclina at the 1,300-foot level is in 67 feet, the rock in the face blasting quite hard. The winze from the 1,200 to the 1,300-foot level continues in good ora. The winze from the 1,300 to the 1,400-foot level is making excellent progress, the bottom in a fine quality of ora. The main south drift on the 1,300-foot level is in a distance of 365 feet, the face still in good ore. The cross-cut east from this drift is also in good ore. All the ore brasts and stopes throughout the mine are holding out well and yielding splendidly.

CROWN POINT RAVINE.—The south drift from the main west drift is in 125 ft., the last 80 being run through hard blasting quartz with spots and bunches of fine ore. The north drift from the main west drift is in 50 ft., the face in clay, quartz and porphyry. Work in both of these drifts has been suspended for the present, on account of bad air. The main west drift is still pushed energetically ahead to tap the west ledge in which the rich prospects were found a few years ago. It is expected that this ledge will be reached in about 40 ft. more, when some good developments may be looked for.

GOULD AND CURRY.—Daily yield, 35 tons of ore, from the old upper workings. The prospecting cross-cuts east from the main south drift on the 1600-ft. level are still driven steadily ahead, the developments not showing quite so favorably as they were a week ago. The flow of water from all parts of the mine has greatly decreased during the week. The east cross-cuts from the main north drift on the 1500-ft. level are still driven ahead through hard blasting quartz, showing considerable quantities of low-grade ore.

CALEDONIA.—Daily yield, 75 tons of ora, keeping the Sapphire mill steadily running, and gradually accumulating a large surplus at the mill and on the dumps. The ore-breasts on the 500-ft. level are looking finely, and the prospects of the mine were never better than at the present time. Preparations are being made to enlarge the shaft, so as to give greater working capacity, and should necessity require, the company will put in heavier pumping machinery without any considerable delay.

SILVER HILL.—A fine body of ore has been encountered by the north drift at the first station, near the Justice mine. Daily yield, 60 tons of ore, keeping the Bacon mill steadily running. Preparations will be commenced in a very short time to resume sinking the main shaft, which was stopped by the heavy flow of water from the bottom.

WOODVILLE.—The face of the main north drift at the lower level is looking remarkably well, having cut through a body of ora which, from present appearances, will surpass in both quality and quantity anything yet found in the mine. Sinking the new shaft was commenced on Tuesday last, and is making excellent progress. New machinery of the most substantial and approved style has been ordered from San Francisco, and will arrive on the ground, ready to place in position in a very short time.

[Continued on Page 204.]

Our Sugar Trade.

Like that in Tens, the trade in Sugars is almost entirely a growth of the past century, and, from comparatively small beginnings, it has grown to a world-wide magnitnde. On the Pacific Coast we have for some time past made an effort to snpply ourselves with sugar, made from heets; and it has also been snggested that, with irrigation, our sonthern plains are fitted for the cane. But, virtnally, all onr sugars are imported, and have been since the formation of the State. The trade thns created is one of onr most important ones, and has grown with and in proportion to onr growth, and bids fair now to grow with accelerated pace. Coming to ns principally in the raw state, its refining forms one of our foremost industries, and will, if the efforts now making to compete with New York in the Mississippi Valley have any share of success, in a year or two completely eclipse all others. To this portion of the bnsiness we first direct our attention.

The Refineries

Of our city are at present four in uumbcr; the Bay, the California, the Golden Gate, and the San Francisco and Pacific. These refineries are hy far the most extensive and imposing mannfacturing establishments in the city, and have, exclnsive of machinery, cost hnndreds of thousands of dollars. They are gigantic piles which wonld do honor to any manufacturing city in the world. They employ, in the aggregate, hundreds of men, and form most continuonsly-hnsy hives of industry. Au inspection of their appointments and management gives the visitor a higher impress of our enterprise than almost anything else he may encounter outside of the railroad that pierces the Sierras aud the mines that penetrate the bowels of our mountains.

The Bay Refinery,

Which rises from the corner of Battery and Union streets,—the most conspicuous object in the city to the eyes of the passsenger by sea, as his ship approaches the water front,—was established in 1864, nine years ago, by the formation of a large stock company, who saw in the increasing demands of the market opening for tbeir enterprise. On starting, the capital was $250,000; hut six months ago, on acconnt of the greatly larger amonnt of busiuess done, they increased it to $500,000, thus doubling it, and, of coursc, doubling their power of production. Since starting they have introdnced a great deal of

New Machinery,

Of which the most important and iuteresting is that for making Cnhe Sngar according to what is known as the Partz Process, which supplies a desideratnm long felt in the mannfacture of Cnhe Sngars. By tbis process an article of Cube Sugar can be made, much snperior in quality to any heretofore offered, at a much reduced cost for the manipulation connected with the process; at a less cost for the machinery reqnired, and at a large economy of room, time, and fuel for drying. We have seen sngar made ready for shipment, by this process, in four hours from the time it left the vacuum pan. There is but a small amount of this brand of sngar obtainable as yet; hut a fnll supply for the San Francisco market will be furnished in a few weeks. Tbis sngar has not yet been placed upon the Eastern market, hut soon will be. The machinery by which it is produced is a California invention, recently patented by Prof. A. F. W. Partz, of Oakland. The refinery is nine stories in hight, and is 187 hy 125 feet. The several stories are occupied as follows: The first contains the offices, warehouses, pan room, engine room, etc.; the second is entirely devoted to packing; the third is occnpied by the new machinery, the centrifugals, etc.; the next fonr floors to granulating; and the last to melting. In the rear are the boiler and the charcoal kilns, which disconnected from the main bnilding, are in a separate one, 40 feet hy 75 and two stories in hight. Fifty men are constantly employed and there is made from 30,000 to 35,000 pounds of sngar per day. A considerable qnantity of this is exported to Mexico. The proprietors are P. Mayer and Brother, Herman Melse, Henry Voorman, Nicholas Van Bergen aud John Van Bergen.

The San Francisco and Pacific Refinery

Boasts a long and prosperous existence, heing first established in San Francisco in 1857, sixteen years ago. Subsequently, in 1862, the Pacific was establisbed, which amalgamated with the former in 1862, the establishment ever since remainiug nnderthe above name. After working prosperously till last year, new and extensive additions were put up sufficient to increase the capacity of the factory 40,000 pounds per day, and costing $60,000. It was under the superintendeuce of Mr. De Ro, Sr., since deceased, for a period of four years, and is now managed by Messrs. Frederick Roeding and G. Danzel, with Mr. De Ro, Jr., as Business Agent, B. Callaghau, Chief Engineer and Superintendent. When the refinery was first established, it refined only 15,000 pounds per day, whereas it now refines 120,000, an increase in sixteen years of a thousand per cent. —an increase which hears the most hrilliant testimony not only to the hnsiuess qualities of the past managers, but also to the continued progress of the city and State. For such institntions as this grow with their growth. The refinery is not only one of the most complete on the coast, hnt in the United States.

How to Build up the State.

Onr want is people—people to fill our broad valleys, to swarm on our thousand hills, to huild np cities and villages throughout our interior. Larger than Great Britain or Ireland, not mnch less in size than France or Germany, we have only one-fiftieth of the population of the former and less than one-sixtieth that of either of the latter. As large as New York, Pennsylvania and New England, we have but an eighteenth part of their population. And they are not yet conceded to be thoroughly developed. Immigrants are pouring into their seaports day hy day, helping to swell the ranks of their farming population in the country, and that of their manufacturing and commercial in the towns and cities. For want of this immigration we hava not been ahle to push ahead as we ought.

Our Zeal has Outrun our Means

All the while that wa were receiving tha crowds that flocked to the great gold fields of our State, we, or rather our State, flonrished like a young Bay tree, not indeed so much on account of the gold, as on account of the increased population hy it attracted thither. It is hy many doubted whether as a whole the miners of '49 and '50 did not spend a dollar for every one they obtained. But even if they did the land became redeemed from savagery and slavery; the hut of the Indian was replaced hy the villa of the merchant, the cottage of the mechanic and the tent of the miner; and the rude encampment, hy the cultivated and populous city. Fields were enclosed and tilled, palaces arose where huts had been, the solitude of the forest was broken by the axes of the pioneer, the placidity of the waters of the great hay by the fleets of nations, and tbe deep rivers of our valleys became the artery of a

Life-Giving Commerce.

Even if the twelva hundred million dollars worth of gold and silver taken from the earth in California, Nevada, Idaho and Montana, since 1848, cost the same amount of money in its extraction it has rendered available for the purposes of civilization a territory larger than the insular empire of Britain, tha continental ona of Germany, and the republics of France and Spain, and has laid

The Foundation of Nations

In the States and Territories that stretch from Fraser River to the hot deserts of Sonora, and from the blue waters of the Pacific, to the Staked Plains of Texas and the rolling prairies of Kansas, Iowa and Minnesota. Tha foundation has heen laid by the labors of tha pioneers, hy those of our predecessors, and it remains for us to finish tha superstructure. Lika St. Peter's, which slowly raised its head to heaven during three centuries, or like the giant temple of Cologne which bas crept on towards the empyrean during three centuries, tha work of building up an empira hy these western waves and snowy Sierras may be tha work not of years hut of centuries. We can at least build the first story of the mighty edifice, which it shall be reserved for our children nnborn to go on and perfect. But it is only hy a wise and liheral policy, ons which shall draw towards our shores tha superfluous population, the gallant, the hrava, the adventurous, and tha indnstrious of all nations, that wa may hopa to succeed. A great nation is, in its early centuries, like an exotic that must he carefully nurtured and tended until it has reached that stage when it can progress exclusively hy its own

Native Strength and Inherent Vigor.

Notwithstanding all the attractiveness of our land, we labor under some peculiar disadvantages. We are placed at an immense distance, eqnal to that of half the girth of the world with its expanse of continents and oceans, from the great seats, tha nurseries of Caucasian population, and the classes that we most desiro to draw thence would have to expend tba labor of years, before they could obtain the means of reaching the distant shores of tha Pacific. But placed in their way are other and attractive lands wbere thousands, millions of their kinsmen, have already found a home and riches. What wonder then if thay settle down hy the way, and only the scattered remnants, tha waifs and strays,

The Jetsam and Flotsam of Population.

So to speak, ever reacb California or its sister states and territories. This we must remedy or our growth will he slow, our political childhood long continued, and the time of reaching our national maturity postponad to a long distant period of the futura. The United States, of which we form one of the youngest members, if deprived of the healthy and invigorating influences of immigration, would he to-day a small and weak confederation of provinces, a mere strip on the shores of the Atlantic, with no more population and little more commercial vigor than that unhappy hordering republic of Mexico, which many amongst us believe fated at no distant period to perish from internal commotion, and to utterly disappear from amongst the family of nations.

This is evident from the rate of the increase of births over deaths. In 1850 this was 1.32 in every hundred, and at no period earlier thau this was it greater. This would only give to the United States in 1870, a popnlation of nine million six hundred thonsand whites and free colored in 1870, the result of an increasa of 1.32 per cent on the three million and a quarter white and free colored every year since. The halance then of nearly twenty-four millions has been added to the population hy immigration.

Immigrants and Their Children

Have surely huilt up the nation, made roads throngh the forest and the wild, built tha navies that going forth from our porta hava covered the seas, raised cities in the wilderness, and laid the iron road and tha telegraphic lina from sea to sea. The gold and silver brought to tha United States by the eight millions of immigrants who landed there from the year of independence to that of tha taking of the last census, from 1796 to 1870, equalled in amount tha volume of greenbacks now circulating throughout tha land, and at least was donhle tha qnantity of specie ever at any one time existing in the country. And the value of their labor for a year and a half equalled the value of all property not landed that the people of the nation hold at the present time. Were these immigrants and their descendants to he taken from the present population of tbe United States, and all the money that they hrought with them with its interest calculated at aven five per cent, the

Wealth and Power of the Nation

Would vanish like a dream of the night. But tbese immigrants to which the nation owes so much did not voluntarily cast their lot with it without great and surpassing indncements. They ware, freedom from tyranny, the most complete freedom on the earth; the hroad continent was made their heritage, their country, they might occupy it and rule it. The sama inducements ara yet offered hy these States of which we form a part, and tha immigrant has only left the land of his birth for a week before ha sets foot on the land of his adoption. And for the small sum of *fifteen dollars* he can he transported thither. In the same way or in much the sama way that the United States hava been built up

The Dominion of Canada

Is now building itself np. It bas long granted tracts of land on easy terms, and bas dispensed with very cumbersome and tronblesome forms of naturalization. The result is that though hundreds of thonsands not only of the immigranta thither, hut also of those to the manor horn find for themselves homes in the United States every decade, yet within twenty years the popnlation of the colonies composing it has almost donbled. And Canada for half the year is ice-hound—a vast realm of ice and snow, when all field industry is paralyzed and nature seems wrapped in an eternal winding sheet. Canada is however within as easy reach of Europe as are the United States, and tens of thousands go thither in preference, attracted by the ties of national kindred.

Far Away in the Ocean of the South

For the past qnarter of a century, a vast empire has been growing up in the sight of tha nations, or rather we should say, the foundations of one have been laid. The colonies of Australia and New Zealand are slowly but surely increasing in population. They have now attained one of two millions. In another decade it will nnmber three millions—and it has been built up by immigration—altbongh its attractions natural or proletarian are not a tithe of those of ours. Gold first drew its thousands thither, hut the stimulus thenca derived abating, the legislators of these lands have been wise enough to offer extra inducements to the millions of Europe to reach their shores. The Government of Victoria issues passage warrants to such of the inhabitants of the colony aa wish to send for their friends or acqnaintances, and on presentation of these warrants by the agents of ships the Treasury Department pays three-fourths of the amount of passage money. The other colonies have special agents in Great Britain and Ireland who secure immigrants for them—the agents securing a free passage and the government of the colony to which they are sent finding tbem employment on their arrival. In fact, the question of immigratton in these colonies has long been one of the great questions of the day, and parties have been defeated and have attained power and influence according to their views on it.

The efforts made by these ought to he a lesson to us. It is too much to assume that those whose labor is their capital will neglect Canada, Australia and the East, and come hither attracted by the very sound of the name of our State. The majority are not sufficiently well off. No one likes to arrive in a country empty handed, and after paying $400 to convey his family from Ireland, England, Germany, France or Italy, the ordinary emigrant would have nothing left, and might for aught he knew bave to faca starvation, a stranger in a strange land. Whereas, if ha went to Canada or tba States, ha would after expending say $50 for passaga have $350 left, on which to begin tha world, to look around him, and decida on his future plans. Going to Australia he would he as well placed. Even tha immigrant who starts from Europe for this State would if he came overland have most likely his mind unsettled, hy the prosperity of tha Western States, and tha abundance of good land to ha found in them, and so would never reach the Pacific Coast at all. It is necessary therefore that

Special Inducements

Shall ha offered to attract to our shores tha hundreds of thousands who would gladly flock hither, if they only knew how. What shall these inducements be? Aid to reach bers, or land to cultivate? One or hoth. We say both. This matter has already been disscussed in the local press, and the *Chronicle* has long since advocated the devoting of a sum of money either hy the State or from private sources, in order to assist thosa who wish from a distance to come hither. Looked at from tha first point of view the only consideration is whather tha devoting of a certain sum for immigration purposes would pay; whether tbe slight additiou to the taxation that might he necessary would be justified hy the results. For seventy dollars per adult, any number of people could ha transported hither, hy the ships returning after having discharged at Liverpool their cargoes of wheat. In fact their proprietors would he exceedingly glad to carry immigrants hers at that rate, a many of them otherwise ara obliged to return in hallast, earning nothing. Thesa ships would then

Carry Away Wheat and Bring Back People.

If a sum of fifty million dollars were devoted to it, it would carry to our shores in a few years over seven hundred thousand peopla, thus doubling our population. The immigrants would by the valna added to property, by the additional population thus settled down more than donble the wealth of the State, would add to it at least six hundred millions of dollars. If the Legislatnre when it had ceased to he the hattleground not for rival principles, hut for rivals in selfisbness directed its attention to the promotion of

The Solid Interests of the State,

It would take tbe matter up and provide for soma such schema by law. The money could be raised in State honds, the interest upon which at 5 per cent could be met by a rate of ½ of 1 per cent, upon the present value of property in the State, if deemed necessary. But both principal and interest could he met hy holding tha immigrant under honds to pay the money advanced. Paid in fiva years, the whola would not requira from him more than thirty-three and a third cents per week. This is taking the narrow and picayunish view of the matter. Tha donbling of the popnlation would also be the donbling in siza of all our towns and cities, it would be douhling our agricultural population, it would be douhling our merchants' profits, it would be douhling, possibly multiplying three-fold tha present assessed value of property in the State. Out of that principal and interest would it have nothing. The new population would hy tbeir taxation pay the wbole thing many times ovar themselves. In

The Interests of Commerce and Industry

Generally, as a policy, it would be a master stroke. The straggling tradesmen of our small interior towns would become flourishing merchants, and the latter in onr city would have good paying customers, and would all tho sooner reach the hight of their ambition, and acqnire independent fortunes. The employers of the new additions to our population would in one year make a profit ont of their labor at least three times as large as the sum that was expended in bringing them hither. In five years some one would hava made at least $1,250 out of each immigrant. Nay, accounting for the profits made hy tradesmen, that sum might be douhled, so that in reality the present inhahitants of the State would have made as profit out of the immigrants the

Enormous Sum

Of ona thousand four hundred millions of dollars, mora than enough to pay away one half of tha present national debt, and enough to give a capital of seven thousand dollars to every adnlt male at present in the State. The thought of this should itself be an indncement for every one, from the highest to tha lowest, to agitate the matter. And hringing it to a successful issue wa should also he helping to solve the dreaded Chinese question, and to import sufficient white people to make head against the threatened flooding of the State with Chinese. But knowing as well as we do the character of tha Legislature and of the henchmen of political parties, wa know full well that to axpect anything so liheral and enlightened would he utterly vain. If the thing is to be done at all it will have to be the resnlt of

Private Enterprise,

And as a private enterprise it would pay. It conld be done on any scale, and in fact it has been done this year on a small scale, in the introduction of a nnmber of English agricnltural laborers. But it should be dona on a larger. A company with 10,000 shares of $1,000 each, one-fifth paid up, would be sufficient to do it. They would introduce fifty thousand immigrants every year, and obtaining employment for the new arrivals, tha latter would be enahled to pay the amount of their passage money in one year. There is not a large land-owner in the State that could not make his fortuna by participating in this, and by acting wisely and liherally. By bestowing on our immigrants that wished to cultivate tha land, say every alternate section of his land—when divided up into lots—he would enhance tba value of the other half many times more than what that of the wbole would he in a dozen years. A liberal policy of this kind is the only way to build up the State,

Develop its Riches

And pave the way for its occupying a future proud position amongst tha nations of the earth. We want the farmers of Ireland and Great Britain to develop the cereal wealtb of our central and northern counties and those of our coast valleys, to grow wool, and to rear cattle; tha vine dressers of Champagne and of the banks of the cragged and castled Rhine, the mnlberry growers and silk-worn feeders from tha plains of Lombardy, the beet growers from Germany, the silk weavers from Lyons, the cotton-weavers from Manchester, St. Etienne, and Dnsseldorf, and the linen weavers from Belfast and tha north of Ireland. And see what

An Inexhaustible Source of Population

From whicb we have to draw, a source overflowing perennially and which supplies material for nation making at the rate of millions per annum. The annnal increase of the population of Europe is not less than three millions. At tbis rate it conld create every twelve months a new State with the population of Ohio, and retain its present population. It could build up the United States as it now stands in a little over thirteen years, and with beneficial results to itself. England for example has built up her great manufacturing trada in tha present century precisely as the United Statea advanced in population and consequent wealth. With the inexhaustible source of population, with onr equally inexhaustible riches, and with our fertila lands, we ought to be able to draw to us during the coming half century as great an immigration as the United States have during the past. But we must make the way easy—lessen the expense of reaching our shores, and disseminate in Europe information about them. To perform the first we must spend. But this money will return to us an hundred fold in increased national riches and in the opening up and developing of a thousand at present closed up channels of trade and commerce.

Furnace Improvements in Salt Lake.

In speaking of the Utah Qneen Company's works, the Salt Lake *Tribune* says: "We were favored yesterday with a call from Mr. Frank McLain, Superintendent of the Utah Queen Company's works (Carson & Buzzo). He speaks in high terms of praise of Mr. Stephen Veitch's improved furnace, which was put np early in May, and has been in constant use since that time, without stoppage. Dnring this period it has made four runs, and bas done the cleanest work ever known. The inventor of this improved furnace had charge of it about six weeks, when he resigned and was succeeded by Mr. G. Garrish. The present Snperinteudent, Mr. McLain, snceeeded Garrish Jnne 1st, and is still in charge of the works. Tbe improvement introdnced into this furnace is its corner fastenings, which secure it against expansion, and thus increases its durahility. The invention was first tried hy the Swansea Melting and Refining Company, of Chicago, to whom it gave entire satisfaction. From there Mr. Veitch was called to erect the one spoken for Messrs. Carsou & Bnzzo; and Mr. McLain prononnces it good for two months' service yet. A waterjacket furnace held in reserve against accidents, has not been called into nse, and, according to present indications, it is not likely to be. Mr. Veitch uses the Utah firestone in the construction of his furnace, and the serviceable properties of this stoue are fonnd to be nnsurpassed.

Capt. M. E. Smith, formerly connected with Holden's Iron Works, of Chicago, is the general Superintendent of the Utah Queen Company, and this geutleman is highly commended hy Mr. McLain, as very efficient and faithful in his services, and possesses that instinctive knowledge of men which enables him to exercise control without the least friction or misunderstanding. The product of bnllion at these works averages five tons a day, tbe ore extracted averaging eighty to one hnndred onnces to the ton; the infusion of lead is very light. Operations are suspended for the present, in consequence of some defect in the boiler. A new boiler is on the ground, however, which will very shortly he put in place. A large quantity of ore is at the smelter, awaiting the resumption of work."

Salt Lake Iron Works.

We dropped into the Salt Lake Iron Company's works yesterday, and fonnd tbis very useful establishment rnnning fnll handed. Qnite a number of heavy castings are now in hand designed for a fifty-two horse-power engine, which is heing repaired and remodeled for Messrs. Howard & Layton. It is intimated that these two gentlemen design erecting a grist and flouring mill in this city, for use in which this powerful engine is heing prepared. Thirty-five workmen are constantly employed here, and are among the most skillful in their line to he fonnd in the West. Mr. L. V. Sutherland, the manager, shows fine execntive ability, and everything rnns along with the regularity of clockwork. Tbe business consists chiefly of repairs to mining and milling machinery, and tbe great advantage of such an establishment, where castings can be made and repairs executed without the delay occasioned hy sending to a distance, is highly serviceahle to onr whole mining interest. A recent advance of $100 a car on iron carried from Omaha to Ogden Jnnction is complained of as a hurdensome imposition, and bas the effect of raising the price of work, which results unfavorably to all classes. This enterprising company has recently pnrchased the vacant lot north of the bnilding, and we understand they pnrpose pntting np an addition to their shops thereon.—*Salt Lake Tribune.*

OZONE BY SLOW OXIDATION.—If a small quantity of henzine he placed in a large vessel and exposed to direct sunlight for a few days in summer, the vessel heing frequently opened and shaken, the air in the vessel will contain ozone. The same change will take place in diffused daylight, or even in the dark, and at a low temperatnre, hut a mnch longer time is required.

Useful Information.

Advice to Bathers.

Mr. Lambton Young, Secretary of the Royal Humane Society, publishes the following excellent advice to bathers:

Avoid bathing within two hours after a meal.

Avoid bathing when exhausted by fatigue or from any other cause.

Avoid bathing when the body is cooling after perspiration; but bathe when the body is warm, provided no time is lost in getting into the water.

Avoid chilling the body by sitting or standing naked on the banks or in boats, after having been in the water.

Avoid remaining too long in the water but leave it immediately if there is the slightest feeling of chilliness.

Avoid bathing altogether in the open air if, after having been a short time in the water, there is a sense of chilliness with numbness of the hands and feet.

The vigorous and strong may bathe early in the morning on an empty stomach; but the young and those who are weak had better baths three hours after a meal; the best time for such is from two to three hours after breakfast.

Those who are subject to attacks of giddiness and faintness, and those who suffer from palpitation or other sense of discomfort at the heart, should not bathe without first consulting their medical adviser.

To Cut and Bore India Rubber Stoppers.—Dip the knife, or cork-borer, in solution of caustic potash or soda. The strength is of very little consequence, but it should not be weaker than the ordinary re-agent solution. Alcohol is generally recommended, and it works well until it evaporates, which is generally long before the cork is cut or bored through, and more has to be applied; water acts just as well as alcohol, and lasts longer. When, however, a tolerably sharp knife is moistened with soda lye, it goes through the india rubber quite as easily as through common cork; and the same may be said of a cork-borer of whatever size. We have frequently bored inch holes in large caoutchouc stoppers, perfectly smooth and cylindrical, by this method. In order to finish the hole without the usual contraction of its diameter, the stopper should be held firmly against a flat surface of common cork till the horor passes into the latter.—*Ex.*

Uses of Rawhide.—The skin of an animal, whether cow, calf, colt, or horse, that dies on the farm, is worth more at home than at the tanner's. Cut it into narrow strips, and shave off the hair with a sharp knife before the kitchen fire, or in your workshop, on stormy days and evenings. You may make them soft by rubbing. A rawhide halter-strap an inch wide, will hold a horse better, and last longer, than an inch rope. It is stronger than hoop-iron and more durable, and may be used to hoop dry casks and boxes, and for hinges.

Try it on a broken thill, or any wood-work that has been split. Put it on wet, and nail fast. Thin skins make the best bag-strings in the world. A rawhide rope is a good substitute for a chain. It is valuable to mend a broken link in a trace-chain. For other purposes it may be dressed soft.—*Boston Journal of Chemistry.*

Various methods are proposed by which to utilize the blast furnace slag. It is an interesting fact that what was not long since regarded as a troublesome and useless by-product has come to be regarded as one of positive value. Among the latest of these new methods is that by which slag is made to serve as a valuable constituent of an artificial pumice stone. The slag is first granulated by allowing it to fall from a hight into a stream or tank of water; the granules thus formed is mixed with hydraulic cement or ordinary slaked lime. This mass, while soft, is pressed into brick-shaped molds; the bricks, after two weeks' exposure, become hard and durable.

Home Made Picture Frames.—Cut strips of stiff pasteboard, about an inch wide, the desired length, clip the ends to a point, and cover with any nice black cloth, like broadcloth or fine cassimere; lap the ends at the corners of the frames and fasten with a white or gilt button. Bind your picture and glass together with strips of gummed paper and glue, on to the frame. Hang against a white wall. Bronzed paper, which can be bought for eight cents a sheet, may be used instead of cloth, in which case a short strip across the corners of the frame is a great addition to its comeliness.

To Clean Furniture.—An old cabinet maker says the best preparation for cleaning picture frames and restoring furniture, especially that somewhat marred or scratched, is a mixture of three parts linseed oil and one part spirits of turpentine. It not only covers the disfigured surface, but restores wood to its original color, and leaves a luster upon the surface. Put on with a woolen cloth, and when dry, rub with woolen.

Converting Weeds Into Manure.—A ready method of utilizing weeds and garden refuse so as to convert them speedily into valuable manure, consists in laying them in a trench in successive layers, with unslacked lime between, and then covering the whole with earth.

Aseptin for Preserving Meat.—Mix equal parts of pure boracic acid and common alum. To one barrel of meat, 8 ounces of this mixture will be found sufficient. Aseptin for preserving milk or beer is composed solely of boracic acid. Of this, 15 grains added to 2 pounds of milk will preserve it for 120 hours, whereas the same would sour in 36 hours. Beer is said to be improved by it, and the same is doubtless true of cider, porter, etc.

Artificial Coal.—To two drachms of vermilion add one ounce of resin, and melt them together. Have ready the branches or twigs peeled and dried, and paint them over with this mixture while hot. The twigs being covered, hold them over a gentle fire; turn them round till they are perfectly smooth. White coral may also be made with white lead, and black with lampblack mixed with resin.

Salt is a simple remedy for many things. It will cure sick headache, make cream freeze, make the butter come, take ink stains out of cloth of any kind, kill worms, make the ground cool, so it is more congenial to celery, cabbage, etc.; ease the itching pain caused by irritable skin diseases, like hives, etc.; produce vomiting or stop it, as you like, and many other things too numerous to mention.

Temper of Tools.—A correspondent of the Detroit *Tribune* says:—If an edged tool is so hard as to crumble, grind it on a dry stone until the edge turns blue; it will then cease to break and the temper will generally prove to be about right. Scythes and axes are sometimes too hard at the edge, but if treated in this way will give no further trouble.

Polishing Wood in the Lathe.—After sand papering, a very little preparation is required. Fill up the grain with oil and plaster of Paris, wipe off clean, polish with French polish, and finish off with alcohol.—*Samuel Smither, London.*

Parchment Paper.—Dip the paper for a few seconds into a mixture of equal parts of sulphuric acid and water, and immediately wash off the acid, first with pure water, and then with dilute aqua ammonia, and dry.

Good Health.

Light as a Curative Agent.—The statement has been made that Sir James Wylie, late physician to the Emperor of Russia, having attentively studied the effect of light as a curative agent, in the Hospital of St. Petersburg, discovered that the number of patients who were cured in rooms properly lighted, was four times those confined in dark rooms. This led to a complete reform in lighting the hospitals of Russia, and with the most beneficial results. In all the cities visited by the cholera, it was universally found that the greatest number of deaths took place in narrow streets, and on the sides of those having a northern exposure, where the salutary beams of the sun are excluded. The inhabitants of southern slopes of mountains are better developed and more healthy than those who live on the northern sides; while those who dwell in secluded valleys are generally subject to peculiar diseases and deformities of person, these different results being attributed to the agency of light.

Treatment of Cholera.—A physician of New York, whose treatment in cholera has been very successful, writes to the *Times* as follows:

"First let me say that I have no 'stereotyped' mode of practice either for this or any other disease, which is so vauntingly put forth as almost oracular by many, who probably never saw a case of cholera; for it is well known that it assumes a variety of forms, and requires a varied course to suit each individual case. One of the most powerful aids we possess is the steam bath, and in the absence of proper apparatus, it can be effected by placing the patient in bed, and wrapping him in woolen blankets, wrung out of the water as hot as can be borne, and dry blankets over all. Cover the abdomen with a linseed poultice; bottles of hot water about him, and at his feet; ice to quench thirst. Frictions with dry flannels are useful, should they not produce spasms by too much motion of the patient; if so they will do more harm than good, and should be discontinued. Astringents, as tannin, and stimulants, as brandy, ether, ammonia internally, and moist heat externally, is the proper course."

Dr. Pecholier avers that a milk diet, if strictly adhered to, will relieve a person afflicted with certain forms of heart disease. Under the influence of this diet the impulse of the heart diminishes, together with the palpitation, and the congested condition of the face, the brain and the lungs. The patient experiences unexpected improvement, and by the adoption of this plan, life may be prolonged, even in cases where a permanent cure can not be hoped for.

Rest.—The best medicines in the world, more efficient in the cure of disease than all the potencies of the chemist's shop, are warmth, rest, cleanliness and pure air. Some persons make it a virtue to brave disease, "to keep up" as long as they can move a foot, or bend a finger, and it sometimes succeeds; but in others, the powers of life are thereby so completely exhausted that the system has lost all ability to recuperate, and slow and typhoid fever sets in, and carries the patient to a premature grave. Whenever walking or work is an effort, a warm bed and a cool room are the very first indespensible steps to a sure and speedy recovery. Instinct leads all beasts and birds to quietude and rest the very moment disease or wounds assail the system.

A Bath in hot sand is the latest discovery offered by a therapeutist of London, as an "infallible cure" for rheumatism. He claims that the advantage of this mode of treatment consists, especially, in the fact that it does not suppress perspiration like the hot-water bath, but rather increases it; and another advantage it possesses is, that it does not interfere with the respiration of the patient, as does the steam bath, or Turkish bath. It is asserted that the body can endure the influence of such a bath for a much longer time, and a much higher temperature can also be applied. It can be used for infants, and permits of easy application to a part or to the whole body. If this remedy shall prove efficacious for so serious an ailment, it will indeed be a boon to a large class of sufferers.

Fresh Air.—Live out of doors as much as you can. It is the place for a man to be. It is good for the health. A distinguished physician was in the habit of saying, "However bad the air may be out of doors, it is always worse in the house." It is good for the temper. People who are always shut up in a house are apt to grow fretful and peevish. They are prone to acquire narrow views of things, and to worry over trials not worth considering. It is good for the whole character—for strength, hope, patience and fortitude. It expands and softens one's nature, and makes us more charitable.

A Correspondent of the Maine *Farmer*, who frequently gets poisoned during haying by ivy, which grows on his place, recommends the following treatment: Take four ounces of sugar of lead, pulverize it, then dissolve it in one quart of cold water. Apply it to the poisoned parts whenever they begin itching or burning. In case the poisoned parts are badly inflamed and swelled, put on a bread and milk poultice, till the inflamation is out, then take half a cup of sweet cream, put in a teaspoonful of sugar of lead and beat it up until a salve is made of it; then apply it three or four times a day. It will also be well to take a little physic each day.

Chlorozone—A New Disinfectant.—A new preparation under the name of Chlorozone has been promulgated in London, and has even reached San Francisco. It professes to be a superior disinfectant — better than Condy's fluid. The London *Doctor* says it is nothing but Condy's fluid spoiled by the addition of chlorine.

An Anti-Neuralgic Snuff is made in the following proportions: Citrate of quinine 50 centigrs, tobacco, well fermented and irritant, one grain. This has been employed with success in cases of intermittent facial neuralgia.

Utilizing Old Iron.—It is well known that the more frequently wrought iron is worked over, the better it becomes. Acting upon the principle, all the axles with worn journals on the Central Pacific Railroad are now sent to Sacramento, and by a blow of the trip-hammer, the ends are cut off. These ends are thrown in the scrap pile, and are worked over as needed. The amputated axle is now upset, and the ends beaten out to a shape like a hollowed hand. Into this hollow a fifty-pound piece of fresh iron, at white heat, is welded and thoroughly worked upon the axle, which, being re-turned in the lathe, is found to be superior in all respects to completely new axles. Since the plan has been adopted, over ten thousand journals have been thus treated. The rapidity and neatness of the process will repay a visit to the works to witness it.

A manufacturer in Saxony claims to have discovered a method by which certain alloys of aluminum may be advantageously used in the manufacture of hair springs for clocks and watches. Hitherto the main difficulty in effecting this was that the rolling and drawing of the metal destroyed its elasticity, and it is in overcoming this obstacle that the novelty of the discovery consists. To effect this, the wire or band, after having been drawn or rolled to a proper size, is submitted to the action of a plane of peculiar construction, and afterwards trimmed to the proper size by grinding. The superiority of these springs over those of steel consists in their being less liable to oxidize, free from the action of magnetism, and less brittle.

Domestic Economy.

Colcannon.—Take half as much cauliflower as potatoes, both of which must have been boiled previously and completely cooled. Chop them separately and very fine. Put a little milk and butter into a saucepan, and when boiling hot, turn in the potatoes and cauliflower well mixed together. Place a flat tin or dish over them and let them warm through. Then remove the cover, and add salt and pepper to the taste; make the dish boiling hot, and serve. It is an excellent addition to a breakfast or a hot supper, and does not come amiss at a "picked-up dinner." Another way to prepare it is with strips of salt pork. Cut the pork into strips an inch long and as narrow as possible, and fry it to a crisped brown; then turn in the chopped cauliflower and potatoes, and mix them well with the pork strips and fat. Heat very hot, and serve on a platter. It is a delicious dish; and a little vinegar is considered an improvement to it.

Spiced Veal.—Chop three pounds of veal steak, and one thick slice of salt fat pork, as fine as sausage meat; add to it three Boston crackers, rolled fine; three well-beaten eggs; half a teacup of tomato catsup; a teaspoonful and a half of fine salt; a teaspoonful of pepper; and one grated lemon. Mould it into the form of a loaf of bread, in a small dripping-pan; cover with one rolled cracker; and baste with a teacupful of hot water and melted butter, with two tablespoonfuls of butter. Bake for three hours, basting every little while (this makes it moist). Make the day before it is desired for the table; slice very thin, and garnish with slices of lemon and bits of parsley.

How to Make Tomato Figs.—Pour boiling water over the tomatoes in order to remove the skins; then weigh them and place them in a stone jar, with as much sugar as you have tomatoes, and let them stand two days; then pour off the syrup and boil and skim it until no scum rises. Then pour as before, then boil and skim again. After a third time they are fit to dry, if the weather is good; if not, let them stand in the syrup until drying weather. Then place them on large earthen plates or dishes, and put them in the sun to dry, which will take about a week, after which pack them down in small wooden boxes, with fine white sugar between each layer. Tomatoes prepared in this manner will keep for years.

Tea Leaves.—Save the tea-leaves for a few days, then steep them in a tin pail or pan for half an hour; strain through a sieve and use the tea to wash all varnished paint. It requires very little "elbow-polish," as the tea acts as a strong detergent, cleansing the paint of its impurities, and making the varnish equal to new. It clears window-sashes and oil-cloths, indeed, any varnished surface is improved by its application. It washes window-panes and mirrors much better than water, and is excellent for cleaning black-walnut picture and looking-glass frames. It will not do to wash unvarnished paint with it. Whiting is unequaled for cleaning white paint. Take a small quantity on a damp flannel, rub lightly over the surface, and you will be surprised at its effect.

To Bake an Apple Perfectly, can only be done by giving it time, keeping it under heat—steady at that—for from four to six hours, depending upon the size and quality of the fruit. It requires this length of time to reduce it to a fine pulp and destroy all rawness. The flavor is changed and improved, making, if Spitzenburg or some other good fruit, one of the choicest and daintiest of dishes. The point in baking is to give all the heat that can be borne without breaking the skin, thus retaining the moisture.

Jellies. — In making jellies of apricots, quinces, peaches, apples or plums, peel, remove the stones or cores; cut in pieces, cover with water and boil gently till well cooked; then strain the juice gently through a jelly-bag; add a half-pint of sugar to a pint of juice. For berries, a pound of sugar to a pint of juice. Boil till it ropes from the spoon, or from 15 to 20 minutes. In making raspberry jelly use one-third currants and two-thirds raspberries.

Washing Powders. — Dissolve two pounds of soap in five and a half gallons of nearly boiling water, and to this add three large tablespoonfuls of ammonia, and one of spirits of turpentine. In this the linen is to be soaked for three hours, when it is readily cleansed, requiring but little rubbing. Ammonia does not affect linen or woolen fibre as soda does.

Buttermilk Muffins.—One quart of sour buttermilk, one teacupful of sour cream, two eggs, one teaspoonful of soda, a little salt, flour enough to make as thick as pound-cake. Bake in muffin rings, placed upon tins in the oven, from 20 to 30 minutes, according to the temperature of the stove.

Apple Pie.—Peel the apples, slice them thin, add a little molasses, and sprinkle sugar over them; grate on some lemon peel or nutmeg. If you wish to make it richer put a little butter on the top.

MINING AND SCIENTIFIC PRESS

W. B. EWER.....SENIOR EDITOR

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San Francisco:
Saturday Morning, Sept. 27, 1873.

Legal Tender Rates.—S. F., Thurs., Sept. 25.—buying 89¾; selling 90.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Alaska Gold Mines; The Dexter Windmill; An Improved Ellipsograph; Encouragement to Inventors, 193. Our Sugar Trade; How to Build up the State, 198. The Fall of the Railroad Speculators; The Yellow Jacket Fire; The Polaris Expedition; A Novel Railroad, 200.

ILLUSTRATIONS.—The Dexter Windmill; An Improved Ellipsograph, 193. The Clay Street Railroad, 201.

CORRESPONDENCE.—Notes of Trsvel in Utah; The Proposed Bear River Tunnel, 194.

SCIENTIFIC PROGRESS.—The Nature of Sunlight; Free Analyses; New Great Premiums for Discoverers and Inventors; Polar Regions, 195.

MECHANICAL PROGRESS.—Crystallization of Wrought Iron; A Gas-Propelled Boat; Gold Pen Points; Enamelled Iron; The Power of Nitro-Glycerine; Railway Speed; A Great Engineering Feat Accomplished in St. Louis, Missouri, 195.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 196.

MINING SUMMARY from various counties in California, Nevada and Colorado, 197-204.

USEFUL INFORMATION.—Advice to Bathers; To Cut and Bore India Rubber Stoppers; Uses of Rawhide; Home Made Picture Frames; To Clean Furniture; Converting Weeds into Manure; Aseptin for Preserving Meat; Artificial Coral; Temper of Tools, Polishing Wood in the Lathe; Parchment Paper, 199.

GOOD HEALTH.—Light as a Curative Agent; Treatment of Cholera; Rest; Fresh Air; Ohlorozone, 199.

DOMESTIC ECONOMY.—Colcannon; Spiced Veal; How to Make Tomato Figs; Tea Leaves; To Bake an Apple Perfectly; Jellies, Washing Powders; Buttermilk Muffins; Apple Pie, 199.

MISCELLANEOUS.—Comstock's Financial Transactions; The Largest Steam Engine in the World; The Cornucopia Mines, 194. Furnace Improvements in Salt Lake; Salt Lake Iron Works; Ozone by Slow Oxidation, 198. Cornucopia District; A Rich Ledge; Develop your Mines; Chinese Miners; Natural Gas; Caribou District; Gold Mining in Australia, 202.

The Fire in the Yellow Jacket.

The Yellow Jacket has been an unfortunate mine, as regards fires. On April 7th 1869, occurred the great fire by which many lives were lost. The firs of the 20th instant, it is known, can hardly he called an accidental one. Warnings had already been given of danger from the blacksmith's forge on the 1,300-foot level. This forge belonged to the Belcher company and was in the Jacket ground because a more eligible situation was there offered. It was used for sharpening picks, drills and other tools, and might have been placed on the surfaces as well, for all purposes for which it was intended. Other mines in the vicinity had forges below ground, but there is no doubt but that a revolution will be effected by this disaster, and perhaps it will serve to prevent other and greater losses. But this is severe enough. Six men lost their lives, and many others were badly injured.

At about three o'clock, on the morning of the 20th, the fire was discovered. An hour or two previously, timbers in the neighborhood of the forge were found to be on fire, but this fire was put out, it was supposed. After the fire had been burning some time, gas was accumulated and produced an explosion. This and the asphyxiation destroyed the lives of those who were lost. Every effort was made to save them, and their bodies were recovered with great difficulty. The fire did not injure the mine to any great extent, and was soon got under control. Let the lesson taught by this disaster be appreciated, and its occurrence will not have been altogether in vain.

AN OREGON genius, named Branson, is the last man who has discovered "perpetual motion," and won't show anybody the machine in operation.

THE Virginia and Truckee Railroad is bringing large quantities of wood to the various mines and mills on the Comstock for winter use.

The Fall of the Railroad Speculators.

It is to be hoped that the recent financial break in New York will open the eyes of the country to the folly and wickedness of stock gambling, and drive from such business not only all reputable banks, but every respectable individual as well.

If railroads cannot be built without resort to such speculative, illigitimate practices, better let the country wait until there is an actual paying demand for them. As the practice now is, railroads are built upon the proceeds of bonds sold at a discount of from 20 to 35 per cent or more, and then the people are taxed by the extra amount on freight required to bring such bonds up to par; or in other words to pay the full interest on a road which has cost 20 or 35 per cent more than it should have cost. In this we say nothing of subsequent watering of stock, exhorbitant interest demanded, or extravagant or plundering management, to all of which additional charges many, if not most of our roads, are more or less amenable.

There is no doubt but the recent exposures of the scandalous conduct of our railroad managers, as developed in the Erie and other railroad rings, in the Credit Mobiliers, the Contract and Finance Companies and the various other wheels within wheels, added to their late attempts to control Legislatures, Conventions, etc., and to corrupt Congressmen, Senators and others in high places, have been the indirect cause of the late refusal of capitalists, both at home and abroad, to invest farther in railroad securities. Judging from the scandalous management of the past, there was no telling what further and still more disreputable complications might not be attempted or reached in the future. Hence the only safety for prudent and honest capitalists lay in a determination to have no more to do with such a disreputable, speculating class of men; and the consequence was that the bubble burst.

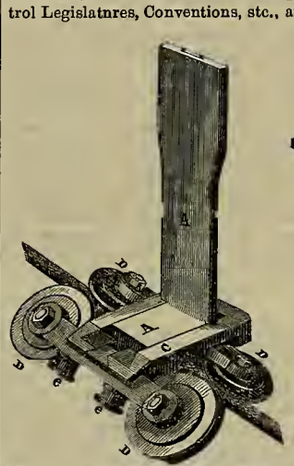

FIG. 4. PERSPECTIVE VIEW OF GRIP.

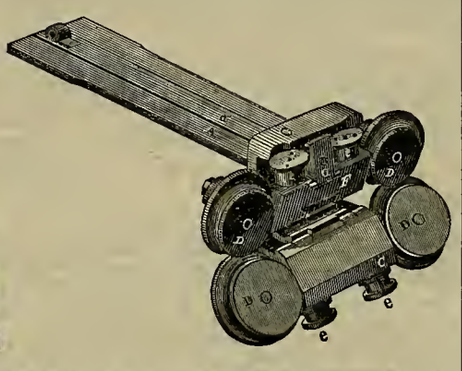

FIG 5. VIEW OF GRIP FROM BELOW.

The people may feel thankful that the end was reached so soon; or otherwise the disaster might have been more wide-spread. As it is, the crash is confined almost exclusively to speculating bankers and brokers. No well managed banking institutions have been seriously moved; while merchants, manufacturers and others who control the great volume of the business of the country, as well as our great producing interests, are scarcely affected at all. There will soon be a clearing up of the financial horizon, and a purer and more healthy condition will follow.

One of the most gratulatory facts connected with the "panic" of Saturday and Sunday, in New York, is the firmness manifested by President Grant, when he was beset by Gould, Vanderbilt, Drew, and others, who made frantic efforts to wring from him the currency reserve belonging to the people, with the millions of which they hoped to save themselves and friends from the fate they so justly merited. The victory won on Sunday last, at the Fifth Avenue Hotel, over the enemies of the people, was not of less importance to the country and his own reputation, than was that in the swamps before Richmond. Beyond the buying of a few more bonds than usual to help out the legitimate banks in the run of Monday—all that he felt called upon to do—the speculators were left to to their fate, and all the people say amen.

It may be years before the companies most adversely affected will recover from the shock. Perhaps it would be well if they never recovered until honest and fair-dealing men are placed at their head. The railroads of the country must come under the management of prudent and honest men, ere the present "unpleasantness" is done away with and peace proclaimed between them and the people. There will be no peace so long as the Fisk school of financiers continue to control the great thoroughfares of the country in the special interest of speculators, instead of that of the people for whose benefit they were *professedly* built, and by reason of which profession every man's homestead in the country has been willingly mortgaged, while many have been even given up their hearthstones to make way for the iron horse.

The Polaris Expedition and its Results.

Since the miraculous escape and return of Capt. Tyson and his party the whole world has been anxiously awaiting tidings of the Polaris and those left with her. Now that news is received of the safety of the second party, the mystery in regard to the death of Capt. Hall and the separation of the crew is as far from solution as ever. The unexplained is always suspicious, and men affix suggestions of hidden evil to whatever they cannot understand.

On the 15th of October, 1872, while part of the crew were on the ice floe at work removing provisions and other necessaries, preparatory to leaving the ship, which was in a damaged condition and leaking badly, the Polaris was torn from its moorings in the ice by a sudden movement of the floe. This was the last seen of the vessel by Capt. Tyson, the story of whose adventures is so well known. The Polaris, without boats, with but half a crew and still leaking, drifted helplessly through the ice, and it was decided to beach her. The winter was passed on shore, the men being assisted by friendly Esquimaux. In the Spring boats were built from material taken out of the ship. In these a perilous cruise southward was made, and on the 23d of June the men were picked up by the Ravenscraig, of Dundee. From her they were taken by the steamer Arctic to England. They are now on the way to this country. A searching investigation will be made, it is said, which will at last give the full history of the expedition.

Notwithstanding its unfortunate end, the cruise of the Polaris has not been without important results. Capt. Hall had prudently left records of the earlier discoveries behind, when the last move northward was made. All papers not now in the hands of Capt. Buddington are probably "cached" in Polaris Bay. The expedition reached a latitude of 82° 14′, said to be the highest yet attained.

COPPER.—James Lewis & Sons' monthly report on ores and metals (Liverpool) for September says that there is a very noticeable reduction in stock of copper during the past month and the shipments from Chili show a falling off as compared with last year. Quotations on the 1st inst., were—ore 45s. 6d. to 16s, 6d.; Regulus 16s. to 16s. 6d. per unit. Lota and Urmenta Bars £84 to £85. Good ordinary brands £85 to £86 per ton on the spot. Chili exports to August 2nd amounted to 19,668 tons Fine as compared with 25,292 tonain same period in 1872, and 26,415 in 1870. Stocks of west coast produce are estimated at 22,043 tons Fine, against 22,658 tons on 1st ultimo.

THE Justice Mining Co. are building a new oredump of larger capacity than their old one.

A Novel Railroad.

Many of our readers have observed the work of constructing a peculiar kind of railroad on Clay street, above Kearny, in this city, which has been put in operation within the past few weeks. We devote this week a considerable portion of our space to the description and illustration of this work, which promises to be of so much importance to the "Russian Hill" portion of the city, and is an important enterprise in an engineering point of view, containing many points of engineering interest, especially in the matter of the economical transportation of passengers through densely populated cities up steep grades.

About four or five years ago a gentleman in this city drew the attention of Mr. A. S. Hallidie to the importance of providing a more reliable and rapid mode of reaching the summit of the hills to the west of the city, and urged him to give the matter his attention. Mr. Hallidie, who was then engaged in experimenting on modes of transporting material over mountainous roads by means of endless-traveling ropes, at once put his mind to work and brought forward his plan, substantially as adopted by the Clay Street Hill Railroad, and which he submitted to a number of engineers, among them, Mr. D. R. Smith, now of Canca, U. S. Colombia, Mr. Huttner, now of Virginia City, and Mr. Eppelsheimer, of this city. The last-named gentleman, a highly educated engineer, was finally engaged to work up the details, has made all the drawings and superintended the construction of the road.

The summit of the hill is 307 feet above Kearny street. This incline runs on Clay street, has a double track, and is 2,800 feet long; the rope then runs down over the summit 500 feet, with an incline of 15 feet, to the engine-house on Leavenworth street. This makes the entire length operated by steam 3,300 feet. The projectors originally thought of running up California street, but that street runs on the south slops of the hills, leaving considerable of the population to the north of it, and does not reach the summit. The mechanical difficulties of running up California street would not have been so great, but it was a question of financial success, and the projectors determined on Clay street, on account of its passing through a denser population, the street itself not being so objectionable as Sacramento street, adjoining, its lower terminus being central, and this street reaching the summit of the hill. Clay street is densely populated the whole distance; it is, however, a narrow thoroughfare, its width being only 49 feet. The grades are as follows:—from Kearny to Dupont, 45 feet; from Dupont to Stockton, 45 feet; from Stockton to Powell, 62 feet; from Powell to Mason, 42 feet; from Mason to Taylor, 48 feet; from Taylor to Jones, 67 feet. The average grade is 580 feet to one mile. Clay street runs at right angles to the above streets, which have widths varying from 45 feet to 68 feet 9 inches. A section of Clay street hill, between Kearny and Leavenworth streets, showing the grades, will be shown in Fig. 1. The steepest grade is 850 feet to the mile.

The system submitted by Mr. Hallidie, and determined on by the company, was that of a constantly traveling endless steel-wire rope, and the conditions to be met were—that the road should present no more serious impediment to ordinary travel than the usual street railroad; that the rope should be below the surface of the street; that the car could be instantly stopped on any part of the road; that it should be worked more economically than with horses; that its mechanical construction and management must be simple and easily controlled, and that no motor should be used in the more populous portion of the street that would frighten horses or endanger lives.

These conditions entailed considerable mechanical difficulty. We have made a pretty thorough examination of the work, and will endeavor, with the aid of the accompanying cuts to impart a clear idea of the mode of construction in detail. Figure 2 shows a longitudinal elevation of the line through which the rope travels, showing a portion of the rope, dummy with gripping attachment, and car with safety brakes attached. Figure 3 shows the method of applying the power from the engine to the rope at the engine house corner of Leavenworth and Clay streets. Figures 4 and 5 represent the gripping attachment which is hereinafter

described. Figure 6 is a cross section of the irnn tnbe, showing the menner in which the rope runs over the pnlleys. It also shows the method of gripping the rnpe by the gripping attachment. When the rope ia gripped by the jaws, the whole attachment is raised, and passes clear of the pnlleys, bnt nnder the surface nf the street. This raising is accomplished by means of screws, shown on the dummy, Fig 2. It will he seen from this that the adjustment of the grip is such that it clears all the pnlleys and evcrything else.

The general arrangement is as follows: An endless steel wire rope, three inches in circnmference, 6,800 feet long, weighing 9,600 ponnds, and made of 114 Johnson & Nephew's No. 16 gange patent steel wire, hardened and tempered, is stretched the whole distance of Clay street, lying in iron tubes, snpported every 39 feet nn 11 inch aheaves. This rope is snpported at every change nf angle at the lnwer orossings on sheaves four feet in diameter, passing around a sheave eight feet in diameter at the lower end nf the line; and at the engine house aronnd two engle sheavcs, each eight feet in diameter, which lead the rope on to the grip pnlleys, also eight feet in diameter (Figure 3), and which are nttached to a patent safety gear driven hy a 12x24 engine.

In addition to the sheavee thet support the rope in the tnbee, at each npper side of each crossing where the incline makes an angle npwards there are eheaves in the tnbes that keep the rope down and from striking the npper part of the tnbe. The patent grip pulleys being furnished at their circnmference with jaws that grip and releese the rope antomatically by the pressure of the rope in the jaws, prevents the rope from slipping; and being eet in motion by the engine actnates the endless rope, one part of conrse traveling np ono tnhe, and the other down the other tnhe. By referring to the cnt showing the cross sections of the tnbe, (Figure 6), it will be seen that there is en opening in the npper side of the tnbe. Thie opening runs the entire length of each tube, forming a long slot seven-eighths of an inch wide. Thie slot ie not immediately over the center of the tnhe but on one side, so es to clear the npper sheavee end to enable the foot of the gripping ettachment to pass by end under the npper sheaves, and over the lower eheaves in the tnbe.

The connection between the cars on the street, and the traveling rope, is made by means of this gripping attachment, which plays an important part in thie system, and is horeinafter described. The cars are made to seat ebout 14 paesengers, but not eeldom es many es 44 have ridden in them, and nine on the dummy, 53 in all. The traction car, or "dnmmy," with the gripping attachment ie shown in Fig 2. This car is attached to the paesenger car firmly, so that there can be no danger of accident. The paeaenger car is amply provided with brakes. In addition to the nsual car brake, there is anothher attachment operated in the same manner as nrdinary brakes, which forces a broad band of wood down on each track immediately under the car. Thie arrangemeut ie ehown in figure 2. Strong iron drags are provided, eo that if an accident should occur in going up the hill, they will immediately catch in the street planking, and prevent the car from going backwards.

Since the road has been in operation, owing to some poor material furnished, the connection between the "dummy" and the passenger car broke, on the steepest grade. Before the car weut more than a few feet the brakes effectually etopped its furthor backward progress, shnwing conclnsively that the precautione adopted were effectnal. The car was crowded. at the time. The "dummy" is also provided with a powerful brake. By thie means the car can be stopped at any place on the route, stoppagee not being confined to street crossinge where it is level. The "dnmmy" and car are connected with "bumpore" eo that the weight of the car going down comes on the rope and is utilized to draw up the other cars on the other track. The brakee are nsually not usod when coming down, except when it is necessary to stop, the car running down with the same speed as the rope, since the gripping attachment in connection with the rope. Figure 4 shows perspective view of the Hallidie patent gripping attachment (which has been improved by Mr. Eppelsheimer) showing it from above, and Fig. 5 shows it from below. A vertical slide, a, works in a standard, A, and is moved np and down by a screw end handwheel. This screw is shown on the cnt of dummy, Fig. 2. The small npper screw going down through the large screw, operates it. At the lower end of this slide, a', is a wedge-shaped block, a. The wedge actnatea two jaws, C, F, horizontally, which open and close according to the direction in which the slide, a', is moved, closing when the slide is moved npwards. These jaws have pieces of soft cast iron placed in them, which are easily removed when worn nnt. These pieces of iron are of proper shape and size inside to grip the rope when they are closed over it.

On hoth sides of these jaws and attached to them are two small sheaves, D, D. These sheaves are held by means of rnbber cushions, e, e, e, e, sufficiently in advance of tho jaws to keep the rope off from the jaws, and at the eame time to lead the rope fairly between them, allowing it to travel freely between the jaws, when they are separated, without touching them. When it is required to grip the rope, this elide, a', ie drawn up by meens of the small screw before described end the wedge, a, at the lower end closes the jews over the rope, et the same time forcing beck the small guide sheaves D, D, on to the rubber cushions. The etandard, A, containing the slide, etc., is enclosed and retained in a cast-iron bracket, shown on the dummy, Fig. 2, and raised and lowered bodily through an opening in the tube from above the surface of the street to the rope in the tube by means of a worm aud nut or rack aud pinion. In this case it ie raised by a ecrew and nut shown on dummy, Fig 2. The cast iron bracket is eecured to a skeleton or traction car called a dummy, as shown in Fig. 2. The dummy is coupled to the passenger cars, at the bottom of the incline, and uncoupled at the top and *vice versa*, horses then being conpled to the car for the level road. At first the connection between the dummy and car was made hy means of spiral springs, to prevent any jar in starting np, bnt this was found nnnecessery. The arrangements made at the bottom of the inclue for keeping tho rope et the proper tension, and taking np the slack, prevent any noticeable jar in starting. As before stated, the rope is constantly in motion, running between sheavee pleced in the tnbe. The slot of the tube is on one side of a vertical line drawn thronh the center of the tnbe, and referring to Figs. 4 and 6, it will be seen that the foot of the gripping ettechment projects on one side, giving it an L shape, enahling the jaws to pass nnder end over the rope sheaves in the tnhe. In nrder to stop the car, the jaws of the gripping attachment are opened slightly; when they release the rope, the guide sheeves take it and the car stops.

The shank of the standard, A, containing the slide, a', which works in the slot of the tube, is ¼ of an inch thick and 5¼ inches wide, there being ¼ play on each side; all the essential parts of the gripping attachment are made of steel.

The turn-table at the foot of the incline, constrived by Mr. Eppeleheimer, is double. The available space at thie point wae very limited, and in view of this, some ingenuity hed to be employed. When the traction cer reaches the foot of the incline, it ie nncoupled from the car and run on to the turn-table, the slot in the turn-table allowing the ehank of the grip to pase freely down. The table ie then turned aronnd one quarter of its circumference, and the track and slots are then brought in the same line. The traction car ie then run on the other table, which is turned back and the traction car is run on the np track. The car ie then brought on the tnrn-table, transferred in the same manner and coupled to the traction car, ready for the ascent. This course ie necessary, as there are double tracks; and the traveling wire rope rnns down beneath one pair and up under the other. As the gripping attachment passee down under the street through the slot, it is necessary to have a slot in both turn-teblee to allow the traction car to be turned.

It hae been found that this method of turning around is rether slow, and other arrangemente are to be made to facilitate affairs. The method adopted at the upper end of the road is more simple. A turn-out ie made for the car, and it runs down to a common single turntable. The dummy is turned as follows: a circular table connects both tracke, with a slot described around a center. A small irou triangle connects the dummy at two pointe with the ceuter of the elot and tube. By pushing on the dummy, the center of thie iron triangle being held in position by appropriate means, the dummy tnrns aronnd in a very emall circle, and ie ready for the return trip when attached to the car, which has already been turned on the tnrn-table.

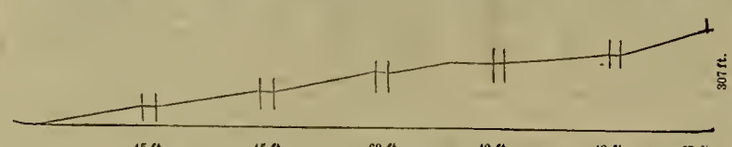

FIG. 1. SECTION OF CLAY STREET HILL.

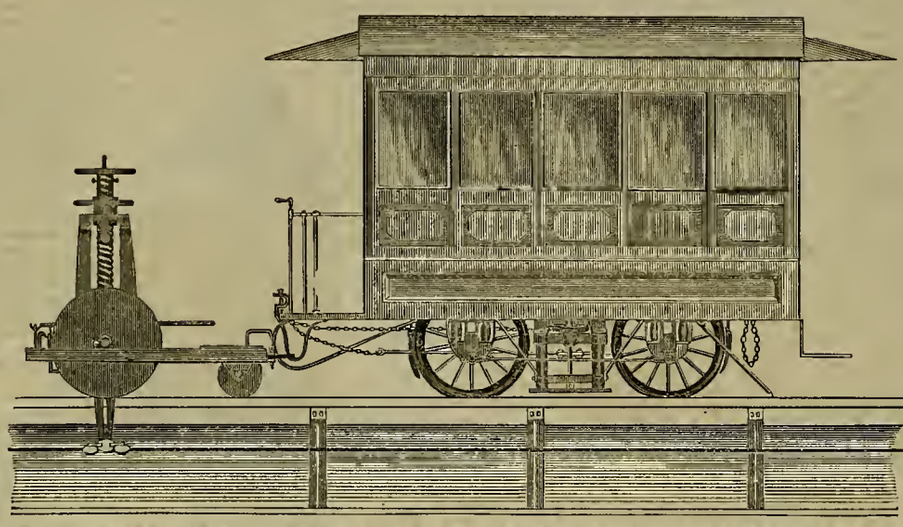

FIG. 2. PASSENGER AND TRACTION CAR, GRIPPING ATTACHMENT, WIRE ROPE AND SIDE SECTION OF TUBE.

FIG. 3. APPLICATION OF POWER TO ROPE.

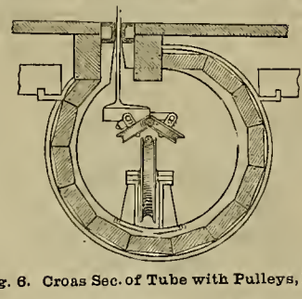

Fig. 6. Croas Sec. of Tube with Pulleys, Etc.

The road haa a gauge of 3 feet 6 inches. An ordinary 20 pond T reil is nsed, which is set flush with the street and presents a neat, smooth appearance. The rope runs at the rate of abont four miles per hour and the ascent is made, including stoppages, in abont 11 minutes, the distance being 3300 feet. The stretching arrangement at the lower end has a counter balance of 3,000 ponnds weight on a donble purchese, which keeps a constant strain on the rope under all circnmstances. The motive power is snpplied by a steam engine nf 30 horse-power and is transmitted throngh one nf Eppelsheimer's patent safety hoisting gears, an exceedingly effective and well adjnsted machine well worth the attention ot mining companies end those using hoisting machinery.

The rope rnns around the inclined horizontal pnlley, shown in Fig. 3, then down under one of the Hellidie patent grip pulleys; over it to a plain pulley and back again to another grip pulley fastened on the samo shaft on the first grip pulley, then guiding back to the second horizontal pulley in the street again. These pulleya are driven by patent geering which works very effectually, and is well worth seeing. This is made so as to stop the rope autometically in case of any nnusnal strain. This machinery is so arranged that the wire rope passes for some distance in open view of the engineer, so that it can readily he examined at any minute. This arrangement was necessary as the rope runs up the middle of the street, and the engine and machinery are of conrse on one side of it.

The office, depot, engine and boiler houee of the company is located et the intersection of Leavenworth and Clay etreets. From this point the hill rapidly descends to the north, eouth and weet, so thet if it ie fonnd edvisable at any time to uso a rope for hanling cars from any nf these directions to the top nf the hill, it can be done from this point. From the intersection of Jones and Leavenworth etreets the road ie en ordinary horee tramway and runs one mile north to the intersection of Cheatnut and Lerkin etreets.

The ntmost vigor has been dieployed in the conetruction of the road, the ground having been first broken on the eecond dey of Jnne of this year, and the first cer wae run over the road on the 2d day of August. At this time it worked so well that an additional block of the eame conetruction, which was before traveled over by horses, waa eompleted. Thie neceesitated some little delay, which the skepticel augured was a prognostication of failure. The road is not ae yet fully stocked, all the care required not heving been finished. It hae beenvery snccessful eince ite inception, the cers running full all the time. The inhebitents of that portion of the city benefitted by the road patronize it well, and numbere of people frequently ride for the novelty of the thing.

W. H. Mertin and Company were the contractors for the construction of the road, end the engine, boiler end driving mechinery were made at the Risdon Iron and Locomotive Works. The gripping attechment and traction cers were made at H. J. Booth & Co.'e Iron Works, and the cars for the road by the Kimball Mennfacturing Company. The wire rope was mede at Hellidie'e Wire Rope Worke. The cost of building and eqnipping the road is ahout $100,000, the incline portion costing about $60,000. Many people coneider the hill the beet portion of the city for residences, and the road brings within five minutea of the city hell a lerge emount of property that wes comparatively worthlees on eccount of the difficulty of eccese.

Much credit ie due the projectore of thie road for the energy they have displayed in pushing the work through in the face of almost insurmountable obstacles, and the engineer of the road, Mr. Eppelsheimer, hae shown great excellence of judgmeut and economy of conetrnction. Many people thought that the road would not be a success and that it would be a dangerone proceeding to draw cars up that steep hill. Every precaution, however, has been taken against accident and all the machinery ie strong and durable. The whole affair wae planned in this city and none but home indnetries were patronized in carrying out the details of the work. The cars are running regnlarly and the machinery all works well.

In Memoriam.—We see by the Nevada *Transcript*, that M. S. Deal who hes been editor of that journal since 1864, is dead. Mr. Deal was horn in Friendship, Maryland, on November 4th 1838 and came to California in 1858. Since his location at Nevada city, Mr. Deal hae filled several pnblic officee; he was twice elected County Superintendent of Public Schools, and served out both terme with honor to himself and great advantage to the public schools; was appointed Justice of the Peace to fill a vacancy, and by the ability and impartiality of his judical conrse won the confidence and esteem of the public. In 1871 he waa elected District Attorney of Neveda county, and proved himself en houest, able and efficient representative of the people's interest in all matters within the purview of his duties. He leaves a wife and three children to mourn his loss.

Cornucopia District.

The following eccount of the new mining district in Nsveda, is by a correspondsnt of the *Call*, and es it is more full than any dsscription we have seen, we give it entire :—"Being deeirous of correcting some wrong impreesions which have crept into the Bay City papers regerding the mines here, I will put down a few fects regarding them, which may be of nse to your many readers. At leest they will eerve to disprove those statemente to which I refer, end by which the Press of your city has been victimized.

History of the Mines.

These mines are, by the new stage road, sixty-five miles northwest of Elko, in Elko County, Nsveda, and were discovered by Mr. Durfee, about three yeare since—he, in company with Mr. Nash, heving been here each successive eummer for three years proepecting for gold. To nnderstand this fully, we must firet nnderstend that to the north and eest lie tbe Burro, Cope, Mountain City, and Bull Run Mining Districts, eech cerrying base mctal and copper-colored ore. To the sonth lies the Tuscarora District, a gold-bearing one. All theee districte are distant in a radins from this center not more then 25 miles, in the South Mountein, War Eagle or Silver City spure of the Great Goose Creek range of mountains, which finds ite western terminus on the North Humboldt River. From these hills spring the head waters of the Owyhee, which, through the Snake and Columbia Rivers, finde an ontlet to the ocean. Tbis has generally been considered a favorable country for gold, Tuscerora heving rich placer and quartz deposits of the yellow metal. Hence these prospectors missed the silver lodes while hunting for gold. Two yeare since Mr. Durfee told J. Coffmen, then at Bnll's Run, that he had a good thing here he believed; but then Bull Run was in its palmy etete, end Coffmen would not leeve his business to visit the new locelity, only 14 miles distent. That summer Durfee broke rock from the Leoperd croppings, but did not know its value. The sulphuret stein he took for slete ; but he hed a piece rich in horn-silver crnshed and assayed iu Elko for gold, and, of course, none wes found. Thus time passed until this seeson, when he made another trial of the place. This time he hed some rock assayed for silver, and wes amezed at the result—over $500 per tou from the Leopard, and over $17,000 per ton from the Chloride ledge. This was about tbe 12th of Jnly, and he returned and located the claims on the 23d of the same month. The news got out, end on the 1st of August a party, consisting of J. Coffman, J. Sinclair and the Tucker boys, came in and located. On the 6th the representative of the Sacremento *Record* and a party errived and made the first report of the minee. Since then the influx of miners hes heen steady, meny of whom bave located claims and become permanent citizens here.

Present Situation of the Mines.

At present, the permanent population is 150 to 200, witb about an equal number of comers and goers. About 30 buildings, including stores, hotels, saloons, etc., heve heen erected, and more are in progress of erection. Up to date 43 claims of all kinds have been recorded, and most of them ere beiug worked. The Leopard, Chloride, Constitntion, Monarch, Nortb America, Orphan Boy, Emme and other ledges have been opened end defined, and, to all outside appearanccs, are destined to prove rich and permanent. There is no wood under 12 or 15 miles, and no sage-hrush near by. Waterpower is ahundent, the Owyhee being being within four miles, and Bull Run Creek within 10 miles of camp. Springs are plenty on the mountain tops and in the ravines, and tbe water thereof is excellent. The winter season will commence about January 1st, when snow fells usually from six to eighteen inches deep. The worst seaeon here ie the spring, and not until July is it considered safe to attempt heavy trensportation over the mountain roads. The whole country is one vast and excellent stock range for snmmer, but too cold on an average for winter grazing. So much for the country, its generel features and locetion. I forgot to add tbet the streams abonnd in tront and salmon, the hills with sage hens and preirie chickens. Now a word as to our status and mines.

Prospects for the Future.

We have hed no Vigilance Committee, and don't expect to need one. We have had jumping of claims, and expect more, for that belongs to a new community. We mnet expect that where a few try to hold the whole country, without working their claims, they will have eome of them taken from them. The morals of the camp will compare favorably with those of older localities. As soon ae conflicting titles shall have been settled, and men know they are developing their own ledges, the prosperity of this camp will have been assured at once; for there ie no question but that a vast amount of wealth is here, to be had for the seeking. The Oracle Mining Company, of Sacramento, have good and rich ledgee, and one company from your city, represented here by Mr. Reese, have also a splendid claim, probably the richest in the camp. The Leopard and Chloride ledges are being worked, with prospects of great returns ; Coffman & Co. are workiug their ledges with flattering prospects. Mr Freeman hae disposed of two-thirds of his half in the Leopard, and I think Mr. Durfee hes sold his half in the same claim, hut it is not yet known for a certainty, or ths prics peid in eithsr cass. In conclusion, there hes been no exodus from the camp, altbough ths *Chronicle* says thers hes been. Men come and go all the time; some, who are plsased with the prospects, stay, others leave disgusted, eeying the country hes 'all been gobbled up.' The latter class wonld prospect for e lode of nothing less than $20-dollar pieces. Silver-hunting is too small game. Meny adverse reports have been made hy disappointed fortnne-seekers; but I assnre yon that no camp in Nevada ever had brighter prospects for the future than Cornucopia has and will heve when the claims now proved shall have been developed. The country, though heavily located with worthless claims, has been herdly prospected as yet, and untold wealth lies here waiting to be developed. I would not advise any one to oome here unprepared to lose some money before they cen bope to win. Bnt the prospector, prepared to search the country, will find in this district ample reward for his labors. In a few weeks' time leborers here will be in demand; at present we have plenty. It is one of the finest openings for a mill I have ever seen, tbonsends of tons of ore that will mill from $100 to $500 being in sight and awaiting a chence to be worked.

With this hasty sketch I close, promising you MORE ANON."

A Rich Ledge.

Near the summit of a mountein south of Taylorville, is the noted quartz ledge, or more properly, gold ledge, owned by A. C. Light, an old resident of Plumas county. The ronte leadiug to the mine is a mere trail and tbe only method of approaching is on foot, owing to the precipitous charecter of the hill. The ledge itself, if it cen he named a ledge, is a mere disjointed thread of gold-beering quartz lying in a hed or slide, of decomposed gneiss. The quertz rerely attains to the thickness of six inches and mainly does not exceed two inches in diemeter. The rich stringer of which Light's ledge ie a fragment, probably ren perellel with the Preminm originelly, end was deflected from its southeest course at this point by volcenic distnrbences.

This queer little quartz mine hes for years heen the most notable gold deposit in Plumes county and has proably excited es much comment as any on this coast. The gold is mainly found at points or pockets, where the stringer of quertz nerrow to a mere seam. Freqnently at these narrow points, Mr. Light takes out from $500 to $700 per day, by simply crnshing the rotten quartz in a hand mortar. The quertz is all richly auriferoue and by careful reduction will pay largely. Light works hie mine alone and in his own rude way pecks out from $4,000 to $6,000 every year. He has dearly earned every dollar which he has realized, however, for the emount of hard work which he has expended upon the claim is enormoue. He hae literally honeycomhed hundreds of feet of tbe mountaiu witb ditches, open cuts, side cuts, shafts and tunnels, and is still delving away. Some years ago, this indomitable worker dug a ditch along the summit, above its present work, which, duiing the epring months, will carry e good streem of water. Strangely enongh, he does not think of utilizing this mighty power in dredging out his ground. The entire mess on botb sides of his ledge is rotten gneiss which could he readily removed by even a smell stream of water, rnd thereby save an enormoue amount of picking which the old man ie now doing. Besides, there are douhtless thonsends of dollers' worth of gold in the wash bclow the ledge. —*Plumas National.*

Develop your Mines.

The following sensihle remarks we find in the Merced *Independent;* they are applicable wherever mining is carried on.

We believe a new era in quartz mining is dawning. Men who own lodes have come to the conclusion that they would know beyond a reasonable doubt whether their property wes valueble or not. Years of waiting for capitelists to come and purchase, at extravagant prices, a mere hole in the ground, has convinced many thet it ie useless to expect a fortune in that direction. They have, therefore, begun to work in eernest, and there is no doubt that they will keep np their good resolves until they heve fairly tested the true character of their claims. With few exceptions, from five to twenty feet is the extent of excavetions on our lodes, and no one who has the leest knowledge of mining is insane enough to believe that he can tell anything about a lode with snch development, nor can it be expected that capitalists will purchase such property. Men who have money to invest in mines at the present day want to know what they are spending their money for. Some few may be willing to squander a few dollars in the hope of making a "strike," but they are not numerous. They have heen deceived too often in that way. Those miners who have no money to spare in developing their mines can do much with their own hands. The placer mining season is well nigh over, and they will have from now until next spring to devote to quartz operations. It will cost them no more to live while at work than it would if they were idle, and in most instances not as much. The cost of tools, etc., will not be great, and the work performed may insure each a fortune. In most cases two men can sink a small shaft to a depth of fifty feet during the coming winter, and as much more the succseding one. A lods at the depth of one hundred feet may bs considered sufficiently developed to know something of its character, and if good, can bs sold for a fair figure, while the cost to the owners, if worked in the manner described, would be inconsidsrable. Besides, in many cases, a sufficient quantity of paying ore will be taken out to defray a good portion of the expeneo.

Chinese Miners.

The Oroville *Mercury* in an article on this snbject says: About a mile outside of Oroville lie the late snrface diggings, which were principally opened by Cbinamen a short time ago, and which it is strange to conccive beve not been long before now worked by white men. We visited the scene of operation lest week, and found a country covered with manzanita and chapperel and hushes over a distence of country about three miles broed hy six miles long. The country where the diggings are located is rolling land of rich loose soil, favorable lookiug for egriculturel qualities as well as minerel. All along the road on eitber side can be seen nothing bnt brush and rough lumber and shake shanties, in size twelve by thirty feet, and shafts and drifts with rough and ancient looking windlasses, rockers, pans, pumps, end otber tools and equipments incident to digging in this class. All the tools and fixtures used ere old, and none of the more improved and scientific ere to be seen in use. For example, they do not even use our etyle of forge bellows, but have a most ingenious and cheap snbstitnte in the form of an oblong box, ebout three feet long, which is mede on the same principle as a steem-chest, and in the box is a piston rod, which, by pulling out end pushing back again, ejects a blest of wind through a rude looking iron nozzle, the whole worked hy two valves on either end of the box. There is bnt one white hlacksmith among ebout four to six thousend of these mining Celestiels, and the other forges are run entirely by the Chinese themselves, They do not use our iron anvils, but as a substitute a species of bleck granite stone, a large flet piece of which they forge end point their picks on, and when tbe stone is broken they substitute a new one and so on, thus seving the expense of an anvil.

They are primitive in all their workinge around tbe shaft, and carry out or imitate the ideas of the California miner over tweuty years ago. We sew one fellow wesbing his sbirt and pents, hanging them upon some tailings to dry, and going round clad in his hoots until they were dry enough to wear. It is indeed singular thet with ell their awkwardness and ignorance of miniug, they cen make such wages as they are certainly doing. We helieve thet if white men hed these mines to develop instead of Chinemen, witb their superior intelligence as practical miners and improved tools and machinery, they could meke more money out of them, and consequently enrich and populate our town and country. Why these claims have lain so long undeveloped seems a myetery, and why white miners of California cannot at present be induced to locate and make money out of them appears just as strange.

Natural Gas.

It is interesting to note the extensive utilization made in various perts of the United States of inflammeble gases which, in certain localities, issue from the eertb in almost incredible volume. From a recent article by Prof. J. S. Newberry, we learn tbat the ges which issues from the salt wells of the Kanaweh Velley has heen for yeers employed es a fuel in the evaporetion of the brine. The town of Fredonia, N. Y., has for more then 40 years been fully or partially lighted by gas whicb issues from springs et that place. In numerous borings made for oil in the West, ges hae been met with in abundance, and was regarded formerly as a useless and inconvenient product. Witbin the past few years, however, tho gas has been largely utilized, and borings have even been mede with the express desigu of obtaining it. In some cases these gas wells heve been highly productive, furnishing an abundence of material for heating and lighting in a most convenient end manageable form. As noteworthy occurrences in this connection, the article in question statee that on tbe Upper Cumberlend, in Kentucky, gas accumnlates in ench quantities beneeth the streta of lower silurian limestone, thet many hundred tons of rock and eartb are sometimes blown out with great violence. The explosions have received the local name of "gas volcanoes." In Ohio gas escapes from nearly all the wells bored for oil in the oil producing districts. One well, in Knox county of that State, has for five years continued to send forth a constant stream of gas, of such enormous volume that when ignited it forms a jet of flame 3 feet in diameter and 15 feet long. Another neighboring well, in West Bloomfield, delivering, according to Professor Wnrtz, about 15 cubic feet per secoud, will probably shortly be utilized to supply, for industrial purposes, the city of Rochester, some 20 miles distant. At Erie, Pa., there are now 25 wells in successful operation, most of which have been bored for the express purpose of obtaining gas. For illuminating purpoees this natural product seems to be much inferrior to that furnished in cities and towns, ranging about seven or eigbt candles; its chief application has thus far been for heating pnrposes, for which it seems eminently qualified. Upon removing by simple means some of the ingredients which diminish its illumineting quelitiss (carbonic acid, etc.), its value as a lighting agent is greatly incrsased *Iron Age.*

Caribou District.

From Dr. Cess, a keen observer, who hes just returned from Caribon District, we bavs gleaned the following interesting information: The information ie of double interest to our readers, not simply because Caribou is a wealtb-producing district, but that Corinne is its outlet, and the precious dust, as fast as unearthed, ie sent here, where the major part is converted into goods and necesseries. The District is situatsd in Idaho, ahout 140 miles distant. It is made up of four principal gulches, whicb all head in Bald Mountain, a prominent peak which looms np 13,000 feet above the sea levsl. Streems formed by the melting enow cleave tbs mountein in four parts, and furnish the motivs power for exceveting the precione metal. Tbe fell of these streams is eo great thet hydraulic mining at any place is practicable. The gravsl, which lies fifteen to twenty feet in depth, on tbe hed rock, all contains more or less gold. Wbers hydraulice are nsed, the average yield per day is $20 to the man, and wbere simply the shovel and sluice-box are used, $3 to $5 per dey to the man is the aggregate prodnction. At present about 100 men are operating in the district, though we deem it safe to say thet five thousand men could find remunerative employment there for et least five yeere to come. As one approaches the mountain the bed rock naturally lies deeper from the snrface. though at tbe ber it ie not too fer down to be worked to advantege. The only gold found in the country is in these streams, and ae tbe summit ie approached the gold seems to increase, not only in quantity but richness. With these facts in view it does not require an over-ecute comprehension to see thet Bald Mountain is tbe grand fountein head wbich supplies Sneke river, and McCoy, Iowa, Bilk, Last Chance and other gulches which form its tributaries. The large nuggete found at the eource are naturally disintegrated by tbe powerful force whicb carried them down to lower streams, which readily accounts for the finer dust found in the washings on Sneke river. The naturel edvantrgee of tbe district are many. In each of the four gulebes mentioned there is a sufficient heed of water for extensive hydraulic mining, which is sweet, cold and limpid, and admirably calcnleted for domestic use. There is an abundance of timber near, end tbe eccess is moet easy—so much so that a light pleasure buggy is all that is neccessary to meke the trip from here to there, Keenan City, a small town, ie situated near tbs mines, and eight miles distant is enother village where the miner can ohtain the every-day necessaries. It eems thet the boye at Cerihou considered they had a good thing end aimed to keep it as quiet as possible, yet it ie but due to the general public that a district with sucb natural edventeges, and of so much intrinsic wealth should he known to them. An eetimete of the fineness of the gold dust can be formed when it is known that tbe $5,000 purchesed by the Doctor went 9.60.—*Corinne Reporter.*

Gold Mining in Australia.

From the statietics of tbe Government dspartment of mines, it appears that there were 52,965 miners in the colony in 1872, of whom 36,141 wero engaged in alluvial mining, and 16,824 in quartz mining. The quantity of gold reised in 1872 wes estimated et 1,331,377 oz. The earnings of alluvial miners during the year, were computed et £95 0s. 6¾d.; of quartz miners et £159 0s. 6¾d., reckoning according to the amount of gold obtained; and the average earnings of each man when the gold was divided amongst the 52,965 was £93 6s. The number of distinct auriferous quartz reefs worked or prospected at the end of 1872 was 3,224, and the total area of the ellnviel and quartz ground which hed been actnelly opened up was 1,026 square miles. The valne of the gold and othcr metels and minerals raised in the colony from the first discovery of tbe gold fields to the 31st of December, 1872, is eetimated by the department at £168,566,033, which is made up principelly from gold, silver, tin, copper and antimony, es follows: Gold, £168,149,305; silver, £5,281; tin, £282,105; copper, £5,810; and antimony, £77,237.—*Melbourne Argus.*

THE product of Alabame coal fields is estimeted at 32,250,000 tons, enough for two thonsend years' consumption of tbe whole world ! Alabema, according to Mr. Cridland, British Consul, shonld produce ten millions of coal per annnm, employing at least one hundred thousand men. And then by the coal beds is an inexhaustible supply of iron, also near the surface. The eaey access to tbe Alabama iron, the immediate proximity of the coal and irou, the good quality of the coal, tbe proximity of limstone used iu reducing some descriptions of ore, the abundance of water power, tbe healthfulness of the country—free from ice, enow, or volcanic eruptions, of timber, etc., all tend to prove the immense value of these mineral regions.

PROF. AGASSIZ hae increased the known fishes of the Amazon from 150 epecies, to 3,000. He says: Some species carried their eggs in their mouth, some carried their yonng in a large fold depending from the lower jaw; some, aftsr casting their eggs, hovered close above them, the agitation of air produced hy their breathing contributing to haeten the process of batcbing.

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16v20-3m JOHN F. LOHSE, Secretary.

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OVEN HOT IN TWO MINUTES.

Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment And the house unheated!

It has no rivol in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it; a little Child can operate it, and

All Recommend It.

Prices from $5 to $25, according to size. Manufactured and sold by WM. FRIEL,

69 and 71 Fourth street, San Francisco.

N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will be sent as sample.

22v25-2amly

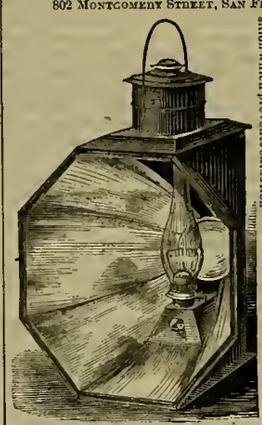
PACIFIC LAMP MANUFACTORY.

EMILE BOESCH,

Patentee and Manufacturer of

LAMPS, LANTERNS AND REFLECTORS.

802 MONTGOMERY STREET, SAN FRANCISCO.



The patent head light represented by this cut is the best and cheapest in the market. We keep constantly on hand the 16-inch, price $14, and the 20-inch, price $18. The two burners, and focus with regulating reflector, price $18. The three burners, and focus only, price $21. The four burners, and focus only, price $24. The three burners use one gallon coal oil in 50 hours, no overheating, and a steady light in any place. We also keep on hand the Patent Central Mill Light, with arched roof and reflectors, either square or tapering toward the bottom which prevents oscillation when suspended and covered with a combustion chimney.

New Mining & Mill Lights.

MANUFACTORY,

N. E. corner Montgomery and Jackson sts., San Francisco, Cal.

21v5-eow-3m

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.

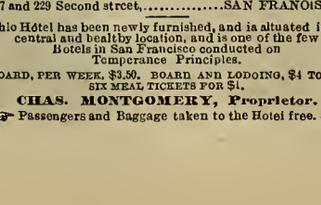
MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

18 and 15 Fremont street, near Market, San Francisco

10v14or

TRY DIAMOND CATARRH REMEDY.


IF OTHER REMEDIES FAIL TO CURE
ASK YOUR DRUGGIST FOR
DR. EVORY'S DIAMOND CATARRH REMEDY AND CATARRH AND COLDS
TRADE MARK
TAKE NO OTHER
PRICE 50c
SENT BY MAIL ON RECEIPT OF PRICE
REMEDY WILL CURE YOU
DR. A.F. EVORY & CO. SOLE PROPRS. 9 POST ST S.F.

12v27-3m

MONTGOMERY'S HOTEL,

227 and 229 Second street,.....SAN FRANCISCO.

This Hotel has been newly furnished, and is situated in a central and healthy location, and is one of the few Hotels in San Francisco conducted on Temperance Principles.

BOARD, PER WEEK, $3.50. BOARD AND LODGING, $4 TO $5. SIX MEAL TICKETS FOR $1.

CHAS. MONTGOMERY, Proprietor.

☞ Passengers and Baggage taken to the Hotel free. ☜

Banking.

SWISS AMERICAN BANK,

Incorporated in Geneva, Switzerland, January 20th, 1873.

HEAD OFFICE, IN GENEVA.

CAPITAL, TWO MILLION DOLLARS

SUBSCRIBED.—ONE-QUARTER PAID UP.

PRESIDENT.....HENRY HENTSCH.

SAN FRANCISCO BRANCH,

SUCCESSORS TO MESSRS. HENTSCH & BERTON,

527 CLAY STREET, S. F.

Directors:

FRANCIS BERTON, ROBERT WATT.

This Bank is prepared to grant Letters of Credit on Europe, and to transact every kind of Banking, Mercantile and Exchange Business, and to negotiate American Securities in Europe. Deposits received.

BILLS OF EXCHANGE ON:

New York,	Hamburg,	Winterthur,	Baden,
Liverpool,	Bellinzona,	Bern,	Chur,
London,	Berlin,	Neuchatel,	Shaffhausen,
Paris,	Frankfort,	Locarno,	Fribourg,
Lyons,	Geneva,	Chaux-de-Fonds,	Lucerne,
Bordeaux,	Zurich,		Aaran,
Marseilles,	Basel,	Solothurn,	Lugano,
Brussels,	St. Gall,	Lausanne,	Mendrisio.

An Assay Office

Is connected to the Bank. Assays of gold, silver, quartz, ores and amalgamets. Returns in coin or bars, at the option of the depositor. Advances made on bullion and ores.

Dust and bullion can be forwarded from any part of the country, and returns made through Wells, Fargo & Co., or by checks. 1v27-3m

Anglo-Californian Bank.

LIMITED.

Successors to J. Seligman & Co.

London Office.....No. 3 Angel Court,
San Francisco Office.....No. 412 California street.

Authorized Capital Stock, $6,000,000,

Subscribed, $3,000,000. Paid in, $1,500,000. Remainder subject to call.

DIRECTORS IN LONDON—Hon. Hugh McCulloch, Ronhon D. Sassoon, William F. Schofield, Isaac Seligman, Julius Lington.

MANAGERS:

R. G. SNEATH, IGNATZ STEINHART,

SAN FRANCISCO.

The Bank is now prepared to open accounts, receive deposits, make collections, buy and sell Exchange, and issue Letters of Credit available throughout the world, and to loan money on proper securities. 2v27-eowbp

The Merchants' Exchange Bank

OF SAN FRANCISCO.

Capital, One Million Dollars.

LEVI STEVENS.....President.
R. N. VAN BRUNT.....Cashier.

BANKING HOUSE,

No. 415 California street, San Francisco.

25v20-qy

French Savings and Loan Society,

411 Bnsh street, above Kearny..... SAN FRANCISCO.

4v27tf G. MAHE, Director.

PROPOSALS FOR MATERIAL

FOR A PORTION OF THE

New City Hall Building.

OFFICE OF THE BOARD OF CITY HALL COMMISSIONERS, corner of Leavenworth and McAllister streets, San Francisco, July 19, 1873.

SEALED PROPOSALS, For Furnishing certain material for a portion of the New City Hall Building and Hall of Records, will be received at the office of the Board, until 12 o'clock, noon, of WEDNESDAY, the 1st day of October, A.D. 1873, for the following:

ROLLED IRON JOISTS,
WROUGHT IRON GIRDERS,

All according to Specifications, Schedule, Plans and Drawings, to be furnished by the Board.

No Bid will be entertained unless made on the "Printed Forms of Proposal," and accompanied by a bond with two good and sufficient sureties, in a sum equal to 10 per cent. of the total sum of the tender, conditioned for the due entering into the contract of the party to whom it may be awarded.

The Bids must be endorsed for the Material proposed to be furnished, and addressed to the Secretary of the Board.

The Specifications, Schedule, Plans and Drawings can be seen, and all further information obtained at the office of the Board, where also Forms of Proposal will be furnished to intending bidders.

The Board reserves the right to reject any or all bids.

Payments will be made monthly, in "City Hall Warrants, of 75 per cent. of the estimated amounts due, and the remaining 25 per cent. when the contract is completed.

The expense of advertising will be charged pro rata to the successful bidders.

P. H. CANAVAN,
JOS. G. EASTLAND,
CHAS. E. McLANE,
se6-4t Board of City Hall Commissioners.

IN PRESS.

A Synopsis of British Gas Lighting.

Imperial 8vo. 950 Pages, 205 Illustrations.

Cloth, - $15.00; Hf. Russia, fine, - $25.00

For Subscription or Advertisements address,

JAMES R. SMEDBERG,

Consulting Engineer, &c., San Francisco. Cal.

6v27-eow1m

PACIFIC OIL AND LEAD WORKS,

SAN FRANCISCO,

Manufacturers of

Linseed and Castor Oils,

OIL CAKES AND MEAL.

Highest price paid for Flax Seed and Castor Beans delivered at our works.

Office, 3 and 5 Front street.

Works, King street, bet. Second and Third. fe15-eow

Directory.

Menzo Spring, Manufacturer of Dr. Bly's

Patent Artificial Limbs. Office and Address 166 Tehama St., Corner of Third, between Howard and Folsom, San Francisco, California. 11v6-3m

DR. AIKIN, 504 Kearny st., N. E. cor. California st., S. F., cures Catarrh, Deafness, Ear Discharges, Deformities, and all Eye, Ear, Lung, Liver, Kidney, Blood, Nerve, Chronic, Special and Men's Diseases. Friendly advice; skillful treatment for all invalids. Medicines supplied. Hours, 10 to 4 and 6 to 8. Call or write. Ladies, married or single, speedily cured of any ill health. 23v26

H. C. BENNETT,

STATISTICIAN.

Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

RICHARD H. STRETCH, Civil Engineer,

City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

GILES H. GRAY. JAMES M. HAVEN.

GRAY & HAVEN,

ATTORNEYS AND COUNSELORS AT LAW,

In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,

SAN FRANCISCO.

JOHN ROACH, Optician,

429 Montgomery Street,

S. W. corner Sacramento,

Sign of) Instruments made, repaired and adjusted

22v17-3m

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,

BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers,

505 Clay street, (southwest cor. Sansome),

15v12-3m SAN FRANCISCO.

J. F. PAGES,

SEAL ENGRAVER,

AND LETTER CUTTER,

Brass and Steel Stamps and Dies, 608 Sacramento street, San Francisco. Orders by express promptly attended to.

J. M. STOCKMAN,

Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry).

N. W. corner Natoma and Fremont streets, S. F. Entrance on Natoma street. 6v23-3m

C. W. MOULTHROP & CO.,

Draughtsmen.

Plans, Specifications, and Estimates for Machinery of all Kinds.

We also design machines to meet particular demands and secure and assign the patents on the same

No. 237 First street, San Francisco. api9-3m

DR. ABORN,

Physician and Operating Surgeon

FOR CHRONIC DISEASES,

213 OEARY STREET, - - - SAN FRANCISCO.

Diseases of a chronic and obstinate character, especially such cases as have for years, or a lifetime, resisted the ordinary modes of treatment, are the class of maladies in the treatment of which Dr. Aborn has become pre-eminent on the Pacific Coast, as well as throughout the Union, and by his success has acchieved for himself an enviable reputation. 23v25-1y

JOSEPH GILLOTT'S

STEEL PENS.

Sold by all Dealers throughout the World.

19v26-1y

Dr. BRENAN.

Dr. Paul M. Brenan, the celebrated Physician, Lecturer and Surgeon, has now permanently established himself in San Francisco; offices, 127 Montgomery street, where he can be consulted free of charge, upon all diseases and weaknesses to which mankind is liable, including Nasal Catarrh, affections of the Head, Chest, Throat, Lungs, and Heart Neuralgic and other nervous diseases. Dr. Brenan is also able, through his thorough knowledge of Physiognomy and Phrenology, to read a man's character at sight, advising him of his principal characteristics, and what path of life it would be best for him to pursue. Phrenological examinations given daily. Correspondence promptly answered.

Private and confidential correspondence may be addressed to lock box 291, post office, S. F.

Offices—127 Montgomery street. Hours, 10 to 12 A.M., 2 to 5 and 6 to 8 P.M.

The Poor prescribed for free every Thursday afternoon. 9v27-3m

GEO. A. RAYMOND,

Purchasing and Commission Merchant,

306 California St., San Francisco.

AGENT FOR

MACNEALE & URBAN'S

Fire and Burglar-proof SAFES.

REFERENCES.—Wells, Fargo & Co., W. T. Garratt, Chas. E. McLane, San Francisco.

Special attention given to orders for Mill and Mining Supplies and Machinery, 6v27-3m

☞ BUY BARBER'S BIT BRACE. ☜

[Continued from Page 197.]

ARIZONA AND UTAH. — Sinking the eest incline is progressing at the rate of 2 ft. per day. Some bunchee of fine ore heve been enconnter d, and the prospecte for finding paying bodiee are excellent. There is not sufficient water to interfere with or impede the sinking. At the depth of 400 ft. a station has been opened and a drift started to tap the ledge, which, it is expected, will be accomplieshed in a very few days, when eome good develop'ments may be looked for.

OPHIR.—The south drift at the 1300-ft. level is still driven ahead with excelleut indications of the development of a fine body of good ore. A cross-cut east from the south drift on the 1465-ft. level, will be started in a very short time, when eome good developments may eoon be looked for. The main west drift, on the 1700-ft. level has reached the west wall, and a south drift been commenced.

JULIA.—The flow of water into the shaft ie elowly, though eteadily, decreasing, there being only 75 ft. of water now above the 1,000-ft. station. A drift has been eterted in a eoutherly direction 100-ft. above the point where ore wae encoustered on the 1,000-ft. level, at the time work was euspened on account of the heavy flow of water.

HALE ANN NORCROSS.—Daily yield, 65 tons of ore, mostly from the eecond and eleventh etation levels. Sinking the main incline is making eteady progress, the rock in the bottom blasting quite hard. The varioue prospecting drifts on the different levels are making fair progress with nothing of interest to report.

JUSTICE.—The main drifts both north and eouth, at the 250-foot level of the Waller Defeat Shaft are still driven ahead without change of interest to report. The eouth drift, 400-foot level of the Justice shaft, is making good progrese. The north drift at the 300-foot level, is still in good ore.

DAYTON.—The dump contains 400 tone of ore awaiting reduction whenever mille can be obtained to crush it. The main west drift at the 310-foot level tepped the ledge ou Thureday last, which is very compact, and showe finely at that point. No water of coneequence hae been met to impede the work.

CHOLAR POTOSI.—Daily yield 140 tons of ore from the ore breaets and workings of the old upper levels. All the ore producing eections of the mine are looking and yielding finely. The cross-cute and proepecting drifts at the fourth etation have developed nothing of valne during the week.

SIERRA NEVADA.—Thie mine continues to yield the nsual amount of good ore, keeping the mill steadily running. The ore hreaets are being gradually extended further to the north and west, the quality of ore showing considerable improvement.

SAVAGE.—Sinking the incline ie making good progress, the rock in the bottom working finely. The several prospecting drifts and cross-cuts on the different levels have developed nothing of material value during the week.

BALTIMORE CONSOLIMATEN. — Work at all points in the mine ie making excellent progress, and the proepecte and indicatioue of the development of a good paying mine, in a very short time, are growing better every day.

DANEY.—The new pumping machinery wae all completed, and draining the shaft of water commenced yesterday. Sinking the shaft will be resumed ae soon ae the supply of water ie exhausted.

OVERMAN. — Sinking the ehaft is making steady progress. The main weet, southweet and uortheast drifts are all being steadily and vigorously driven ahead without change of interest to report.

IMPERIAL.—Work in the mine is progressing ae usual, with nothing new to report. The annnal meeting of the stockholdere will be held in San Francisco on Thureday, September 26th, at one o'clock.

AMERICAN FLAT.—Prospecting through the lower level of the Baltimore Consolidated continnes with nnabated vigor, the indications of the development of rich bodies of ore steadily increaéing.

TYLER.—The main ehaft ie down 165 ft., the einking averaging about 2 ft. per day. The rock in the bottom works well and there is a slight increase of water.

KNICKERNOCKER.—There is little or no change to report of this mine, with the exception of good progress made by both the main west drift, and the sonth cross-cut.

KENTUOK.—Nothing doing on the lower levele of the mine. An assessment of $1 per ehare was levied on the 16th inetant, aggregating $30,000.

UTAH.—Sinking the ehaft is making excellent progress, the rock working well, and the pump draiuing the water with perfect ease.

Colorado.

CENEVA DISTRICT.

THE CONGRESS LONE.—The main or discovery shaft ie 30 ft. deep, and is timbered with good, substantial cribbing, ahout one-half the depth in the ehaft. On the hangiug wall the ore vein is 8 inchee, and on the foot wall 4 inches wide, making 12 inches of solid galena aud gray copper ore, that aesaye from 365 to 415 ounces per ton. Comfortable buildings have been erected over the mine and a dwelling house for the miners. Preparations are being made for working the entire winter.

THE REVENUE LONE, owned by Milner & Callory, ie being worked uuder a lease hy Thompson & Love. The diecovery ehaft, now 44 ft. in depth, has paid for sinking. East of the discovery another shaft hae disclosed a very fine vein of gray copper, 12 inches in width. This lode has been opened at intervals of 30 and 50 ft., for a distance of 400 ft., showing a elrong vein et eech opening ; 17 men are employed. The daily product of thie mine ie 2⅗ tons, worth at the mills in Georgetown 300 ounces per ton, which yields the leeeeee a handeome profit.

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SOIENTIFIO PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., September 23d, 1873.

FOR WEEK ENDING SEPTEMBER 9TH, 1873.*

KETTLE ANN PAN SCRAPER.—Emma J. Whitman, Oakl nd, Cal.

ORE CONCENTRATOR.—John A. Peer, Grass Valley, Cal.

ORE WASHER.—John A. Peer, Grass Valley, Cal.

RECIPROCATING ENGINE.—Albert Staley, S. F., Cal.

——*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's Office, San Francisco:

THE CALIFORNIA OLEOMARGARINE MANUFACTURING CO.—Sept. 20: Capital stock $300,000, in 3,000 shares of $100 each. Directors—West Evans, Vernon Seaman, Frank A. Davis, James T. Dean, Cyrus T. Wheeler, Charles Miller, Charles G. Athearn. The object of the company is to manufacture olcomargarine from fresh suet, and the products from the suet, after the oleomargarine has been extrscted from it, and the marketable products from the oleomargarine, and to acquire such materials and property necessary to carry on such business and to sell and dispose of the same.

WALLAPAI M. AND M. CO.—Sept. 20: Located in Wallapai Mining District, Territory of Arizona. Directors—Hill Beachy, B. W. Mudge, John F. Boyd, Robert R. Givens and Isaac N. Thorn. Capital stock, $1,000,000, in shares of $100 each.

TALISMAN M. CO.—Sept. 24. Location: Middle Bar Mining District, Calaveras County. Directors—J. D. Fry, A. K. P. Harmon, R. F. Morrow, J. W. Gasbwiler and E. J. Coleman. Capital stock, $2,000,000.

VEGETABLE SLICER.—The State Fair *Gazette* eays: B. Essig ehowe a California invention. It is a vegetable slicer, consieting of a revolving bottom to a small vessel which carriee a knife. The vegetable is held against projective, and pressed upon the bottom. The other hand turns a crank, which revolves the bottom. The eame power turns a small grindstone for knivee, and a coffee mill attachment. It ie a really nseful machine for the kitchen. He also ehowe a new joiut for uniting timbere, and a new etyle of extension compass. He exhibits, also, a double-acting press and hoisting machine, which consiets of a heavy perpendicular ehaft, attached to a circular plate, the under face of which has two circular inclined planee. A plate corresponding to thie rests on a cross-bar beneath. A pivoted bar has wheels above and below between theee platee, and running on the inclined planee, when, hy levers, the pivoted bar is turned, the wheels run up the inclines, and the ehaft ie forced npward. When the incline hight is accomplished, the ehaft is wedged up by side notches and a key, and the lower plate and bar elevated and held by catchee in an upright frame till the wheels again apply and a new lift is made. Mr. Essig cau be found at the Sacrameuto Foundry. [Since the above item was printed in the *Gazette*, we notice that a diploma hae been recommended for the double-acting hoieting machine.—EDITORS PRESS.]

TIRE REGULATOR.—One of the Sacramento papers thus describes a tire regulator exhibited at the State Fair: W. W. Bolton exhibits one Kafider tire regnlator. Thie is a simple and useful invention, to which we invite attention. In the felloe of the wheel a pyramidal wedge, in two equal parts, is inserted, cutting the felloe in two. The inner face of each part of the wedge has a emall friction roller. A bolt rune between the wedge parts and has a wedge head. A nut is on the outer end. The whole device is held to place by a brass or iron cap flush with the felloe, the nnt of the bolt being outside. Now when the wood shrinks and the tire is ready to fall off, give the nut a turn; the wedge head is drawn down between the two parts of the divided pyramidal wedge, and moves on the rollers, which, being parted, push aside the felloe and fill up the tire. Of course two of these machines are needed in every wheel, so that the epring required may be divided between the two halves of the wheel. The apparatus works to a charm, is a neeful one, and eavee the expense of resetting tires.

PAYING.—The *Mountain Messenger* says: "Col Baker has taken ont $50,000 from his claim at Gardner'e Point, near Grass Flat. Two years ago he paid $43,000 for the mine and ditch. This ie but one of many euch chancee in this county in hydraulic mining, really the safest kind of mining."

TO THE PUBLIC.

THE PAIN-KILLER manufactured by PERRY DAVIS & SON has wen for itself a reputation unsurpaesed in medicinal preparations. *The universality of the demand* for the Pain-Killer is a novel, interesting and surprising feature in the history of this medicine. The Pain-Killer is now regularly sold in large and *steadily increasing* quantities, not only to general agents in every State and Territory of the Union, and every Province in Britisb America, but to Buenos Ayres, Brazil, Uruguay, Peru, Chile, and other South Amcrican States, to the Sandwich Ielands, to Cuba and other West India Islands; to England and Continental Europe; to Mozambique, Madagascar, Zanzibar, and other African lands; to Australia, and Calcutta, Rangoon and other places in India. It has also been sent to China, and we doubt if there is any foreign port or any inland city in Africa or Asia, which is frequented by American and European missionaries, travelers or traders, into wbich the Pain-Killer bas not been introduced.

The extent of its usefulness is another great feature of this remarkable medicine. It is not only the best thing ever known, as everybody will confess, for bruises, cuts, burns, etc., but for dysentery or cholera, or any sort of bowel complaint, it is a remedy unsurpassed for efficiency and rapidity of action. In the great cities of British India and tbe West India Islands and other hot climates, it has become the *standard medicine* for all such complaints, as well as dyspepsia, liver complaint, and other kindred disorders. For coughs and colds, canker, asthma and rheumatic difficulties, it has been proved by the most abundant and convincing trials and testimony to he an invaluable medicine. The proprietors are in possession of letters from persons of the bigbest cbaracter and responsibility, testifying in unequivocal terms to tbe cures effected and the satisfactory results produced, in an endless variety of cases, by tbe use of this great medicine. That tbe Pain-Killer is deserving of all its proprietors claim for it is amply proved by the unparalleled popularity it has attained. It is a *sure* and *effective* remedy. It is sold in almost every country in tbe world and is becoming more and more popular every year. Its healing properties have been fully tested all over the world, and it need only to be known to be prized.

Sold by all Druggists. sep13

THE friends of Dr. Paul M. Brenan, the apicy lecturer, will be pleased to see, from his card in our advertising columns, that he bas opened an office in this city. *

NOTHING ELSE WILL ANSWER!—If you are hoarse, have a cold, or a hard cough, ask your druggist for *Hale's Honey of Horehound and Tar*. Take nothing else. It is the one sovereign remedy for all complaints of the throat and lungs. Crittenden's, 7 6th Avenue. Sold by all Druggists.

Pike'e Toothache Drope cure in 1 minute. *

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSORANCE Co. J. B Roberts, 315 California Street, San Francieco, is general agent for this Coast. Send to him for circulare and information of thie reliable, first-clase company.

JUST PUBLISHED.

Froiseth's New Sectional, Topographical and Mineral

MAP OF UTAH.

SIZE, 40 BY 56 INOHES; SOALE, 8 MILES TO AN INOH.

Handeomely engraved on etone, colored in counties, and mounted on cloth, ehowing the Counties, Towns, Rivers, Lakes, Railroads, Mines and Mining Districts throughout the Territory, and all GOVERNMENT SURVEYS made to date. Price, mounted, $8; Pocket form, $5.

—ALSO—

New Mining Map of Utah,

Showing the bonndaries of the principal mining districts, some 30 in number, adjacent to Salt Lake City. Price, pocket form, $2.60.

—ALSO—

Froiseth's New Map of Little Cottonwood Mining District and Vicinity,

Showing the location of some 400 minee and tnnnel sites, together with the miues surveyed for U. S. Patent. Price $3. For sale and mailed to any part of the globe, on receipt of price, by A. L. BANCROFT & CO., A. ROMAN & CO., and LECOUNT BROS. & MANSUR, San Francisco. 10v25-tf

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Cincinnati Gold and Silver Mining Company—Principal place of business, San Francieco, California. Location of works, Kelsey Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Directore, held on the 18th day of September, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the corporation, payable immediately in United Statee gold coin, to the Secretary, at the office of the Company, No. 331 Kearny street, San Francieco, California. Any etock upon which thie assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent and advertieed for sale at public auction, and unless payment ie made before, will be sold on Monday, the 10th day of November, 1873, to pey the delinquent assessment, together with costs of advertising and expenses of eale. WILLIAM SMALL, Secretary.

Office, Room 14, No. 331 Kearny street, San Francieco, California. se20

Silver Wave Mining Company—Principal place of business, San Francieco, California. Location of works, White Pine Mining District, White Pine County, Nevada.

Notice is hereby given, thet at a meeting of the Board of Directors, held on the 20th day of September, 1873, an assesement of Forty Cents per share wae levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of said Company. Any stock upon which thie assessment shall remain unpaid on Thursday, the 30th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment ie made before, will be sold on Tuesday, the 25th day of November, 1873, at the hour of 2 o'clock P. M., at the office of the Company, to pey the delinquent assesement, together with costs of advertising and expenses of sale. J. W. OLARK, Secretary.

Office, No. 418 California st., San Francisco, Cal. se25

Day Spring Gold Mining Company—Location of principal place of business, city and county of San Francisco. Location of works, Kelsey Quartz Mining District, El Dorado county, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Fourth day of August, 1873, the several amonnts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Thos G Maguire	20	250	$12 50
Wm J Boiley	Unissued	500	25 00
Benj Morgan	Unissued	600	25 00
A C Rand	17	500	25 00
Danl S Shuts	Unissued	500	26 00
Wm C Pease	Unissued	600	26 00
Mrs T J Bass	Unissued	500	25 00
H Carlton, Jr, Trustee	3	500	26 00
John Sipp	Unissued	600	26 00
Arthur W Moore	Unissued	500	25 00
D R Coleman	Unissued	500	25 00
C J C McAllister, Trustee	16	980	49 00
Mullenbrinck	Unissued	600	25 00
James Wightman	Unissued	600	25 00
Peter Craig	Unissued	500	25 00
T H Maxie, Trustee	11	300	15 00
T H Maxie, Trustee	12	100	6 00
T H Maxie, Trustee	13	70	3 50
D W Emerson	Unissued	600	25 00

And in accordance with law, and an order of the Board of Directors, made on the 4th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by John Middleton, auctioneer, at his office, No. 310 Montgomery etreet, San Francisco, Cal., on the first day of October, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. F. BROWN, Secretary.

Office, 302 Sansome street, San Francisco, Cal. s13

Eureka Mining and Smelting Company—Location of works, Eureka County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment, No. 2, levied on the 21st day of August, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T P Beach, Trustee	9	10	$2 00
T P Beach, Trustee	10	20	4 00
T P Beach, Trustee	11	10	2 00
T P Beach, Trustee	12	20	4 00
T P Beach, Trustee	13	25	6 00
T P Beach, Trustee	14	26	5 00
T P Beach, Trustee	15	60	10 00
T P Beach, Truste	16	50	10 00
T P Beach, Trustee	17	50	10 00
T P Beach, Trustee	28	2000	400 00
T P Beacb, Trustee	29	2000	400 00
T P Beach, Trustee	30	1000	200 00
T P Beach, Trustee	55	300	60 00
T P Beacb, Trustee	64	600	120 00
T P Beacb, Trustee	68	1000	200 00
T P Beach, Trustee	73	600	100 00
T P Beach, Trustee	80	1565	313 00
T P Beach, Trustee	81	1665	313 00
T P Beach, Trustee	82	1528	305 60
S L M Barlow	67	4000	800 00
S F Butterworth	87	2000	460 00
Oliver Eldridge	78	1565	313 00
J B Haggin	62	10	2 00
F A Hyde, Trustee	86	7910	1582 00
A Jacoby	63	1250	260 00
B B Minor, Trustee	53	1240	248 00
B B Miuor, Trustee	54	750	150 00
B B Minor, Trustee	77	1566	313 00

And in accordance with law, and an order of the Board of Dirrctors, made on the 21st day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 217 Sansome street, San Francisco, California, on Monday, the 13th day of October, 1873, at the hour of 12 o'clock M. of said day, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. P. BEACH, Secretary.

Office, No. 217 Sausome street, San Francisco, California. se23

Manhattan Marble Company of California—Location of principal place of bueiness, San Francisco, California.

NOT.CE.—There are delinquent upon the following described stock, on account of assesement levied on the 21st day of August, 1873, the several amounte set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T M Antisele	159	50	$50 00
Francis Blake	108	119	119 00
Jas L Barker	129	119	119 00
John Currey	49	20	20 00
John Currey	60	20	20 00
John Currey	61	20	20 00
John Currey	62	10	10 00
John Currey	53	10	10 00
John Currey	54	10	10 00
John Curr y	66	10	10 00
John Currey	56	10	10 00
John Currey	67	9	9 00
Jno W Coleman	90	100	100 00
Jno W Coleman	91	19	19 00
Fred Cochran	125	119	119 00
F Cunningham, Trustee	165	7	7 00
F Cuningham, Trustee	166	22	22 00
J P Dyer	47	60	60 00
Edwd S Flint	24	60	50 00
Edwd S Flint	25	59	59 00
Cbas Webb Howard	126	119	119 00
T R Hopkins	not issued	119	119 00
J M Lord	13	50	60 00
J M Lord	15	50	50 00
J M Lord	92	19	19 00
Geo C Potter	64	10	10 00
Geo C Potter	65	10	10 00
Geo C Potter	66	10	10 00
Geo C Potter	67	10	10 00
Geo C Potter	68	10	10 00
Geo C Potter	132	10	10 00
Geo C Potter	157	30	30 00
Geo C Potter	168	30	30 00
E Tripp, Trustee	42	119	119 00
George Tait	134	50	60 00
George Tait	135	50	50 00
George Tait	136	19	19 00
H P Wakeles	151	119	119 00

And in accordance with law, and an order of the Board of Directore, made on the 21st day of August, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 319 Pine street, San Francisco, Cal., on the 13th day of October, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office, No. 319 Pine street, San Francisco, Cal. s27

California Silk Manufacturing Company—Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of August, 1873, an assesement of Five Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office, No. 569 Market street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the first day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. D. M. BOKEE, Secretary.

Office, 569 Market street, San Francieco, Cal.

Equitable Tunnel and Mining Company—

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of Works, Alta City, Little Cottonwood, Utah Territory.

NOTICE.—There are delinquent, upon the following described Stock, on account of assessment (No. 3) levied on the eighth day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Saml. Baird	392	10	$1 00
Thomas Berwick	106	25	2 50
J W W Brown	18	20	2 00
Mrs Wm J Bryan	117	25	2 50
Chas S Buell	150	50	5 00
Peter Carter, Trustee	189	25	2 50
Peter Carter, Trustee	190	10	1 00
Clohecy & Wilson	584	67	6 70
Clohecy & Wilson	585	100	10 00
Clohecy & Wilson	586	100	10 00
Clohecy & Wilson	587	100	10 00
Clohecy & Wilson	588	100	10 00
Clohecy & Wilson	589	100	10 00
Clohecy & Wilson	590	100	10 00
Danl N Dole	137	100	10 00
Danl N Dole	138	100	10 00
G W Ellingwood	641	50	5 00
John Esten	277	10	1 00
Wakefield Fenton	578	166	16 60
Wakefield Fenton	579	100	10 00
Wakefield Fenton	580	100	10 00
Wakefield Fenton	581	100	10 00
Wakefield Fenton	582	100	10 00
Wakefield Fenton	583	100	10 00
Julius Fischer	356	50	5 00
Arthur J Foster	233	10	1 00
Arthur J Foster	234	10	1 00
Arthur J Foster	235	10	1 00
Arthur J Foster	236	20	2 00
E M Furbush	43	50	5 00
Jernsha F Griswold	415	666	66 60
J S Higgins	627	20	2 00
J S Higgins	628	20	2 00
J S Higgins	629	20	2 00
J S Higgins	724	2	20
J S Higgins	725	3	30
J S Higgins	726	3	30
J S Higgins	741	1	10
J S Higgins	742	1	10
A Hinds	243	25	2 50
H E Leszinsky	598	50	5 00
Thos McCord	671	10	1 00
J E Mackley	145	10	1 00
Wm A Manning	576	10	1 00
B K Michaelis	170	20	2 00
George S Pet r	239	10	1 00
Joseph Santiff	637	25	2 50
Henry Simons	66	50	5 00
Elijah Sniffen	19	50	5 00
Elijah Sniffen	20	25	2 50
Elijah Sniffen	21	25	2 50
Elijah Sniffen	22	20	2 00
Wm S Smith	465	133	13 30
Richard Watt, Jr	769	20	2 00
J S Jameson	95	100	10 00
J S Jameson	98	50	5 10
Oscar Amos	116	25	2 50

And in accordance with law, and an order of the Board of Directors, made on the eighth day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the company, No. 35 New Merchants' Exchange, San Francisco, California, on Monday, the sixth day of October, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. se20

Gold Run Mining Company—Principal

place of business, San Francisco, Cal. Location of works, Nevada county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, corner of Market and Spear streets, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. C. PALMER, Secretary.

Office, corner of Market and Spear streets, San Francisco, Cal. se16 s&d

Hasloe Mill and Mining Company—Loca-

tion of Works, Gentry's Gulch, Mariposa County, California. Principal place of business, San Francisco.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of August, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Geo H Baker	7	20	$ 15 00
Geo H Baker	8	15	11 25
Mrs Swift	11	10	7 50
Charles Leavett	26	5	3 75
E Riley	29	45	33 75
E Riley	31	5	3 75
T V Jullan	71	10	7 50
O J Eaton, Trustee	98	2000	1500 00
C J Eaton, Trustee	116	500	375 00
F J Jones	105	10	7 50
G W Woods	103	10	7 50
G W Woods	104	10	7 50

And in accordance with law and an order of the Board of Directors, made on the 13th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, 408 California St., room 14, San Francisco, on the 6th day of October, 1873, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. W. TRIPP, Secretary.

Office—408 California St., San Francisco, California.

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D., 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the 4th day of October, 1873, and the day of sale of delinquent stock is hereby postponed until Monday, the 27th day of November, 1873. By order of the Board of Directors. HENRY PICHOIR, Secretary pro tem.

Office, No. 603 Washington street, San Francisco, Cal. San Francisco, Sept. 1, 1873.

REMOVAL.—Office of Homiguera Mining Company is removed to office of L. L. Robinson, No. 603 Washington street, corner Montgomery, San Francisco, Cal.

HENRY PICHOIR, Secretary pro tem.

Ida and Rhoda Lewis Consolidated Min-

ing Company. Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of the above named company, held on the twenty-eighth (28th) day of August, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Tuesday, the thirtieth (30th) day of September, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the twentieth (20th) day of October, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, Room No 12, Express Building, San Francisco, California. au30

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the eighth day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Esten	68	10	$1 00
Jas S Higgins	251	1333	133 30
Jas S Higgins	334	100	10 00
Jas S Higgins	335	100	10 00
Jas S Higgins	338	3	30
Jas S Higgins	339	3	30
Jas S Higgins	742	3	30
Jas S Higgins	343	5	50
Jas S Higgins	367	261	26 10
W u F Van Ness	314	20	2 00

And in accordance with law, and an order of the Board of Directors, made on the eighth day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, California, on Monday, the sixth day of October, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office.—No. 35 New Merchants' Exchange, San Francisco, California. se20

Land Purchasers Association—Office, No.

425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of this corporation, held on the 26th day of August, 1873, an assessment of ten dollars per share (being the 37th monthly instalment on the subscription to the stock) was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 29th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 20th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.

Office, No. 425 Kearny street, San Francisco California.

McMahon Silver Mining Company---Locа-

tion of Principal Place of Business, San Francisco California. Location of Works Scheel Creek District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 4th day of September, 1873, an assessment (No 5) of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 329 California street, room No. 5, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the sixth day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the Twenty-seventh day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. GEO. R. SPINNEY, Sec'y.

Office, 329 California street, San Francisco, California. sep5

Phenix Tunnel and Mining Company—

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Second day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Brophy, Mrs J E	63	25	$2 50
Carter, Peter, Trustee	585	10	1 00
Carter, Peter, Trustee	586	10	1 00
Caddy, D	34	10	1 00
Caddy, D	35	10	1 00
Clohecy, Thos E	82	13	1 30
Clohecy, Thos E	85	50	5 00
Eddy, J M	32	25	2 50
Emery, George T	64	25	2 50
Emery, George T	639	15	1 50
Emery, George T	640	25	2 50
Esten, John	544	25	2 50
Esten, John	545	25	2 50
Esten, John	547	50	5 00
Esten, John	548	50	5 00
Esten, John	605	10	1 00
Esten, John	611	100	10 00
Esten, John	612	100	10 00
Esten, John	635	10	1 00
Fenton, Dr Wakefield	54	15	1 50
Fenton, Dr Wakefield, unissued		1000	100 00
Jackson, Alex	578	25	2 50
Jorey, Wm J	635	10	1 00
Lydston, Jas A	9	25	2 50
Lydston, Jas A	10	25	2 50
Lydston, Jas A	11	50	5 00
Lydston, Jas A	unissued	1000	100 00
McCord, Thos	565	10	1 00
McVicker, John	53	10	1 00
Miller, D D	503	100	10 00
Parlin, H T	512	25	2 50
Parlin, H T	513	25	2 50
Parlin, H T	514	50	5 00
Patterson, Mrs Adeline	135	50	5 00
Patterson, Silas N	56	50	5 00
Patterson, Silas N	508	25	2 50
Randall, H J	15	50	5 00
Randall, H J	30	25	2 50
Randall, H J	unissued	1000	100 00
Randall, H J	unissued	1000	100 00
Sherwood, W H	58	10	1 00
Sherwood, W H	59	10	1 00
Sherwood, W H	60	10	1 00
Sherwood, W H	61	10	1 00
Sherwood, W H	62	10	1 00
Simon, S	2	5	50
Stege, John R	596	50	5 00
Sutton Jr, Chas	568	10	1 00
Sutton Jr, Chas	591	10	1 00
Sutton Jr, Chas	594	5	50
Thompson, Dr J D	57	25	2 50
Thompson, Dr J D	unissued	1000	100 00
Thompson, Dr J D	515	25	2 50
Thompson, Dr J D	516	25	2 50
Thompson, Dr J D	517	25	2 50
Thompson, Dr J D	518	25	2 50
Thompson, Mary E	65	25	2 50
Thompson, Mary E	66	25	2 50
Thompson, Mary E	67	25	2 50
Thompson, Mary E	68	25	2 50
Thompson, Mary E	69	25	2 50
Thompson, Mary E	70	25	2 50
Thompson, Mary E	71	25	2 50
Thompson, Mary E	72	25	2 50
Thompson, R E	73	25	2 50
Thompson, R E	75	25	2 50
Thompson, R E	77	10	1 00
Thompson, R E	78	10	1 00
Thompson, R E	80	20	2 00
Thompson, R E	81	50	5 00
Thompson, R E	76	25	2 50
Thompson, R E	79	10	1 00
Thompson, R E	87	50	5 00
Thompson, R E	88	50	5 00
Thompson, R E	89	50	5 00
Thompson, R E	90	50	5 00
Thompson, R E	91	50	5 00
Thompson, R E	92	50	5 00
Thompson, R E	93	50	5 00
Thompson, R E	94	50	5 00
Thompson, R E	95	100	10 00
Thompson, R E	97	100	10 00
Thompson, R E	99	100	10 00
Thompson, R E	100	50	5 00
Thompson, R E	101	25	2 50
Thompson, R E	103	25	2 50
Thompson, R E	104	25	2 50
Thompson, R E	105	25	2 50
Thompson, R E	106	25	2 50
Thompson, R E	107	25	2 50
Thompson, R E	109	25	2 50
Thompson, R E	110	25	2 50
Thompson, R E	111	25	2 50
Thompson, R E	112	25	2 50
Thompson, R E	113	25	2 50
Thompson, R E	114	25	2 50
Thompson, R E	115	25	2 50
Thompson, R E	116	25	2 50
Thompson, R E	117	25	2 50
Thompson, R E	118	25	2 50
Thompson, R E	119	25	2 50
Thompson, R E	120	25	2 50
Thompson, R E	121	25	2 50
Thompson, R E	122	25	2 50
Thompson, R E	123	25	2 50
Thompson, R E	124	25	2 50
Thompson, R E	125	25	2 50
Thompson, R E	126	25	2 50
Thompson, R E	127	25	2 50
Thompson, R E	128	25	2 50
Thompson, R E	130	50	5 00
Thompson, R E	131	50	5 00
Thompson, R E	133	50	5 00
Thompson, R E	134	50	5 00
Thompson, R E	135	50	5 00
Thompson, R E	136	50	5 00
Thompson, R E	137	50	5 00
Thompson, R E	138	100	10 00
Thompson, R E	74	25	2 50
Walters, Abraham	1	10	1 00
Wilson, E M	83	12	1 20
Wilson, E M	84	50	5 00
Blank name	36	10	1 00
Blank name	42	20	2 00
Blank name	43	20	2 00
Blank name	44	20	2 00
Blank name	50	15	1 50
Blank name	51	10	1 00
Blank name	52	10	1 00
Randall, H J	24	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the second day of July, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, on Saturday, the twenty-seventh day of September, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent Assessments thereon, together with the costs of advertising and expenses of the sale.

CHAS. S. HEALY, Sec'y.

Office—No. 35 New Merchants' Exchange, San Francisco, California.

Stanislaus Water Company—Location of

principal place of business, 526 Kearny street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
A A Wheaton	10	55,250	$1000 00
John Burcham	17	25	50
John Burcham	18	50	1 00
John Burcham	19	75	1 50
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2
E Tripp, Trustee	25	100	2
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
S W Newhall	36	57	1 14
A E McGregor	38	82	1 54
E A Richardson, Trustee	55	55,250	1125 00
D E Hayes, Trustee	56	25,500	510 00
Charles Elliot	53	10,000	200 00
Charles Elliot	54	10,000	200 00
Charles Elliot	55	9,998	81 40
Charles Elliot	55	20,000	400 00
S O Field, Trustee	58	12,000	240 00
S O Field, Trustee	59	5,000	120 00
S O Field, Trustee	50	7,886	3 97

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 526 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON O. TRIPP, Secretary.

Office, No. 526 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 6th day of October, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

San Francisco Co-operative Land and

Building Association. Office and principal place of business, 306 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co operative Land and Building Association, up to, and including those for the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale. By order of the Board of Directors.

H. B. CONGDON, Secretary.

San Francisco, September 20, 1873. se20-1m

Southern Pacific Consolidated Gold Min-

ing Company. Principal place of business, San Francisco, California. Location of works, Kern County, California.

Notice is hereby given that at a meeting of the Board of Directors of the above named company, held on the 11th day of September, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assesament shall remain unpaid on Saturday, the twenty-fifth (25th) day of October, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Tuesday, the twenty-fifth (25th) day of November, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale

C. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California. sep13

Stevens Pacific Smelting and Mining Com-

pany—Principal place of business, San Francisco, Cal

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of September, 1873, an assessment of ten cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at 320 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the third day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. M. KNIGHT, Secretary.

Office, 320 Montgomery street, San Francisco, California.

Sapphire Silver Mining Company.—Lo-

cation of principal place of business, No. 438 California street, San Francisco, California. Location of works, Gold Hill Mining District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 5th day of September, 1873, an assessment (No. 2) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 30th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, Cal.

Table Mountain Alpha Mining Company—

Location of works, Table Mountain District, California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment (No. 1) levied on the 8th day of August, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T H Holt	40	901	$112 63
Wm L Ustick, Trustee	50	500	62 50
Wm L Ustick, Trustee	51	500	62 50
Wm L Ustick, Trustee	53	500	62 50
Wm L Ustick, Trustee	55	100	12 50
Wm L Ustick, Trustee	57	100	12 50
Wm L Ustick, Trustee	59	300	37 50
A Smith	11	500	62 50
A Smith	44	225	28 25
A Smith	62	500	62 50
A Smith	63	500	62 50
A Smith	54	90	11 25
B Marks	33	100	12 50
B Marks	36	450	56 25
W H Sharp	55	25	3 13
T F Crouise, Trustee	65	450	56 25
Lucinda Foreman	20	100	12 50
John Ashton	29	100	12 50
John Ashton	30	100	12 50
John Ashton	28	300	37 50
John Ashton	25	500	62 50
E A Richardson, Trustee	12	500	62 50
E A Richardson, Trustee	10	500	62 50

And in accordance with law, and an order of the Board of Directors, made on the 8th day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 438 California St., up stairs, San Francisco, California, on Tuesday, the 7th day of October, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. F. CRONISE, Secretary.

Office—438 California St., up stairs, San Francisco, California. sc20

Union Gold Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Howland Flat, Sierra County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 12th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Emeric, Joseph	232	200	$100 00
Emeric, Joseph, Trustee	252	100	50 00
Nelson, Mrs E	59	20	10 00
Austin, A C	55	15	7 50
Stuart, W A	90	7	3 50
Kilgour, L, Trustee	125	10	5 00
Kilgour, L, Trustee	145	40	20 00
Gilbert, Mrs E W	250	25	12 50

And in accordance with law, and an order of the Board of Directors, made on the 12th day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, Room No 22, Merchants' Exchange Building, California street, San Francisco, Cal., on Monday, the 6th day of October, 1873, at the hour of 1 o'clock P. M. of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

ALFRED K. DURBROW, Secretary.

Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal. se17

Washington Mining Company—Principal

place of business, San Francisco, California.

NOTICE.—There are delinquent upon the followiug described stock, on account of assessment levied on the 11th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T B Wingard, Trustee	10	200	$400 00
Jno F Boyd	24	100	200 00
Thos Bell, Trustee	26	150	300 00
Geo E Webber, Jr	55	100	200 00
W H Tuttle	49	175	350 00
Moses L Rodgers	53	50	100 00
Moses L Rodgers	55	50	100 00
J W Gashwiler	58	100	200 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of August 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at Maurice Dore's, 317 Montgomery St., San Francisco, on the 10th day of October, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office—Room 13, No. 318 California street, San Francisco, California. se18

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,

GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Particular attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

---

THE RISDON

Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1863.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore,	Jesse Holladay,	C. E. McLane,
Wm. Norris,	Wm. H. Taylor,	J. B. Haggin,
	James D. Walker.	

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-oy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC

Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

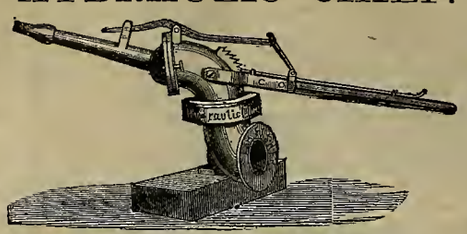
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by E. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

---

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,

SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

Foundry Facings of the Best Quality

FOR SALE AT

THE WHELPLEY & STORER MILL.

☞ These are WARRANTED equal to the BEST.

5v57-3m

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

BLACK DIAMOND FILE WORKS.

G. & H. BARNETT,

Manufacturers of Files of every Description,

Nos. 39, 41 and 43 Richmond street,

Philadelphia, Pa.

MILL SAW FILES A SPECIALTY.

18v25-1y

SAN FRANCISCO

SCREW BOLT WORKS,

PHELPS BROTHERS, Proprietors

MANUFACTURERS OF ALL KINDS OF

Machine Bolts, Bridge Bolts, and Ship or Band Bolts.

13, 15 and 17 Drumm Street, San Francisco. 4v24ly

Brittan, Holbrook & Co., Importers of Stoves and Metals. Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 178 J St., Sacramento. mr-1y

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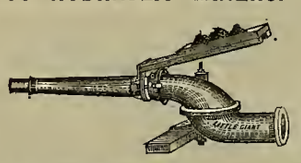
Machinery.

TO HYDRAULIC MINERS.



I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliences, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

This Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

If you want a Machine that will give satisfaction, and do not went to pay for it twice over, buy an Improved LITTLE GIANT.

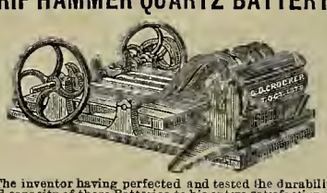
For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

CROCKER'S PATENT

TRIP HAMMER QUARTZ BATTERY.



The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

17v26-tf G. D. CROCKER, 315 California street, San Francisco.

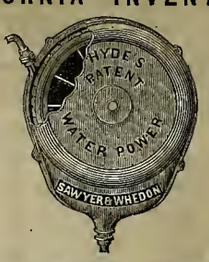
STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

10v27tf No. 32 FREMONT STREET.

CALIFORNIA INVENTION.

CALL AND EXAMINE.



For Sewing Machines, Dentists' and Jewelers' Lathes.

This Invention can be applied to the operating of all kinds of Sewing Machines, Dentists' and Jewelers' Lathes. Its simplicity is only equaled by its durability; it avoids the use of the treadle, which is ungraceful and injurious.

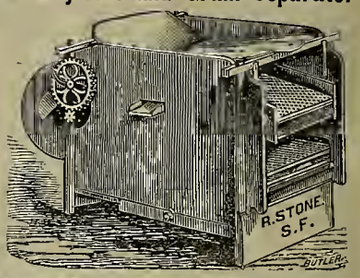
Application made by the Agents for the Pacific Coast.

SAWYER & WHEDON,

1v6eowbp 633 Washington street San Francisco.

THE PATENT

Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to

R. STONE,

3v6-3m-sowbp 422 Battery street, San Francisco.

Parshall's Lubricator for Steam Engines.

These Lubricators are suited to all steam Engines, delivering the lubricant, whether tallow or oil, to every kind equally well. They are subject to be placed in the steam pipe, steam chest cover or the cylinder head, as is desirable. They admit the steam freely to the lubricant, which is constantly saturated with it and kept thereby in a free liquid state. When condensation of the steam begins, the water settles below and raises the oil to the top. The oil is fed from the top of the cup, through a tube which passes down through its center. All sediment in the oil settles to the bottom of the cup, and the oil, on going to feed the engine, is always pure. By simply turning a screw in the top of the cup, the flow of oil is regulated to suit the requirements.

We have numerous testimonials from Railroad Engineers and others, speaking in the highest terms of their superiority. The first one put in use on this coast is at the Pacific Saw Manufactory in this city. Parties desiring further information will please send for descriptive circular and price list, or call at our office.

WIESTER & CO.,
General Agents for the Pacific Coast,
17 New Montgomery street,
Grand Hotel Block, San Francisco.

The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast. 337 Kearny St., S. F.

PRICE, $50. 32v27eow-bp-1y

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

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AVERILL'S

CHEMICAL PAINT

Of any desired Shade or Color,

Mixed ready for application, and sold by the gallon

It is Cheaper, Handsomer, more Durable and Elastic than the best of any other Paint.

Office, corner Fourth and Townsend streets, San Francisco. Send for sample card and price list.

15v23-3meowbp HEALY & JEWELL, Agents.

Jos. THORNHILL, 1612 Mason Street, near Green.

C. W. WHITE, 47 Cley Street.

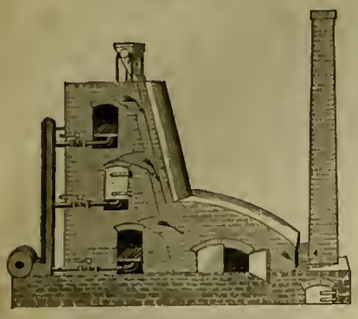
JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom,

SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks

Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. GEO. D. WYMAN,
5v27-3m Superintendent.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street,

San Francisco

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,

San Francisco.

JOS. WAGNER,

113 and 115 Mission Street.....SAN FRANCISCO.

MANUFACTURER OF

FRENCH BURR MILL-STONES

—AND—

Portable Mills.

—ALSO—

MILLS

Especially adapted for

GRINDING QUARTZ.

AGENT FOR DUFOUR & CO.'S CELEBRATED

Dutch Anchor Bolting Cloths.

BOLTING CLOTHS MADE UP.

Eureka Smut Machines, Bran Dusters, Mill Irons, Spindles, Bails, Drivers, Steps, Regulating Screws, Silent Feeders, Pulleys, Proof Staffs, Hoisting Screws, Balls and Pins, Conveyor Flights, Plaster and Leather Belting.

Mill Picks, Mill Picks Dressed, Mill Stones Repaired and Rebuilt.

Mill Stones Balanced with FELLENBAUM'S PATENT BALANCE, of which I am sole proprietor for California, Oregon, and Washington Territory. 15v26tf-2am

LIFE

Insurance Company,

OF HARTFORD.

Assets, - - - - -	$35,000,000
Surplus, Over - - - -	5,000,000

Rato of Expense to Receipts, 7. 53.

DIVIDENDS PAID ANNUALLY,

ommenci ng on Life Policies, with from 20 to 25 per cent. the First Year, 25 to 30 the Second, and increasing every year, thereby reducing the cost of Insurance with the age of the Policy.

In Life Insurance, eelect an OLD COMPANY WITH EXPERIENCE, and having a LARGE SURPLUS.

Remember that Large Dividends, and Consequently

CHEAP INSURANCE,

ARE SECURED ONLY BY

Economical Management,

High Rates of Interest,

and Favorable Mortality.

In all these vital points, look carefully into the standing of all Life Insurance Companies, and the

Connecticut Mutual

WILL BE FOUND IN THE FRONT RANK.

JAMES B. ROBERTS.....315 California Street,

General Agent for the Pacific Coast.
20v25-eom ep

Nevada Metallurgical Works,

21 Firet street.....San Francisco.

Ores worked by any process.
Ores sampled.
Assaying in all its branches.
Analysis of Ores, Minerals, Waters, etc.
Plans furnished for the most suitable process for Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

E. N. RIOTTE,
C. A. LUCKHARDT,
Mining Engineers and Metallurgists.

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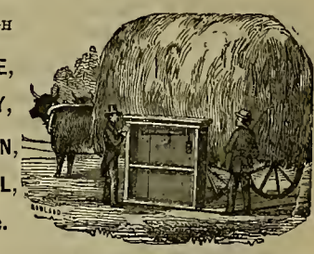

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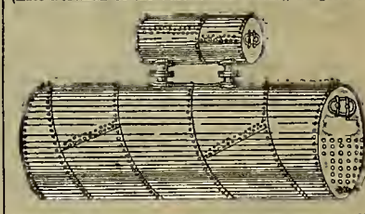

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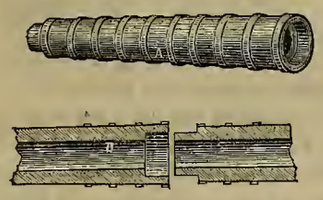

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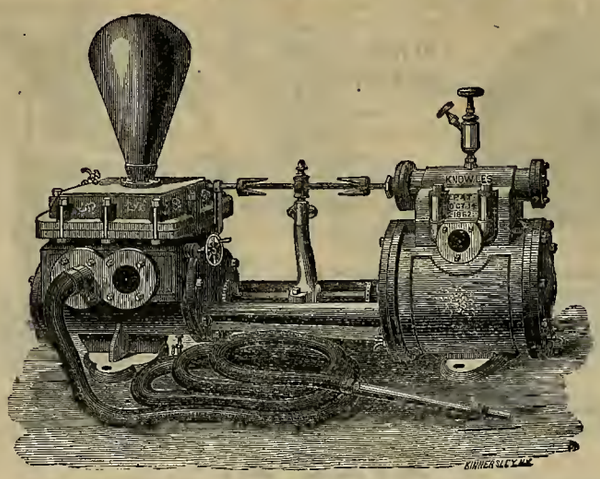

It has no Oranks or Fly-Wheel, and has no dead points where it will stop, consequently it is always ready to start without using a starting-har, and does not require hand-work to get it past the center. Will alwaye start when the eteam cylinder ie filled with cold water of condensation.

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A. L. FISH, Esq., Agent of the Knowles Steam Pnmp, San Francisco—Dear Sir: In reply to your inquiry as to the merits of the Knowles Steam Pump, in use upon this road, I will say that it gives me great pleasure to report that they have performed their work well whenever called upon. In no instance have they failed. We have now over 30 of them in use on this road as fire engines, and pumping water for shop and station use. I consider the Knowles Steam Pnmp the best in use, and prefer it to aay other. Yours truly, A. J. STEVENS, General Master Mechanic.

A. L. FISH, Agent Knowles' Steam Pnmp—Dear Sir: In answer to your inquiries, we state that the highest award for Steam Pumps at the Eighth or last Mechanics' Fair in San Francisco, was a FIRST PREMIUM and Diploma, awarded to the Knowles Patent Steam Pump, as published in the Official List September 23d, 1871.
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For hard and wet Rock, Iron, Oopper, etc., and Snbmarine Blasting.

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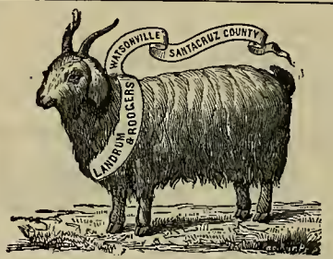

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The system of transporting material, such ae Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by meane of steel wire rope, has been well tested and found **more economical, advantageous and reliable** than any other method of transportation; and to the annexed certificatee in connection therewith I heg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it givee me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up hy you upon our mine in Freihurg.

It is a perfect success, discharging ten tons of ora per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear ont. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if deelred. After several weeks trial npon our mine, the unanimous verdict of all who have acen it is a complete, nnquestioncd succees. If this can be of any service to you, nse it in any way you think proper. Very respectfully, C. C. GOODWIN,

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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MINING AND SCIENTIFIC PRESS.

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BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, OCTOBER 4, 1873.

VOLUME XXVII. Number 14.

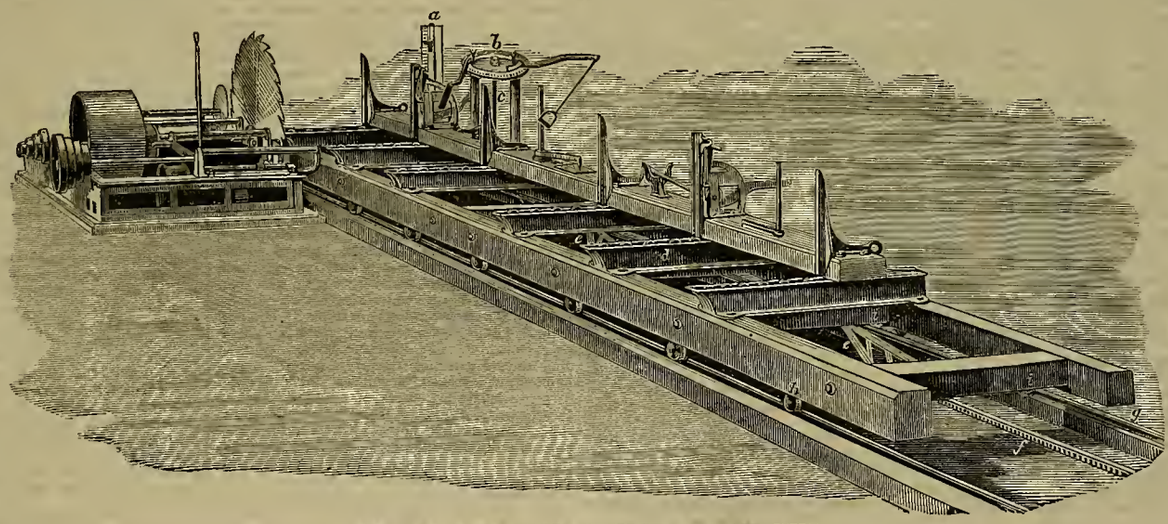
The "Ne Plus Ultra" Circular Saw Mill.

We illustrate this week ons of Ely's patent circnlar saws. The "Ne Plus Ultra" is quite well knowu in the Eastern States, and has heen snccessfnlly intrudncd in the English Provinces and Sonth America. Tho medal of spccial award was given it at the lato Exhibition of the American Institute, in New York, with the following comment:

"It is a machino worthy the highest praise. It is positive in actiou, rapid in movement, and perfectly accurate in resnlts, while it oombines an improved friction feed, a new guide or log roll for springy timber, and is constructed on the principle of the inclined plane, which is admirably applied."

The cut is designed to represent a Number III or IV Saw Mill ready for nse. Letter *a* is the scale or measure, heing in front of the sawyer, who can see at a glance the thickness of the lumher heing cut; *b* represents the lever and gear connecting the shaft, c, with the pinion which moves the inclined planes, *e*, which are connected hy shoes on the headblocks, *d*, with the log heam. These inclined planes are connected hy iron rods, so that all move exactly alike, thus securing perfection in the movement of the log beam, and may he made any length rsquired. *f* is the rack stick, which is placed at the center of weight on the carriage. *g* is the guide strick, which is a strong stick of timber firmly fastened to the sills of the hnilding, running the entire length of the carriage track, and lined on hoth sides with iron, and made perfectly straight so that the guide rolls, *i*, fastened to the girts of the carriage, prevent any deviation from a straight line of the carriage, thus making the lumber perfect in thickness from one end to the other; *h* is a 7-inch roll, with a 2-inch face firmly fastened to the carriage with self-oiling hoxes, and running on a plsin iron track. For the purpose of sawing long and heavy logs of timher, are inserted anti-friction rollers in the headblocks, *d*, which carry the log or timher and log beam with so much ease, that the sawyer can easily move the heaviest log with no strain on the machinery. The latest improvements in dogs, spring and set-out hlocks are used, which we cannot show in a cnt. The saw mandrel is of the best steel with self-adjusting and oiling hoxes, and a new and improved friction feed. A decided improvement, not shown in the cut, has heen made, placing the inclined planes on top of the headblocks.

The "Ne Plus Ultra" saws are made hy F. C. Candee & Co., No. 57 Liberty street, New York, to whom we refer those desiring further information. The mannfacturers advise us that they have put up single saws which are cutting 40,000 feet of lumber per day of ten hours, and that all of the Ely machines are reported as working very successfnlly.



THE "NE PLUS ULTRA" CIRCULAR SAW MILL.

Removing Officers of Mining Companies.

Ths majority of the owners of ths Minnesota Gold and Silver Miue have filed a petition in the Connty Conrt, praying the issue of a notics for a mseting of the stockholders of the company, to tske into cousideration the removal of the officsrs of ths company. The petition has heen granted hy Jndge Stanly and the meeting is called for the 4th of Octoher. The anthority for this proceeding is fonnd in the Act of March 21st, 1872, entitled an Act supplemental to an Act concerning Corporations, passed April 22d, 1852.

The first section of this Act (published in the PRESS January 4th, 1873,) provides that a majority of the stockholders of any mining corporatiou may petition the Connty Judge in the county in which the corporation has its principal office, and that he shall, upon such petition heing duly signed and presented, call a mesting, stating it to he for the purpose of taking into consideration the removal of officers of the company. The Act then goes on to state that at the appointed time and place the shareholders shall assemble, appoint a Chairmsn and Secretary and prove their right to vote. If it appears that at the time appointed, or within one hour thereafter, shareholders of less than one-half the stock are present no further proceedings shall he held and the meeting shall he *ipse facto* dissolved; *provided* however, that by a vote of the holders of two-thirds of the capital stock of the corporation, the hoard of Trustees may he reqnired to furnish to the meeting a written, detailed statement and account of the affairs, hnsiness and property of the corporation; bnt, if the holders of more than two-thirds of the shares are present, they shall proceed to vote, the Secretary calliug the roll, and the memhers voting 'Aye' or 'No,' as the case may he. The Secretary adds up the list, hands the ssme to the Chairman, who annonnces the result.

If the result is that if the holders of a majority of all the shares of the company are in favor of the removal of one or more of the officers of the company, the meeting then proceeds to ballot for officers to snpply the vacanciss thus creatcd. A report of the proceedings must he handed to the County Judge, who shall thereupon issue to esch person chosen, a certificate of his election and also issue an order requiring that all books, papers and all property and effects he immedistely delivered to the officsrs elect. Ths officers thns elected are to hold office nntil the next regular annnsl meeting unless removed nnder the provisions of this Act.

This Act is a very good thing for stockholders, as officers can he held in check, whereas formerly they had their own way. It is to be presumed that no snch extreme measures wonld be taken unless in case of necessity. We do not know any of the circnmstances of this particnlar csse, hut the holders of 11,275 shares ont of 20,000 shsres, signed the petition. If officers do not do thsir dnty, either by negligence or dishonesty, they ought to he snmmarily removed; and it is fortnnate that there is a means of doing so. It is more owing to mining Trustees that mining is considered a speculation rather than an investment, than anything else. A good msny of these people think, like ward politicians, that all that is required of them while in office, is to make as much as possible, no matter how, and they improve their opportnnity. Again, men get into these positions, who hy masterly inactivity hother those who really want to make money until the latter have to sell ont. We have not had very many examples since this law was passed, hut one every few months is enongh to remind incompetent or dishonest officials that they mnst be careful in their operations and not go too far.

CHINA AND JAPAN.—It is reported hy an officer of the United States Navy, lately arrived from Japan, that an English compsny has completed arrangements and will, at au early day, establish a line of steamers to run between San Francisco, China and Japan. The English company will adopt full-rigged propellers, and promise to make the run in 17 days.

THE ore shipments from Alta City, Utah, last week, were as follows: Flagstaff, 60 tons; Davenport, 80; Wellington, 8; Windsor Group, 8; Highland Chief, 5 tons per day; Emma, 105; Vallejo, 80; Toledo Company, 25; McKay, 26; Oxford and Geneva, 70 tons for the week.

THE Grass Valley mines are all tnruiug out splendidly. The Eureka mill was cleaned up on the 26th nlt., after six days run with 15 stamps, and the yield was $10,500.

Silver Bars.

The financial depression in New York has had some effect in the prices of silver hars, and this week the hankers that purchassd wanted an extreme rate of discount—12 per cent. The average rate for some months past has heen ahout two and a half or three per cent. In fact the banks dsclined to purchase silver hars at all nnless they had been contracted for in advance, and such companies as had not made any arrangements of the kind have placed their bars on special deposit. A correspondent of the *Chronicle* addresses that papor on the subject of the depreciation of silver and its canse, inclosing a letter dated New York, Septemher 1st, from one of the leading bullion hankers of that city, who is regarded as authority on the snhject whereof he writes. He says:

If it can he of any service to you, yon can say to Mr. ——— that I advised Mr. ——— on Friday last to telegraph him to enter into no coutract for silver. I was in receipt of information from the other side of a material decline, and, what was worse, of the strong probability that the Bank of France as well as other institutions, public and private, may be obliged to decline to receive silver as *collateral for gold*. There is a great plethora of silver on the continent, (Holland heing choked with it to the detriment of trade), while there is a general tendency to get on to an exclusive gold basis. *If this can be done* by Germany and Holland, it would demarketise nearly $400,000,000 of silver. These Governments, however, *must* make this change slowly, or it will distress and annoy their people. Still, they mesn to do it, and will do it. So that unless the demand from the East increases very mnch over the last few years, silver will rule low. We are buying fine silver bars now at 126¼ per onnce—an unprecedentsd rate, so far as my experience goes.

Notwithstanding these views it is hardly prohahle that our silver mines will be closed hecause of the decline in silver. Bars will prohahly resume their former value as soon as the financial storm in New York is fairly over. It is impossihle to depose silver from the position it holds in the commercial world. It is not only largely used in manufactures, bnt when we hear of people in the world who are working hard every day for a few copper coins, there is little chance of silver going out of date as a material for coiuage. The Eastern nations all prefer silver to gold. The cause of the snddeu change in rate of disconnt is of course fouud in the financial depressions in the East, and the necessity of the banks keeping a plentiful supply of coin on hand to prevent accidents.

THE Bullionville Railroad carries ore from the Raymond & Ely mine to the mills for $3.50 per ton, whereas the teamsters charge $5.50 per ton.

STEAM FIRE engines are to he introduced in Japan.

CORRESPONDENCE.

Quicksilver Extraction.

Ens. PRESS:—The present wasteful and unsstisfactory method of treating cinnabar, demsnds an entire chsnge, more thsn hslf the mercnry in the ore being lost to commerce, and every ponnd so lost, is at the least a dollar out of the pockets of the owners. Why csnnot science he brought to hear upon this work as well as in the trestment of other ores? Large snms of money are annually expended on the erection of open vertical furnaces snd hrick condensers, which are absolntely wasted. The principle of allowing the flame, (particularly from the use of wood,) to come in contsct with the raw ore, (dropped into the furnsces in large lnmps,) is quite erroneous to start with. By this treatment the vapor passes with the sulphurous scid, resulting from the oxidatiou of the sulphnr, and unites with the soot and suhlimed vermilion, from the furnace, destroying in its passage any wood or iron it comes in contact witb, into the conduction pipes or condensers. The soot itself is very difficult to treat afterwards, even with the addition of lime or by hoiling, and all the labor so employed is a source of nnnecessary cost.

The heat employed to reach the center of the lumps, is in every case I have witnessed far too great; indeed, I have seen it as high as 2,000°, instesd of being under 700°, and a lsrge portion of the mercury so liberated is destroyed for any prsctical use before it enters the condenser, and the smount of fuel required is necessarily greater, and the time much longer thsn if the ore was pulverized. Again, the bricks being porous, *absorb* the metsl both in the furnaces and condensers, and no plan hitherto devised csn prevent this waste. Coating the condensers with cement is *not* a remedy, as any one conversant with the working can testify to; indeed the mercury can he seen exuding through the cement and bricks on the outside. In the New Almaden Works, I examined carefully the hricks of one of the large condensers lately pulled down, and out of about 100 hricks which I broke, scarcely one was not thickly permeated with metal, and in all the crevices of the mortar it poured out; neith r can they ever be rendered sufficiently cool.

Hitherto, the prevailing idea has been that spsce was the great desideratum for its condensation; this is an error; no matter how small the chamber, indeed the smaller the better, provided it is all kept *perfectly cold*. This is all that is needed. Cast iron condensers of great weight and of peculiar construction have been made, but the facility for fracturing this class of iron in transit, added to its great cost, renders the adaptation of wrought iron far preferable. In many of the works a fan has heeu connected to the coudenser to draw in the fumes from the furnace, with the intention of preventing a loss, and to create an unnatural draught. Why should this appliance be reqnired here any more than in the deposition of arsenic? Some of the adherents of this norel place, claim, I believe, to save 99¼ per cent. of metal. Such a percentage would indeed be a new era in metallurgy, for it was never yet obtained from any ore, nor could such hy any known possibility be so. How do they account for all the mercury that is found in their flues and stack, and on the surrounding grounds? I fear the friends of this theory never made any analysis of their workings, and as no assay made in the common retort can ever be exsct practically, it is mere moonshine to make a statement so opposed to all facts and truth. If the furnaces are properly erected, there is no need of any artificial draught; it would probably be more necessary to regulate the draught hy dampers.

In our works alone, out of 1,600 tons worked in this way, only an average of 8¼ *pounds per ton* was ohtained, where the ore treated contained by repeated assays from 20 *to* 80 *pounds per ton*. The loss was simply enormous. Another fact which is patent to everyone, is the waste of time and fuel reqnired in the making and treatment of adohes from the small or refuse ore; it is hardly conceivable at the present day that hand labor should he resorted to, or that an incressed hulk of material should he passed through the furnaos when economy of fuel lahor and money is as much needed here as in any other works. Here there is an open field for improvement. It has long been known that quicksilver may he most readily separated from its ore hy treatment with quick-lime. The sulphur of the cinnabar combines, by virtue of a superior affinity, with the lime, to the exclusion of the mercury, to form sulphides of lime and calcium, hoth of which remain while the mercury is volstilized by heat; and this is hest performed in retorts with a uniform heat. The retorts should be of cast instead of wrought iron, ae heing less liable to expansion or contraction, and ae the heat of the furnace is alwaye the same it does not become injured hy cooling ae the present system of furnaces do. In Bavaria, where retorts were first practically ueed, and still are, lahor and fuel are cheap, and emall quantities only were treated, but as those two items are of immense importance here, I have endeavored to adopt considerahle improvements, wherehy a very large quantity of ore can he daily treated with little fuel and a minimum of labor.

My plans emhrace 3 eets of furnaces, each set having 3 retorts 14 feet long, 4 feet wide at base and 2 feet 2 inches high at the center, and cast with two small rails running the entire length, upon which run 2 cars made of boiler iron 6 feet long and 11 inches high. The door slides in a groove snd is hermetically tight. Into each and all of these cars, the charge, amounting to one ton of crushed ore, is placed, after being intimately mixed with the requisite amount of quicklime and as soon as the retort is ready to receive them, they are run in from the platform on rails let down to the level of the retort. The ore then requires a *cherry red heat only* and should he completely finished in 6 hours. To enable the workmen to test the progress of the work, I have provided a stopper in the door, which he can take out and through it pass a copper rod and thus instantly test the presence of sny mercury, should it exist, so that he csn have no excuse to withdraw the charge before it is completely treated. When ready for dischsrge the door is lifted up by a weighted halance and rails placed from the retort on an inclined plane to run the cars direct to the dnmp. They are then relosded as before described. Thus there is no possibility of any salivation to the workmen. The mercurial fumes being now free from snlphur, pass out at the back end of the retort, through an 8 inch pipe into another pipe placed below the ground line, of 12 in. diameter, and running for 20 feet under water, nltimately discharging into the last condenser of boiler iron, also placed on an inclined plane. This condenser is kept nearly half full of cold water, which is always rnnning in and out. It is 12 feet long and 3 feet in diameter. The collected mercury runs now through a tube into a special reservoir, whence it can alwars be drawn out at any moment and bottled, without the least interruption to the work.

Every three retorts have a separate leading-pipe, into which the 3 conduction pipes are fitted, as also a separate condenser. These are surrounded by a hody of cold water, always running in at the bottom and out at the top. The depth of the water here is 7 feet. There is a stopper placed at the bend of each conductor, which can be taken out iustantly, to enahle the workmen to sweep the pipes when required. In the condensers there is an air-chamher, to create the necessary draught from the retort and prevent any water rushing back through the pipes. By this method the mercury is nearly all, if not entirely, condensed prior to its dischargè into the last condenser. The waste flame, of course, passes under snd over the retorts through the flues into the stsck.

As soon as the ore reaches the surface, I propose to crush it, cleaning it of superfluous gangue and clay, and then concentrate it. The cost of doing this is not one-quarter of the sum required for making adobes. I do not claim, tbst this plan which I am pstenting is so perfect that time and experience may not snggest improvements according to the necessities of the ores to he treated, but I do claim for it, economy of structure, perfect satisfsction in its continuous work, an impossibility of salivation, and economy in its manipulation, coupled with the certainty that whatever mercury there may be in the ore, it will be completly saved and its treatment rapid. I am not surprised that all the metallurgical authors of note describe the present method of treating cinnahar as "barharous in the extreme." These furnaces and condensers, *complete*, will cost under $13,000 and are capahle of treating 72 tons every 24 hours at an outside cost of $150 per ton at the present rste of wages and material. For the special erection of these furnaces, I was dispatched from New York on hehalf of a company here, hut owing to several delays, I doubt whether they will be erected this season. I ask hut a fair trial of these to prove their value over any others now iu nse. That the system of retorts is practically satisfactory is proved by the fact that they have heen employed in Bavaria since 1846, and are described hy the leading metallurgists hoth of England, France and Germany, as the most perfect apparatus invented. Those desirons of more information upon the suhject can see the plans at the Cosmopolitan Hotel, San Francisco.

HUBERT BANKERT, M. E.
Supt. Napa Q. M. Co.

MINING SUIT.—O. H. Conger and B. F. Dalton have instituted snit against D. C. Haskin, J. W. Haskin and the Emma Hill Consolidated Mining Company to compel them to issne and deliver to the plaintiffs 40,000 shares of the Emma Hill Consolidated, vslued at $20 per share, and restrain the defendents from transferring the stock to any but the plaintiffs. The latter claim the stock in accordance with an agreement hetween the Haskins and the Company, by which, in consideration of the transfer of certain valuahle mining property to the company, the latter agreed to transfer the 40,000 shares of stock. The plaintiffs allege that the Haskins acted as their agents, and it was their property that was transferred to the company.

VICTORIA NEEDLE.—A very curious needle is in the possession of Queen Victoria. It was made at the celebratsd needle factory of Redditch, and represents the columu of Trajan in miniature. This well-known Roman column is adorned with numerous scenee in sculpture, which immortalize Trajau's heroic actions in war. On this diminutive needle, scenes in the life of Queen Victoria are represented in relief hut so finely cut and so small that it requires a magnifying glass to see them. The Victoria needle can, moreover, be opened; it contains a number of needles of emaller size, which are equally adorned with scenes in relief.

Tin.

If there is any substsnce more thau another that has rendered England famous througout the world, it is tin. Camden, the historisn, supposes thst this country, from the abundance of tin that it contains, was called Britsin. In the Syriac language, "varacanac" signifies "land of tin;" whence is derived Britain. The mention of tin by Moses, in the 31st chapter of Numbers, 22d verse, is a proof of its being known from the most remote antiquity. Long before the Christisn era the trade of tin caused many a vessel to spread its sails in the Mediterranean ses, and to cross the Bay of Biscay to fetch it from these shores.

The alchemist of old considered tin to be a mixture of tin and lead, but modern chemistry proves it to be a distiuct metal. About 10,000 tons of tin are extracted every year from the mines in Cornwall and Devon, nearly the whole of which is consumed in the manufacture of tin plate ("fer blanc," or white iron, as the French term it.) that is sheet iron coated with tin; and it is this substance which constitutes our famous tin ware, which finds a market from Naples to Japan, from New York to Eupatoria. Melted tin forms a sort of varnish for iron, and prevents thst metal from rusting; whеu copper is coated with it verdigris cannot be produced.

Tin and lead melted together produce what is called "Britannia metal;" of which teapots and similar domestic utensils are made. It is owing to a mordant of tin that the dyer produces the fine scarlet cloth so famous as the roysl and military cloth of this country. In msny other ways we could show how very useful this tin is; but it is enough for us to state that England is the tin plate manufacturer of the world.—*English Paper.*

SPECULATING.—An "interviewer" of the New York *Herald* held a conversation with Commodore Vanderbilt, before that gentleman had received intelligence of the failure of Jay Cook & Co., and the other houses immediately following the announcement. In reply to the question, "What is the oause of the rottenness on Wsll street," the vetoran desler in stocks replied:

"I'll tell yon what's the matter—people nndertake to do ahout four times as much business as they can legitimately undertake. Of course, they soon get short, and have to bolster up their business as well as they can by robbing Peter to pay Paul."

Here is good sense. The lust of gain leads men from legitimate enterprises into speculations, which they hsve neither the means nor taleuts to carry to successful conclusions. Commercial and financial history ahounds with such cases. Individuals and corporations are alike guilty of the folly, which, in some instances, amounts to crime. The Commodore said further, which ie equally true, that "people who live too much on oredit generally get brought up with a round turn in the long run. The Wall street 'averages' ruin many a man there, and are like faro. Mistruet will be engendered till we, as a nation, do our business on a more solid basis, and pay as we go."—*Call.*

INVENTION OF PORTER.—Porter was invented in the year 1731 by a London brewer named Harwood, who combined the flavor of "half and half," or "three threads," as it was then called, in a heverage which he called "entire butt." The new combination took in the city among the "porters," and from its new patrons it obtained its name. Some antiquarians, however, declare that the honest liquor (honest, at least, in its youth) never derived its name from the porters of London, but, on the contrary, derived it from Harwood's practice of having his new beverage *portered*, or carried around to his customers' areas in shining pewter pots, in long covered racks, his pothoys shouting "porter" to announce their auspicious arrival, as they rat-tat-tatted at the door. More than a century this brown, mantling liqnor—thin, slightly watery, hut pleasant and heartening—has gone frothing up in the pewtor pots of London.

A STRANGE RIVER.—The Palatka (Florida) *Herald* says: "The St. John's River is very remarkahle. It is separated from the ocean throughout its entire length by a strip of land not over forty miles in width. Its banks are low, the soil, when examined, is found to contain very little silica, being composed mainly of minute shells. At elevated places along the banks the coquinea—a species of shell rock—can he seen. Wherever this is found the soil is fertile and particularly favorahle to the growth of the orange. Live oaks tower to the skies, and their hranches spreading some fifty or sixty reet each way, covered with a drapery of solemn moss, and cypress, hay, gum, palmetto and magnolia trees, with the beautifnl palm with crested crown standing like a sentinel along its shores, and orange trees bearing from five hundred to one thousand splendid oranges eaoh, make a man think that he is in the land of fable; yet this ie all sober fact."

MINE MANAGERS.—If only competent practioal men were appointed mining snperintendents stockholders would no doubt receive larger dividends. It is, however, evident that qualification is not always considered in making such appointments. The other day a new euperintendent on the Comstock lode inquired of one of the miners what "that long thiug" was, and added something to his stock of information on heing told that it was the pump rod!—*Chronicle.*

A Triumph of Art.

There is a paper church sctually existing near Bergen, which can contain nearly one thousand persons. It is circular within, octsgonal without. The relievos outside, and the statues within, the roof, the ceiling, the Corinthisn capitals, are all of papier-mache, rendered waterproof hy saturation in vitriol, lime-water, whey and white of egg. We have not reached this audscity ln onr use of psper, but it should hardly surprise us, inasmuch as we employ the ssme material in private houses, in steamboats, and in some puhlic buildings, instead of carved decorations snd plaster cornices. When Frederick the Second of Prnssia set up a limited papier-msche manufactory at Berlin, in 1766, he little thought that paper cathedrals might, in a centnry, spring out of his snuff-boxes by the slight-of-hand of advancing art. At present, we confess to a predilection for substancial brick and stone in the matter of churches. But there is no saying what we may come to. It is not very long since it would have seemed as impossible to cover eighteen acres of ground with glass, as to erect a psgoda of sosp-bubhles; yet the thing is done. When we think of a psalm sung by one thousand voices pealing through an edifice msde of old rags, and the universal element bound down to carry our messages with the speed of light, it would be presumptuous to say what can and what csnnot he achieved hy science and srt, under the training of steady old time.

HOME MADE WARES.—At the late Stste Fair, N. Clark & Co. exhibited specimens from the Pacific Pottery, Sacramento. These consist of a fine quality of fire, stove and furnace brick and linings, sewer and drain pipe of all eizes, stoneware, flower pots, urns, porous veesels of all kinds, hanging pots for flowers, tiles, pots, glazed wsre, jars, terra cotta work, crocks, jugs, etc., etc. Some of the finer specimens of pottery are painted, bronzed and embellished. Crude stone clay, from which the stoneware and terracotts is made, is on exhibition, and also crude fire clay. The *Record* states, at the factory there are employed fifteen men, directly, while an equal number sre engaged outside the works. The stone aud fire clay all comes from near Michigan Bsr. That it is a first-class quality is evidenced by the goods Clark & Co. make, which are of the very hest quality. The husiness is doubling itself every year, and the capacity of the Pacifio Pottery is fully taxed. Clark & Co. call especial attention to their make of fire brick. At least a quarter of a million dollsrs' worth of fire brick and clay is imported to this State annually, and all are interested in seeing a home competitive industry in this line huilt up. Fire brick is made by grinding the crude fire clay; it is then molded and burued; next it is broken up and crushed beneath stamps. It is now prepared with enough crude clay to hold it together, when it is sgain molded, pressed and burned. It will be seen why fire brick is not a cheap article. We are pleased to learn that the potteries of California, and especially that of Clark & Co., are yearly gaining ground against the imported fire brick and stone ware, and that as to the last class of goods the English make has heen driven from the California market hy the home product.

SOUTHERN UTAH, says the Beaver *Enterprise*, has mountains of crude iron, and deposits of coal so vast and scattered over so great an extent of territory as to insure a certain supply to the world for ages to come. Easy of extraction, unequsled in quality, as can be easily proved to any expert who may wish to test it, how long will it lie unheeded? Beaver, Iron aud Washington counties possess minerals in quantities to enrich the world, and coal sufficient to supply twenty worlds; yet there they lie awaiting patiently the advent of capital and hrain. Will it come? We are as positive that it will as we are of the unexampled success of those who take the initiative in this importsnt adventure.

DEEP WELL.—At the village of Sperenberg, about twenty miles from Berlin, a well hae been sunk to the depth of 4,194 feet. A shaft wss sunk in this locality hecanse the known existence of gypsum there led the explorers to infer that they might possibly find a mine of rock salt. At the depth of 280 feet they did resch the salt; and continuing on, they passed through the salt deposit—3,907 feet—without having reached the bottom of it. The horing would have continued, to ascertain what deposit lay under the salt, but the mechanical difficulties were too great. The greater part of the boring was done by steam.

THE EFFECT OF CONTINUED STRAIN.—A strip of wood or a rope, which will hear for a short time a heavy weight, will often hreak with a mnch smaller weight, if it be suhjected to the strain for a considerable period. A rope that will hear successive strains repeatedly, without breaking, will sometimes hreak with the same strain, if snhjected to it for a long time continuously. It is only possible to theorize upon the cause of this phenomenon, which can, in the present etate of science, only he referred to the hypothesie that matter exists in a molecular condition, with interstices between the molecules.

IT is estimated that one-tenth of the entire population of the United States ie dependent for support upon the prodnction and manufacture of iron. The value of the metal annually manufactured is $900,000,000, and 940,000 workmen are employed in the indnstry, the aggregate of whose wages reaches $600,000,000.

SCIENTIFIC PROGRESS.

Aluminum.

We extract and condense from an article in a late nnmber of the *Iron Age* some interesting facts in regard to this metal.

Seventeen years have passed since Deville first produced nlnminum on a commercial scale; bnt the expectations regarding this very interesting nud meritorious invention of tho distingnished French chemist have not as yet been fnlfilled. Althongb many of those expectations was somewhat exaggerated, they were not and are not so unreasonable as many people believe them to he; for a metal with so many valuable propertics would be useful in many of the technical arts. Among these properties are a beautiful color that does not change in the air, nor yet in sulphurous exhalations, and further, remarkable lightness, an agreeable reasonance, and a capability of being worked into any shape. Moreover, in the use or manipulation of aluminum there have not hitherto been observed nny deleterions effects.

It is generally conceded that the cost, and not the absence of properties which make other metals valuable, has prevented the more extensive application of aluminnm; and the price, although it is considerably less than it was at first, has remained higher during the last few years. The cost of production of this metal, which can only be extracted by the use of sodium, cannot possibly be the only cau e of its high price; for the commercial manufncture of sodiniu may be considered as a solved problem, and, as soda ash is very cheap, sodium might be produced at a moderate cost if the demand were greater than it is. Large production is caused by large consumption, and the use of aluminum has been hitherto limited, mainly because cnstom and use have opposed the introdoction of snch a novelty. Stories have been told and written about poisoning by cooking vessels made of copper, by glazings containing lead, and the formation of verdigris on spoons of (alloyed) silver; and if people were only determined to produce these utensils from aluminum, all danger from poisoning would be removed, and they would have vessels the appearance and durability of which would scarcely leave anything to desire. They would be more convenient to handle than our light cockery ware, for they can be made as light, and, what is important, cannot be broken. Splendid pitchers, plates, goblets, lamps, etc., might be manufactured from deadened and embossed alnminum; and the lightness of spoons of this metal would make them more convenient than those of silver now in use. In this case it is not the price, bnt only prejudice, which presents itself as a drawback, for the price is only half of that of good silver; beside, the difference in the specific weights of both metals and the consequent cheapness in the use of alnminnm are so great that, for the valne of one silver spoon, at least seven equally large aluminum spoons might be bought. True, aluminum is neither a rare nor a noble metal, bnt it possesses, nevertheless, advantages over alloyed silver which give it a much finer appearance; it does not get black, nor does it form verdigris, and what it lacks in brilliancy and appearance is well compensated for in its agreeable lightness. Bnt, unfortunately, it has been found impossible to plate with alnminum either by the electro-galvanic or the foil method.

In China, very few physicians employ opium for therapeutic pnrposes, though the drug plays an important part throngh its effects upon the customs and hygiene of the nation. In smoking opium, the taste at first is not nnpleasant; but as is the case with tobacco, a person must become habituated to its nse. The drug is prepared in a semi-finid state and has a sweet, oily flavor somewhat resembling rich cream. Smoking the substance for the first time, not over 130 to 150 grains per day can be nsed, as it is apt to cause violent vertigo, nausea, and headache. The first puffs render the smoker loqnacious, then he becomes stupidly happy, and finally palenese and quick contractions of the face ensne. The seueations and dreams differ according to the temperament and nervons organization of the ueer. A deep eleep is generally produced, lasting from two to three houre, during which time the pulse is low and very feeble. The physical effects are loes of appetite, extreme emaciation and frequently idiocy.

Investigation has been made in regard to the influence of changes in barometric pressure on animal life. M. Bert finds that oxygen is a "powerful poison when its proportion in the arterial blood reaches 35 c. c. per 100 c. c. of the liqnid; the poisoning characterized hy various convulsions which are due to increased excito-motor power of the spinal cord, and the process attended by diminntion of internal temperature."

In comparing the inorganic constituents of of sound and diseaeed potatoes, it is fonnd that in the dieeased root the amount of potassium, chlorine, and eulphuric acid increaees, the soluble phosphoric acid decreases. In good potatoee the starch granules are well developed; in diseased, they are fewer and smaller. The diease seems to be constitutional, including the entire plant.

The Approaching Transit of Venus.

English astronomers are not nnanimons as to the situations that promise to be most convenient for the observations of the transit of Venus in 1874—Mr. Proctor nrging certain sites, which are not approved by the Astronomer Royal. Mnch satisfnction is expressed on hearing that M. Flonrien, an experienced naval officer and competent observer, will be sent to the Marquesas hy the French Government. On this side of the Atlantic, it is promised to secnre photographs of the transit wherever the snn is ten degrees above the horizon, throngh the entire duration of the phenomenon, and wherever the effect of parnllactic displacement is most pronounced. It is assumed that there will be leading stations at Wladiwostsk, near Yokohama and Pekin, and in some other portions of China, Japan or the adjacent isles, and also in one of the Sandwich Islands. The Germans will occupy three principal stations and eight subordinate ones, while Russia will fill no less than twenty-seven stations, scattered through Eastern Siberia, and stretching between the Caspian Sea and the mouth of the Amoor, at all of which first and last contacts will be observed. In addition to the preparations made in England at the cost of the State, Lord Liudsay intends to visit the Mauritius at the time of the transit, with a good equipment of instruments, and to provide with his own hands and staff for more than one form of observation. With regard to the alliance of photography with the transit observations, Dr. Warren de la Rue and Professor Bond of the United States hold that the measurement of the photographic images of the transit will in all probability give results of three-fold higher value than any direct eye and hand observation that could be secured.—*Ex.*

The recent discovery of an inscription pillar on the shore of the Red Sea by a dragoman of the French consulate at Jerusalem, is mentioned by the London *Standard*. That stone has been purchased hy the French Minister of Public Instruction for 20,000 francs, of which 12,000 francs will be furnished from the funds of the Museum of Antiquities at the Louvre, and the remainder hy the Ministry, and in a few days, after an indispensible repair, it will be placed in the Judaic collection. This relic of King Mesha is earlier by several centuries than the celebrated tomb of the Phœnician King Eshmunezar, and bears an inscription in which the King of Moab relates, nearly nine centnries before Christ, his battles with the King of Israel.

The Function of Gums in Plants.—From experiments made with pyrogallic acid, Struve concludes that gums perform a function in plants analogous to that of blood in animals. Pyrogallic acid in contact with alkalies oxydizes rapidly, becoming a dark brown color; with other substances, such as gum arabic and blood, the oxydization is slow, a yellow color is produced, and long needle-like crystals form, which are insoluble in water. The least trace of this yellow substance produces an intense blue with ammonia or other caustic alkalies. The exact composition of this curious substance has not yet been ascertained.—*Prince Edward Islander.*

Manganese a Substitute for Nickel in the Arts.—In view of the present high price of nickel, Dr. Percy, the eminent metalurgist, proposes to substitute manganese for it in preparation of German silver, and maintains that it is impossible for the most experienced manipulator to determine the difference, except chemically. A further article on this subject in the *Chemical News*, indicates the best method of obtaining manganese sufficiently pure for the pnrpose, as also for refining it; and it is there suggested that there is nothing to prevent pure metal being obtsined in large quantity, and at a comparatively low price.

From the investigations of Dr. W. Pfeiffer, it appears that the yellow rays of light possess the highest power of decomposing carbonic acid in plants. The actiou of the other rays decresses rapidly in proportion to their distance from the yellow in the spectrum, but this decrease is greater in the rays of greatest refraction. Thus, taking the decomposing power of the yellow as 100, that of the green will be 37.2; blne, 22.1; indigo, 25.4; violet, 7.1. On the side of lese refrangibility, we have orange, 63.0; red, 25.4.

Action of a Light on Olive Oil.—Expoeure to light, though not changing its density, makes it entirely colorless. Olive oil contains normally a coloring material which acids turn yellow, and which is changed by sunlight so as to be unrecognizable. Free acid is formed at the same time hy the actiou of light and oxygen, and the oleine takes characteristic propertiee of oloidiue. The blanched oil has an acid reaction, is feebly rancid, and dissolves magenta color with avidity.

A method for the reproduction of deeigns, engravings, etc., on paper by meane of ferrocyanide of potaesium is announced. Paper prepared with this salt will be affected by the light, so that when the light is transmitted throngh a design or picture, a copy will be obtained, which ueede only to be waehed to be preserved.

Volatilization of Iron.—Dr. Elsner, of Berlin Porcelain Works, has fonnd that iron was volatilized hy exposure of many hours in a porcelain furnace, the temperature of which he states ae 3,000° C.

MECHANICAL PROGRESS.

Phosphor-Bronze.

This new alloy, which has been recently bronght before the public for ohvions reasons, is likely to be mnch patronized, especially in mannfactures where steel is nseless or dangerous. The reasone given hy the patentee are that it can bs made, according to ths wish of the operator, more ductile than copper, as tough as wrought-iron or as hard as steel; it possesses great floidity; its homogeneity is complete, and its grain is as fine as that of cast steel. It may be perfectly controlled to suit auy particular pnrpose for which it is intended, it can be made either hard or soft, tough or brittle, and its ductility, elasticity, or hardness can he regulated with the most perfect accuracy. Unlike other alloys, it can be remelted without any material loss or alteration of its quality, while heavy steel castings, when worn out or broken, are comparatively worthless.

A great variety of objects hitherto worked in iron and steel may be cast in the new alloy, and in many cases they reqnire only a polish to make them ready for nse; besides which they do not corrode, as articles of iron or steel do. Tbe great fluidity, compactness, and fine grain, as nlso tbe beautiful color of the metal, especially recommend it for decorative art, and the perfection of the castings greatly reduces the cost of chasing and finishing. This alloy stretches more than copper or auy of its ordinary compounds, and plates have been reduced, by a single cold rolling, to one-fifth of their thickness, the edges remaining perfectly sound and without crack. But perhaps the greatest advantage of phosphor-bronze is its incapacity to emit sparks. Tools, knives, scissors, and other articles, such as locks, keys, etc., have therefore already been largely made from it by gunpowder manufacturers. Bearings, pit ropes, telegraph-wire, tnyéres, cannon, cartridge-cases, pistols, bells, etc., have also been made of this metal.

By order of the Prussian Ministry of Commerce, experiments have been made with the varions kinds of phosphor alloy, the object of which was to attain the resistance of the metal to repeatedly applied strains or pulls, and also to bends of a given force. The first bar fixed on the stretching machine resisted 408,230-of ten tons per square inch, while a bar of ordinsry bronze broke before even the strain of 10 tons per square inch had been attsined. Another bar withstood 147,850 pulls of 12½ tons per sqnare inch. Still more favorable results have been obtained ou a machine by which the test bar was bent as often as 40,000 times per day. In this instance it resisted 862,980 bends of 10 tons per square inch, while the best gun-metsl broke after 102,650 bends of the same force. Another bar which was being tested withstood 1,260,000 bends of 9 tons' force per square inch, without showing any signs of weakness.

The foregoing remarks show the great adaptability of phosphor-bronze for all articles hitherto manufactured of ordinary bronze or gun-metal, and although the primary cost may exceed that of other alloys, the ultimate result will be in its favor, owing to its extra durability, lightness, and c.p bility of reconversion. In fact it may be said that what steel is to cast-iron, phosphor-bronze is to ordiuary bronze. The patentees have received diplomas and medals of merit and progress from the Vienna Exhibition.—*Iron.*

Making Hay While the Sun Shines.

An old inventor who found himself, after all his thonght aud labor, with barely the means snfficient to protect his last years from want, once gave this excellent piece of advice to young inventors: "Make your hay while the sun shines." We think we have heard this expression before, bnt it is good connsel, and, as regards inventors, particularly those who devote themeelves to improvements in printing machinery, ie greatly needed. In the present progressive etate of the business, all that can be used to facilitate printers' work is preesed into the service. Bnt if the inventor is slow, or waite too long to get his work perfected, the chances are very largely in favor of hie being snperseded by others, or that there will no longer be the same need as heretofore for the invention. The valnable work of most new inventions is said to be crowded iuto three, or at furtheet four years. The rest of tbe time ie spent in introducing the article at firet, or fighting imitatione at the last. Every day becomee precious, and ehould be employed. The appliancee of printiug machinery, the feedere, folderе and grippers, and the inking, wetting, counting and addressing machines, to say nothing of the radical prese improvemente, occupy the whole attention of probably not lese than two thousand inventing minds at the preeent time. Some of these will find themselvee behind hand with a piece of work that might have brought them a good sum. We have heard of enough instances of this kind to create the belief that there are a great many that we do not hear of. The lessons to be learned are "to make hay while the sun shines," and that in inventions no amonnt of genius will compensate for the want of enterprise.

Vapor Power.

The Boston *Globe* says: Mr. William Wells, of Salem, has just perfected an apparatus for running stationary or locomotive engines hy vapor power, which, if it fulfills all that is expected of it, will entirely revolntionize the method of running engines of every description. The new apparatus was set np a few days ago, and pnt in practical operation for the first time, in the presence of several gentlemen well versed in machinery and the npplication of power. The working of ths engine was entirely satisfactory, and all present expressed themselves as highly pleased with the snccess of the invention, which has been cousidered by all but the designer as an experiment.

The whole apparatus is very simple in construction, and the new power can be applied to any engine. The whole peculiarity in construction is in the boiler, the vapor being conveyed to the cylinder of the engine just the same as steam. The boiler is an upright one, and is really a double boiler; that is, it has two heads at each end, one a few inches from the other. The two chambers thus formed, one at each end of the boiler, are filled with water, and are connected by tubes, which are for the circulation of the water between the two chambers. The second or inner boiler, that between the two inner heads, is filled with a preparation of bisulphide of carbon, the vapor from which is the motive power and takes the place of steam. Beneath the boiler is a small fire box, from which fines rnn np through the two boilers to the smoke pipe. These flues pass inside of the tubes already mentioned, and the fire in passing through heats the chemicals. By this arrangement it will be seen that the bisulphide in the inner boiler receives the reqnisite amount of heat without coming in direct contact with the fire fines, as the water, as has been explained, is kept in circulation through the tnbes. Mr. Wells claime that with a comparatively small fire a great amount of power can be obtained, and it has been practically sbown tnat with the water at a temperature of 212 degrees Fahrenheit, or the boiling point, a pressure of sixty-five pounds to the sqnare inch is obtained on the vapor boiler, and, of course, if a greater heat is applied to the water, the vapor pressure will increase proportionately. It shonld be mentioned that the chemical preparation is nsed over many times, as the vapor, after passing throngh the cylinder of the engine, passes into a condenser, and is then returned to the boiler to be used again. The waste of chemical material is said to be very small. It is estimated that at least two-thirds of the amount of fuel can be saved by the use of this invention, but the exact amount can be better determined after further experiment.

A fireless locomotive for street cars was tested in Chicago the other day. The motive power consisted of a boiler eight feet long by three feet in diameter, and the usual machinery on a small scale. There was no fuel, no fire, no fireman. The steam was supplied for the round trip of six miles before starting. At the depot was a supply boiler thirteen feet by three feet, in which steam was generated until 200 pounds pressure was indicated by the steam gauge. The locomotive boiler was three-fourths full of cold water. Instead of boiling this by means of a fire, and raising the pressure to the required hight, the heat was introduced from the supply boiler through an iron tube. This tube was connected with a tube in the locomotive boiler, the latter running under the water along the bottom of the boiler, and letting out the superheated steam as it was freed from the supply boiler into the locomotive boiler. This steam rising through the cold water, permeated it and quickly raised its temperature to 170 degrees. With this supply of steam the engine drew a heavy four-horse car six miles, at the rate of eighteen miles an hour, and had fifty-seven pounds of steam still remaining. The test was considered perfectly satisfactory.

Slate Paint for Roofing.—At length an invention has been made that is much needed for warm climates, and particularly Cnba and the other sngar countries, where so many fires constantly occur on the estates, caused by inflammable roofing covered with some composition of pitch. The slate paint being cheap, it ie within reach of the means of the people at large, thns commending itself both to the hnshandman and to the planter that may wish to protect their roofs from damage by water and fire. The principal ingredient of the paint is slate in solution, which, within a month from the time it ie put on, cryetallizes and hardens in the open air, thue furnishing a sort of iron-clad coat, which hae penetrated into the interstices of the roof everwhere.—*El Cronista.*

Among the recent iugenious devices for ntilizing the electric spark, ie that which eubstitutes it for the ordinary flint or percnssion cap on fire-arms. By the aid of a small galvanic battery, within the handle of the pistol or gun, or by the convenient arrangement of a Leyden jar and rnbber, the cnrrent ie generated, and conducted by a wire to the cartridge. The contact of the wire with the cartridge may be effected by a simple press-pin or lever.

It is said that glycerine mixed with the water in steam engine boilers prevents the disposition of lime ealts, and consequently protects the boiler from incrustation. Abont one pound of glycerine to every 300 or 400 pounde of coal burnt ie sufficient for this purpose.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Oct. 1, 1873.

NAME OF COMPANY.	IN MINE.	IN MINE.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co							
Alpha Consolidated	300		6000	22	21		½
Alta	3600						
American Flat			30000	6	⅝		⅜
Arizona & Utah	1900		18000	75c	50c		1
Bacon Mill & Mining Co.	65		24000				
Baltimore Consolidated			54000	8⅞	7⅛		¼
Belcher	1040		104000	68	65		2
Best & Belcher	224		22400	5¾	4¾		¼
Bowers	20		5000				
Buckeye			16000				
Bullion	2500		25000				
Caledonia Silver M. Co.	5000		20000	17½	15½		2½
Central	150		10800	9	7⅛		½
Central No. Two	100		20000	6¾	5⅝		⅛
Chollar-Potosi	2800		28000	38½	34½		1
Confidence Silver M. Co.	130		24960	5¾	5¼		¼
Cons. Gold Hill Quartz	3454		20000				
Consolidated Virginia	1160		23600	96	95		5
Cook & Geyer	1600		24000				
Crown Point G. & S. M. Co	600		100000	9½	7	6	½
Daney	2000		24000	1⅜	57½c		⅛
Dardanelles	1200		24000				
Eclipse	70		25000				
Empire Mill & M. Co	75		50000	3¾	3¼		⅛
Exchequer	400		8000	8	8		
Flowery	3000		12000				
Franklin							
Globe			20000	75c	62½c		½
Gould & Curry S. M. Co	1200		48000	11¾	9½		¾
Hale & Norcross	400		16000	28	23		3
Imperial	184		100000	4½	3⅜		⅜
Indus							
Insurance	2000		30000				
Jacob Little							
Julia Gold and S. M. Co	2000		30000	1½	1⅜		⅛
Justice	3000		21000	8	6		1
Kentuck	95		30000	10¼	9½		¼
Knickerhocker	1200		24000	3⅞	3½		⅛
Lady Bryan							
McMeans	3600		36000				
Mint Gold & S. M. Co	1600		50000	3 c	25c		10c
Nevada	3000		40000				
New York Consolidated	3600		36000	87½c	80c		¼
Occidental	800		10000				
Ophir Silver Mining Co	1400		18800	47	36½		10
Overman Silver M. Co	1200		12800	12¾	9		2¾
Phil. Sheridan	1200		24000				
Piotou	2000		30000	25c	20c		
Rock Island			24000				
Savage	800		16000	43	39		4½
Segregated Belcher	160		6400	55	38	11	
Segregated Caledonia			16000				
Senator Silver M. Co			24000				
Sierra Nevada			24000	10½	10		1½
Silver Hill			54000	12½	11½		¾
South Overman			24000	20c	20c		
Succor Mill and M. Co	7600		22800				
Sutro			24000				
Trench	20		50000	50c	40c		10c
Tyler	2200		33000	75c	62½c		¾
Union Consolidated	803		20000	1⅜	1¼		⅛
Utah	1		20000	1	1		
Woodville G. & S. M. Co	1400		28000	87½c	62½c		¾
Yellow Jacket	1200		24000	45	42½		4½
NEVADA.							
Adams Hill			50000				
Alps Silver Mining Co	850		30000	75c	75c		⅛
Amador Tunnel & M. Co				1¾	1⅝		⅛
American Flag M. & M			30000	3⅜	2		⅛
Arkansas	300		30000				
Belmont				3½	2⅜	2	
Bowery			30000	50c	50c		
Chapman Mill & M. Co			30000	25c	25c		
Charter Oak S. M. Co	1000		30000				
Chief of the Hill			30000	50c	40c		30c
Ohief East Extension			36000	25c	25c		
Oolumbus M. & M. Co	10000		50000				
Oondor			25000				
El Dorado South				3½	3⅛		
Eureka Consolidated			50000	11¾	10¼		1½
Excelsior			12000				
Harper Silver Mining Co			30000				
Hermes	1000		30000	3⅞	3		⅛
Home Ticket							
Huhn & Hunt S. M. Co	3600		30000	1	62½c		⅛
Ingomar Silver M. Co	1000		40000	35c	20c		
Ivanhoe			30000	62½c	50c		
Jackson			50000	25c	25c		
Jumiata Consolidated	5000		50000	4	4		
K. K. Consolidated							
Kentucky Gold & S. Co	1000		30000	2¾	2½		⅛
Kinston	1000		30000				
Lehigh	1000		30000				
Lillian Hall	1000		15000				
Louise	2400		30000	30c	30c		1c
McMahon	1000		30000	3	2½		
Marion			30000				
Meadow Valley	21023		60000	18	14⅜		2½
Mocking-Bird	1200		30000				
Monitor Belmont							
Murphy	2000		60000				
Newark Silver M. Co	800		32000	6½	6		⅛
Pacific Tunnel & M. Co							
Page & Panaca S. M. Co	2400		40000	1	50c		⅜
Peavine	1000		30000				
Phoenix			50000	30c	25c		
Pioche Silver Mining Co	1000		20000	6½	5¾		
Pioche West Extension			35000	1½	1		½
Pioche-Phœnix			40000				
Portland							
Raymond & Ely	5000		30000	69	62		2
Silver Peak			30000	25c	25c		¼
SilverWest Consolidated							
Standard Mill and M. Co							
Star Consolidated	18000		50000				
Starlight	6900		30000				
Sterling			30000				
Spring Mount			35000				
Spring Mountain Tunnel			20000				
Ward Beecher							
Washington and Creole	200		30000	1⅞	1¾		⅛
Yellowstone							
CALIFORNIA.							
Alpine	1200		12000				
Bellevue	8000		20000				
Calaveras Gold M. Co	3200		20000				
Cedarberg Gold M. Co			24000	2	2		1⅛
Consolidated Amador							
Cottonwood Creek			20000				
Dunderberg M. & M. Co							
El Dorado Hill Quartz M							
Eureka Gold Mining Co							
Gillis	1630		24000	20	19		1
Independent Gold M. Co			25000	1¼	1⅛		⅛
Keystone Quartz	1800		10000				
Mt. Jefferson			25000				
Oakville Quartz M Co	1500						
Rye Patch				11¾	9½		1¼
St. Lawrence M. & M. Co							
St. Patrick			20000				
Tecumseh	1800		30000				
Yule Gravel	3000		10000				
	400						
IDAHO.							
Empire			25000	3½	2		½
Golden Chariot			10000	22	16		3½
Ida Ellmore	750		10000	3	2½		½
Mahogany G. & S. M. Co	1300		10000	8	7		½
Minnesota Gold & Silver	720		20000	15	14		½
Red Jacket	1070			1	1		
South Chariot			20000	3	2½		½
War Eagle	660		10000	2⅝	2		⅜
WHITE PINE.	1000						
General Lee			20000				
Mammoth Silver M. Co	1000		36000				
Noonday	1800		20000				
Orig. Hidden Treasure	1000		21333	5½	5		1⅛
Silver Wave	800						
Ward Beecher			24000				
UTAH.							
Deseret Consolidated			30000				
Wellington	2400		50000				
OREGON.							
Virtue	2300		20000				

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business.
American Flag M. & M. Co.	Ely Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K. Spinney,	325 California st
Arizona & Utah M. Co.	Nevada	6	50	Sept 8	Oct 13	Oct 31	J. Maguire	419 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 20	C. F. Balcom,	426 Montg'y st
Belmont M. Co.	Nevada	1	1 00	Aug 15	Sept 20	Oct 13	O. H. Bogart,	411½ California st
Chief of the Hill M. Co.	Ely District	3	50	Sept 11	Oct 16	Nov 7	C. S. Neal,	419 California st
South Eureka M. Co.	Nevada	5	20	Aug 30	Oct 6	Oct 27	T. F. Cronise,	438 California st
Empire M. Co.	Idaho	4	3 00	July 16	Aug 26	Sept 22	C. F. Balcom,	426 Montg'y st
Eureka M. & S. Co.	Nev		2 50	Aug. 21	Sept. 22	Oct. 13	T. P. Beach,	217 Sansome st
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Huhn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 7	Oct 23	T. L. Kimball,	419 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	C. S. Neal,	419 California st
Independent G. M. Co.	Cal	5	50	Sept 29	Nov 3	Nov 24	G. T. Graves,	240 Montg'y st
Justice M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener,	414 California st
Kentuck M. Co.	Washoe,	11	1 00	Sept. 16	Oct. 21	Nov. 11	Frank Swift,	415 Montgomery st
Lady Emma M. Co.	Cal	4	15	Aug 20	Sept 20	Oct 13	A. D. Carpenter,	605 Clay st
Mint G. & S. M. Co.	Washoe		10	Aug 20	Sept 24	Oct 16	D. A. Jennings,	401 California st
McMahon S. M. Co.	Nevada.	5	25	Sept. 4	Oct. 6	Oct. 27	Geo. R. Spinney.	320 California st
Overman S. M. Co.	Washoe.	27	2 00	Sept. 16	Oct. 21	Nov. 8	W. W. Stetson.	414 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 13	Sept 26	Oct 23	C. E. Elliott,	419 California st
Phœnix Tunnel & M. Co.	Utah	2	20	Sept 29	Nov 1	Nov 20	Chas. S. Healy,	35 Merchants' Ex
Peavine S. M. Co.	Ely District	5	25	Aug 28	Oct 4	Oct 28	C. F. Balcom,	426 Montg'y st
Page & Panaca S. M. Co.	Ely District	4	50	Aug 12	Sept 16	Oct 6	L. Kaplan,	Merchants' Ex
Silver Peak M. Co.	Ely District,	3	50	Sept. 19	Oct. 27	Nov. 17	G. T. Grimes.	240 Montgomery st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A. Jennings,	401 California st
Union G. M. Co.	Cal	7	50	Aug 12	Sept 15	Oct 6	A. K. Durbrow,	Merchants' Ex
War Eagle M. Co.	Idaho	2	2 50	Aug 13	Sept 22	Oct 15	C. F. Balcom,	426 Montg'y st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings,	401 California st
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 6	A. Noel,	419 California st

Other Companies (not on the Lists of the Boards.)

Adams Hill Con. M. Co.	Nevada.	4	10 Sept. 24	Oct. 28	Nov 29	W. W. Traylor.	419 California st
Auburn G M. Co.	Placer Co., Cal.	5	1 00 Aug 9	Sept 15	Oct 6	R Wedgener,	414 California st
Bunker Hill Quartz M. Co.		11	10 00 Sept. 10	Oct. 13	Nov. 5	Wales L. Palmer.	19 First st
Carolino M. Co.	Ely District		20 Sept 5	Oct 14	Nov 6	C E Elliott,	419 California st
Cincinnati G. and S. M. Co.	Kelsey Dist		50 Sept 18	Oct 20	Nov 10	Wm. Small,	331 Kearny st
Day Spring G. M. Co.	Cal		5 Aug. 4	Sept. 10	Oct. 1	C. F. Brown.	302 Sansome st
Eureka M. Co.	Nevada	1	25 Sept 2	Oct 4	Oct 21	R B. Noyes,	411½ California st
Gold Run M. Co.	Nevada Co., Cal.		25 Sept. 13	Oct. 20	Nov. 10	C. C. Palmer.	Cr. Market & Spear sts
Hasloe M. & M. Co.	Cal	2	75 Aug 13	Sept 13	Oct 6	J. W. Tripp,	408 California st
Homeguera M. Co.	Lower Cal.		3 00 July 29	Sept 5	Oct 27	J. H. Applegate,	729 Montg'y st
Ida & Rhoda Lewis Con. M. Co.			10 Aug. 28	Sept. 30	Oct. 21	J. J. Lucas.	12 Express Building
Lady Esten M. Co.	Utah	4	10 Aug 8	Sept 12	Oct. 6	C. S. Healy.	Merchants' Ex
Mendha S. M. Co.	Highland District	2	1 00 Aug 13	Sept 18	Oct 13	G. R. Spinney,	320 California st
Mazeppa S. M. Co.	Ely District	2	50 Aug 15	Sept 20	Oct 8	M. F. Game,	320 Sansome st
North Bloomfield Gravel M. Co.	Cal	27	1 00 Aug. 22	Sept 23	Oct 13	Thos. Bell,	320 Sansome st
North Star G. M. Co.	Cal		4 00 Aug 13	Sept 17	Oct 8	D. A. Jennings,	401 California st
Occident G. & S. M. Co.	White Pine.		3 5 Sept. 14	Oct. 21	Nov. 15	J. A. McClelland.	414 Montg'y st
Pacific Coast Wrecking Co.	S. F.		5 00 Aug 5	Sept 12	Oct 6	G. S. Pratt,	204 Montg'y st
Pride of the Mountain M. Co.	Nevada		10 Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Pioche Cons. G. M. Co.	Cal		5 Aug 16	Sept 26	Oct 20	F. D. Cleary,	Merchants' Ex
Stasisaus River M. Co.	Cal	1	10 Sept 25	Oct 27	Nov 12	Wm. Stuart,	113 Deidesdorff st
Silver Wave M. Co.	White Pine		40 Sept 20	Oct 30	Nov 25	J. W. Clark,	418 California st
Stevens Pacific S. M. Co.	Cal		10 Sept 11	Oct 15	Nov 3	J. M. Knight,	320 Montg'y st
Southern Pacific Cons. G. M. Co.	Cal		10 Sept 11	Oct 25	Nov 25	C. A. Eaton,	12 Express Build g
Santa Cruz Coal M. Co.	Cal	3	5 Aug 19	Sept 23	Oct 11	L. Kaplan,	Merchants' Ex
Sapphire S. M. Co.	Nevada.	2	20 Sept. 5	Oct. 10	Oct. 30	Joel F. Lightner.	438 California st
San Marcial S. M. Co.	Mexico		1 50 Aug 22	Sept 26	Oct 16	O. F. Schulze,	426 Montg'y st
Tecumseh G. S. & O. M. Co.	Cal		25 Sept 15	Oct 20	Nov 10	F. J. Hermann,	418 Kearny st
Washington M. Co.	Cal		2 00 Aug 11	Sept 16	Oct 10	T. B. Wingard,	318 California st
Wellington M. & S. Co.	Utah.	2	25 Sept. 22	Nov. 3	Dec. 1	R. Wegener.	414 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Baltimore Cons. M. Co.	Ely District	D. T. Bagley,	401 California st	Annual	Oct 2
Charter Oak S. M. Co.	Ely District	G. W. R. King.	411 California st	Special	Oct 6
Cons. Virginia M. Co.	Washoe.	Called by Trustees.	401 California st	Special	Oct. 18
Eureka Cons. M. Co.	Nevada	W. W. Traylor.	419 California st	Annual	Oct 13
Eureka G. M. Co.	Grass Valley	R. Wegener,	414 California st	Annual	Oct 16
Grace M. Co.	Nevada	W. H. Knight,	331 Montg'y st	Annual	Oct 9
Golden Chariot M. Co.	Idaho.	Called by Trustees.	Merchant's Ex.	Special	Oct 20
Segregated Belcher M. Co.	Washoe	E. F. Stone,	Merchants' Ex	Annual	Oct 7
Silver West Cons. M. Co.,	J. W. Brumagin,		Montgomery Block	Annual	Oct 6

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	50	July 17
Black Diamond Coal Co.	California.	F. B. Cornwall.	Oor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M Co.	Washoe.	H. C. Ribbe,	419 California st.	5 00	Sept 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Sept 12
Cederberg G. M. Co.	California	D. M. Bokee.	420 Montgomery St.	50c	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Hassett.	1	1 00	Jan. 26
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Sept 6
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Sept 10
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Sept 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Montgry. St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	May 15
Providence C & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. O. Ralston, Oh'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r.	N. W. cor. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	H. Pichoir,	Cor. Mont'g. & Wash. sts	1½ per cent.	Sept 15
German Savings & Loan Society,	S. F.	Geo. Lette,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st,	9 6-10, 8 & 4 per cent.	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No 6 Post st	9.75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.,	415 Clay st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. O. Thompson Oh'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April
Pioneer Board & Loan Association,	S. F.	H. Kofahe, Ch'r.,	405 California st.	1 per cent.	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	O. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 percent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

Our Weekly Stock Review.

THURSDAY EVE., Oct. 2d, 1873.

The past week has not been a very good one for the brokers here, as there has been a feeling of distrust in stock circles, on account of the recent financial disturbances in the Eastern States. The panic is now, however, well nigh over and affairs will shortly again pursue the even tenor of their way. As soon as the news from New York was received here, there were expectations of a great break in the market, but it did not break worth a cent. Still the banks called in their available loans and the brokers prepared for the worst, so that if a run had been started, they would have been all right. This serves to account for the extreme rate of discount ruling for silver bars. The banks wanted their coin in their vaults and did not care to buy even gold bars, much less silver. This subject is referred to more at length in another column. The lesson taught by the New York Stock Exchange of suspending business to prevent a causeless depreciation of values, will probably be followed elsewhere on similar occasions, and do much good. There have been no failures or suspensions here in consequence of matters going as they have in New York.

A recent affair in stock circles in this city is thus told by the *Real Estate Circular*, which is responsible for the story. We give it as a matter of interest to our readers: The risks attending the loaning of money on even the best class of mining stocks, and a specimen of the morals prevailing in stock circles, are well illustrated by the following story: Au attempt was made not long since to

Take Control of the Savage Mine

From certain large operators in whose hands it has for some time been. To accomplish this it was, of course, necessary to secure large loads of Savage stock. Under the influence of these purchases the stock went up to $160. About this time, however, it was found that a controling interest in the mine could not be had; that the opposite party was a little too "hefty" to be thrown overboard. The move was, therefore, a failure, and a fall in Savage was not far off. One of the buyers, who wae loaded down to the guards with the stock, wae well aware that if he were to attempt to sell out, prices would break terribly, and, being a moral genius in his way, he

Devised a Plan

To let himself down easily and put the losses on other shoulders. Calling in the aid of an unscrupulous and impecnnious individual, he made a stuffed sale of 2,600 shares of Savage to him. He then sent him to two of our largest moneylenders to borrow on the stock. One of them loaned $95 per share on 1,000 shares, at 2 per cent. per month, while the other loaned $105 a share on 1,600 shares, at 3½ per cent. per month; the first loan amounted to $95,000, the other to $168,000. 2,600 shares having thns been disposed of, the sharp operator then let the remainder of his load go upon the market. The price, of course, began to fall, but he got out with comparatively little lose. The stock in three days went down to $45. Both the money-lenders

Rushed After the Borrower

When the tumble began, but he coolly told them he had no money; that the unexpected fall in the stock had set him naked on the bedrock; and, finding nothing to attach the lenders had to grin and hear it, not knowing that what is called a neat job in the stock market had been put up on them. One of the lendere sold out at $45, sustaining a lose of $50,000; while the other has his little bnndle still on hand to say his prayers over. This little incident is a true story of unsophisticated brotherly kindnees. If its relation here ehonld be the means of inducing any widows or orphans to withdraw their little savings from a slow-going bank and invest it in mining etocks (where they are sure to double their money) onn benevolent object will he more thau attained.

This does not prove anything at all against mining stocks. It only proves that there are diehonest men in stock ciroles as in all others. The business is one which gives snch men a chance to deal unfairly, but when they do it once the brokers know them, and they never have another chance. Thievee will he thieves anywhere, and no one would take more trouble to eliminate this class of people from society than the brokers themselves.

On Friday the etock market was very weak, and the Board adjourned early to celebrate its eleventh anniversary with an approprate collation. Advices from the East concerniug the financial depression there broke down prices to some extent.

Saturday, prices opened a little better than they were on the previoue day, aud prices ou the street were even better than in the Board.

On Monday the market was quiet in the morning, but more husinese was done in tbe afternoon at steady pricee. There was, however, very little ectivity manifeeted.

Belcher was 50 cts higher than on Saturday, Chollar, $1.50; Raymond & Ely, $1; Jacket, $1.

As far as the amount of business was coucerned, Tuesday was a little better thau Monday, but prices were firm, and the enconraging news from the East in relation to the end of the "financial panic" gave a better tone to the market. Pricee closed generally higher. Ophir rose $6; Belcher, 75 cts; Chollar, $1; Savage, $1; Yellow Jacket, $1, Seg. Belcher, $1; Golden Chariot, $1.

On Wednesday there was some considerable activity in the stock market, and higher prices prevailed, the afternoon Board being quite strong. Belcher closed $1 higher, Crown Point, $1; Savage, $1; Overman, $2; Yellow Jacket, $1; Caroline, 50 cents.

Mining stocks to-day are irregnlar. Ophir shows a reaction. Overman and Segregated Belcher exhibit a hardening tendency. Compared with the rates yesterday noon, Consolidated Virginia advanced $5, Segregated Belcher $6, Alpha, Belcher, Baltimore Consolidated, Caledonia and Overman each $1. Ophir declined $4 and Savage $1. At the Board last evening, Goldeu Chariot advanced $3, Raymoud & Ely $2 and Rye Patch $1, and Hayes declined $2.

There is rather more business in Mining Stocks, notwithstanding the unsettled condition of finances, the sales at the San Francisco Stock Board for the week ending on Tuesday evening, amounting to $2,006,000, an iucrease of $200,000 over the previous week. Overman was the leading feature, the sales of which were 14,800 shares at $9 to $14 ae extremes. The next heaviest operations were in Newark and Hayea, eay 8,600 and 8,200 sharee respectively. Other large transactions embraced 4,800 shares Belcher, 4,200 sharee Baltimore Consolidated, 5,300 shares Belmont, 4,200 shares Gould & Curry, 4,600 shares Imperial, 4,500 ehares Meadow Valley, 5,700 shares Ophir and 4,600 shares Tyler.

THE *Plumas National*, published at Quincy, Plumas County, in this State, completed its seventh volumne on the 27th nlt. The *National* is one of our most valned interior exchanges.

Mining Summary.

The following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

Silver Glance.—Alpine *Miner*, Sept. 20: In the Silver Glance Department of the M. & N. W. everything is progressing satisfactorily. Connection has been made between the boiler and engine, but owing to some delay in procuring wrapping for the pipe, the steam pump and hoisting works will not be put in operation for a few days yet. Men are at work timbering the shaft. The rock in the face of the west drift seems to be improving, and the work goes on satisfactorily.

Silver Mountain.—There is nothing new for us to present to our readers from this district. Several old claims that had been abandoned, are now being worked, and with every prospect of rich developments. Some good-looking quartz was on view in town a day or two since, taken from the Noble claim, owned by Mr. Wm. Brown, which proves to contain a fair proportion of silver, when assayed by Mr. Hunter.

The Schenectady Mill.—This mill is kept at work on ore from the upper dump. There has been a scarcity of water in the creek, which has compelled short work a part of the time. Mr. Hunter showed us a fine batch of amalgam, the result of last week's run, which he says weighs 126 pounds. This looks like success, and we have no doubt Mr. H. will realize handsomely from his present run. There will be no clean-up for some time to come.

Mills Running.—The Exchequer and Schenectady Quartz mills are now running steadily.

AMADOR COUNTY.

Placer Mines.—Amador *Ledger*, Sept. 27: Placer mining has nearly ceased throughout the county for the want of water; this want we hope will be fully met before another summer by the completion of the Sutter canal. The future prosperity of the county in a great measure depends upon this canal, and every encouragement should be given to its early completion. We hope ere long, we will be able to chronicle the important fact, that work has been resumed upon it.

Butte City.—Just below Big Bar is located the claim of the Hageman Brothers. They have the river turned by fluming, and the necessary machinery in operation to drain the bed of the stream, and are realizing more than ordinary wages. The ground has never before been thoroughly worked, and in some places never worked at all, and when these spots are found they prove to be very rich. The character of the gold is very fine, and during the early days of mining, with rocker and long tom, only a portion of the dust could have been saved. The present method of saving the finest particles of gold, renders river mining more profitable than when the primitive systems were in use, and when not more than three-fourths of the fine gold was saved.

Middle Bar.—The gravel claim of Mr. McKinney, adjoining the river, is paying well. The dirt is from 10 to 15 ft. deep, is very compact, and all contains gold. As soon as a face to the claim was secured, powder was brought into requisition to shatter and throw down the heavy banks of earth. A shaft is sunk some 20 ft. from the face, and then loaded with the requsite amount of powder, which being properly arranged, executes its mission most satisfactorily.

The Casco Mine, which is being worked by Mr. McKinney, is at present, as it has been for some time past, yielding a handsome profit. Mr. McK. took charge of the mine more than two years ago under the most unfavorable auspices. In consequence of the low stage of the water in the river, and its continual failing, it is thought the crushing of the rock will soon have to be suspended until the river rises sufficiently to afford the amount of water necessary to run the mill successfully.

As the State of Maine Mine becomes more thoroughly developed, its favorable indications of a future good mine are more surely apparent. The main shaft has attained the depth of 120 ft., at the bottom of which a level to the north is being run, which has at present reached 42 ft., with much better prospects than the mine has ever indicated.

CALAVERAS COUNTY.

Coal.—Calaveras *Chronicle*, Sept. 27: Samples from the Lancha Plana coal fields of Calaveras county, now brought to the surface of the ground, are said to be equal to the best Diablo coal.

Coal.—We have had samples of Lancha Plana coal practically tested by blacksmiths here. They welded several pieces of iron in a fire made by the Lancha coal, and did as good work as one often sees. The coal, however, still contains impurities, sulphur predominating.

A Promising Mine.—The Sanderson mine, near Railroad, is now showing better than ever before. At the depth of 180 ft. the ledge is about 3 ft. thick, and the rock is said to be the richest ever mined in that section of the county.

Cleaning Up.—Since the water in the ditch failed, Duryea, proprietor of the great hydraulic in Chili Gulch, has been making a general "clean up."

Gwin Mine.—A contract for sinking the main shaft in the Gwin mine 100 ft. deeper has been let and the work commenced. Good rock is being taken from the stopes in the 700-foot level, and a battery of 24 stamps is in active operation. We believe that the sinking of the shaft will demonstrate the fact that the rich body of ore now being mined in the 700-foot level is permanent.

Wolverine.—We learn that the work of sinking the shaft in the Wolverine mine, near Railroad, 200 ft. deeper, has been commenced. The shaft is now down 300 ft. It is supplied with first-class machinery, hoisting works, etc.

EL DORADO COUNTY.

Splendid Quartz. — Mountain *Democrat*, Sept. 27: Within the past week we have seen some extraordinary gold-bearing quartz taken out from the ledge back of Ollis' blacksmith shop. Numerous large chunks are richly seamed, studded and spangled with the precious metal. The rock is coarse-grained and friable, in occasional streaks well loaded with sulphurets, and in most of its characteristics gives promise that the ledge will develop into profitable permanency.

Good Reports.—McNevin, of the St. Lawrence mine, was in Placerville the other day, and reports excellent ore in the lower levels of that fine mine.

INYO COUNTY.

The Cottonwood Flume.—Inyo *Independent*, September 20: Over one-third of this important work is now in running order, and but a week or two will elapse before all of the most difficult portion of the cañon will be passed and the wagon road reached. Timbers 24 ft. in length go down the flume without the slightest difficulty. Flume sections or boxes 12 ft. in length are put together at the mill, put in the water and are often ridden down upon by the men. In places the flume has a grade of 4 to 12 ft, and as may be inferred boxes and men go down with fearful velocity, at times throwing water like a cannon shot. The flume will be completed before the middle of December.

Lida and Gold Mountain.—The Austin company have commenced work on their mines at Gold Mountain. The mines in Sylvania district are looking exceedingly well, all the mine owners being hard at work and in the highest hopes. At Lida, Hiskey & Walker's mill is constantly running to its fullest capacity.

Nevada.

BRISTOL DISTRICT.

Sultan.—This mine looks as well at present as it ever did. A prospecting shaft is being sunk, and no ore is at present being taken out. It is feared that work will have to be suspended until Winter on account of the want of water for the men.

Cave.—The appearances are very encouraging. There is every indication that a large body of ore will be struck soon.

CHERRY CREEK DISTRICT.

Gentlemen lately in from this new mining district are sanguine of its future prospects and one party brought in most tangible proof of there being silver and gold contained in the rock of that section. We saw 8 bars of bullion produced at the new 5-stamp mill built by the Rye Patch Consolidated Company, which were valued at $5,000, being in silver and gold, 800 fine. It will be remembered that the principal mine embraced in this company's property is the Exchequer, which has been bonded for $40,000, to Gashwiler, Boyd & Co. With such evidences as are contained in these precious bars mentioned, it would seem there should be no trouble in disposing of the property at the low figure named. We are informed that an offer has been made by the owners of the Tehama mill, at Shellburn, to remove the mill to Cherry Creek and put it in order, provided the owners of a valuable property will make a deed to the company of an undivided one-half interest. Everything looks favorable for a decidedly prosperous future for Cherry Creek, and, if the mines continue to show as well at a depth as now seems the case, the inhabitants of Shellburn, who are more or less interested at the former place, may well hope to retrieve their misfortunes, and get back some of the coin lost in wild speculations. The number of people is said to be daily increasing, and confidence seems unabated. Ere the winter's season fairly sets in we are confident other companies will be formed, and enlarged milling facilities be introduced, which will have an effect to remedy the evils consequent on the hard times heretofore prevailing there. We have to await the coming of another spring before much observable difference can be made apparent in our county, but the times look forward to increased activity in mining matters all over the State during the coming year.

ELY DISTRICT.

Meadow Valley.—Pioche *Record*, Sept. 28: About the usual quantity of ore is being taken out. Shaft No. 3 is being sunk and is now 82 feet below the ninth station. The work is being pushed ahead as fast as the nature of the ground will permit. A drift is being run to the west from the ninth station, and it is now in a distance of 116 ft., with favorable indications. The east drift from the same station is now excavated a distance of 198 ft., and is being continued. The appearances in this drift are also very favorable.

Raymond & Ely.—The miners in the drifts to the south and southwest have not, as yet, struck the ledge, though it is expected that they will come upon it at almost any hour. All the stopes from the sixth level to the third, inclusive, are in first-class ore. The ore at the eighth level is also of a very good quality. The perpendicular shaft is now 910 feet deep.

Pioche.—The company is now working 30 men. Five tons of ore, four of which are first-class, are taken out daily. There are now on the dump 90 tons of first-class ore ready for milling. The crushing of this will be commenced about the 1st of October. The work in the new shaft is progressing finely, the hoisting being done with a whim. The grading for the new building will be finished in a few days, and new steam hoisting machinery will be put up. The shaft was 272 feet deep yesterday morning, and the ground at the bottom is fair for working.

American Flag.—The shaft is being sunk at the rate of eighty feet per month. The ledge at the bottom is four feet wide, and its appearance is very encouraging. The workmen have not been without ore for the past two months; but the quantity was not sufficient to pay for extracting it. The mill is now running on ore from the Newark mine.

Spring Mountain Tunnel.—Sinking continues without any important change since the last report. Indications show the workmen in the bottom of the shaft to be near ledge No. 2. There are stringers of quartz and ledge matter coming into the bottom of the shaft, and it is expected that No. 2 will be cut before a progress of 20 feet or more shall have been made.

Chief of the Hill.—A progress of 14 feet has been made in the west drift, and 10 feet in the shaft, which is now 342 feet below the level of the Burke tunnel. The company is working 35 men. A little ore is being taken out, and work is going on as rapidly as possible all the time.

Chief East Extension.—The ledge is about the same width as last reported, and there is no change in the quality of the ore. Some ore is being extracted and assorted on the dump. There are now about 20 tons of ore ready for the mills.

Washington & Creole.—The company employ 35 men. The last of the ore on the dump was shipped last week. Bullion shipments will commence on Monday next.

Alps.—The workmen are running a prospecting drift south, and are now 360 feet from the shaft. They will have to go 60 or 70 feet further to strike the vein. From the second level a winze is being sunk in a vein 6 feet wide, of $80 or $90 ore.

Havana.—Nothing will be done in the mine until the whim, for which the grading is now being done, is erected.

Ivanhoe.—The shaft is being sunk and timbered in a substantial manner. It is now more than 100 feet deep.

Pacific Tunnel.—To-day a survey will be begun preparatory to the commencement of work.

Peavine.—The new shaft in the ledge is now down 104 feet. At the bottom there is a narrow vein of very rich ore.

Chapman.—Sinking on the vein continues with some improvement during the week. The workmen are now down to the 420-foot level.

Caroline.—Sinking is continued at the rate of four feet per day. No other work is at present being done.

Louise.—There has been very little change during the past week. Prospecting is being done on the 200-foot level.

Still Sinking.—The Bowery, Portland and South Side still continue to sink their respective shafts.

EUREKA DISTRICT.

Silverado.—Eureka *Sentinel*, Sept 21: John Shonebar was in town yesterday from the above mining section. Silverado is on the same range with Pinto and Maryland Wells. Mr. Shonebar is working two mines, namely, the Duquette and Rescue. He showed us the result of two assays made yesterday by Max. Moeller, the well known assayer. The sample from the Duquette assayed $754.03, and that taken from the Rescue, $863.98. Both ledges are promising, and Mr. Shonebar is sanguine that his mines will soon be recognized among the most valuable in in this section. He has an incline down on one of them thirty feet, disclosing at that depth a well defined ledge six feet in width.

Interesting Discovery.—We learn from Mr. Powell, foreman of the Bullwhacker mine, belonging to the Ruby Consolidated Company, that at the depth of some 325 feet, a granite formation has been reached on that lode, and masses of iron pyrites with some indications of silver sulphurets, have been exposed. If a vein of silver-bearing ore can be found at this depth, the mine will be likely to prove of great permanancy. At present, however, the developments, since the new strike, are not extensive enough to prove whether the shaft is in the ledge or in the country rock near it, but at all events the discovery is one of much interest, geologically considered.

Bullion.—We collate from our files and other sources the total bullion shipment for August. It will be seen that the figures are positively immense. Following are the shipments of the several companies: Richmond Company, 981,420 pounds; Eureka Consolidated Company, 860,683 pounds; Ruby Consolidated Company, 440,589 pounds; K. K. Con. Company, 150,000 pounds. Grand total, 2,432,592.

Phœnix.—The deepest shaft in the district is that of the Phœnix Company. It is now down something over five hundred feet, and the work of sinking continues. A quartzite formation, carrying much iron, has been encountered for the last two hundred feet, though a change has lately taken place. Granite is now coming in. It is our opinion that the ore channel is to the northward of present operations.

Messrs. Benedict & Prescott are the lessees of the Jackson Furnace, and since they commenced operations, one week ago yesterday, they have made a very successful run. They informed us that they yesterday paid out $3,000 for help and material; all of which adds to the general prosperity of the town. It is their intention to keep the Jackson in full blast as long as they can get ore to run on.

REESE RIVER DISTRICT.

Chase Mine.—Reese River *Reveille*, Sept. 5: The Chase mine, in New York Cañon, which has been lying idle for some time past, has been leased by a company consisting of Messrs. Kling, Ford, Reynolds, Conley and Barrett, who commenced work last Monday. It is the intention to put up machinery and thoroughly prospect the mine. A large amount of money has been taken out of this mine, hitherto, and there is every reason to suppose that it still contains bodies of paying ore. We wish the new company sucess.

Belmont Company.—*Reveille*, Sept. 13th: The Belmont Company are pushing the lower levels both north and south. Considerable very rich ore is taken from the drifts as the work progresses. The work is nearly all done by contract. A new steam pump is on the way for the Highbridge shaft. As soon as it arrives it will be placed at the bottom of the shaft and the work will again go ahead.

Monitor Company.—Are still sinking their large vertical shaft, south of the old works; said shaft has already attained a depth of 70 feet and the work progressing at the rate of about two feet per day.

El Dorado North Company.—Have just completed their drift from the main shaft 90 feet, have cut through the ledge and to-morrow will start the south level, following the main vein to the line of the El Dorado south. The ledge, where cut through in the El Dorado North, has the same characteristics as the El Dorado South. The quartz and vein matter are the same. The granite foot and slate hanging walls are the best evidences of a true fissure vein that we could wish for—hence the confidence maintained in this mineral belt.

El Dorado South Company.—Have ceased sinking their main incline for the present. New levels, about 80 feet below 400-foot level have just been started and when these levels each the ore bodies, both north and south, we shall expect to hear big reports. Stoping is still going on above the 400-foot levels.

Bolivia.—Judge McKenney, who has just returned from his copper mines at Bolivia district, informs us that a ledge has been struck in his mine which he considers a true fissure. He forwarded one car load of ore to San Francisco and one to Dayton. That shipped to San Francisco, although it assayed up to a good percentage, did not go as high as he had expected; from the car load shipped to Dayton no returns have yet been received. From the tests made, the Judge is satisfied he has a good thing and is steadily continuing the work of developing his mine.

Mills.—The El Dorado and Belmont-Monitor mills are kept running steadily and turning out their regular quantity of bullion.

ROBINSON DISTRICT.

Hayes Mining Co.—White Pine *News*, Sept. 20: From a sample taken from the 200 ft. level, the assay went $436 in gold and $180 in silver, making an aggregate of $616 per ton, the second, at the same depth, resulted in $180 gold and $125 silver, or an aggregate of $305; the third, at same depth, $194 silver and $100 gold, or $294 total. To illustrate the increased value of the ores as depth is attained, we find a sample showing at 110 ft. by assay, $131 gold and $47 13 silver.

Watson G. & S. M. Co.—This company's mill started up on rock from their own mines on Monday last. We understand that everything in and about the mill is in most excellent condition, and success in crushing is now a certainty. As soon as the present run is finished, ores from the Hayes Company's mines will be worked on contract now made. The people of that section seem fully to realize the importance to be attached to this enterprise, as through its successful operation has depended the future of the camp.

WASHOE DISTRICT.

Belcher.—Gold Hill *News*, Sept. 27: Daily yield, 350 tons of ore. The incline is down 96 ft. below the 1300-ft. level, the sinking making fair progress, although the rock continues to blast quite hard. The main south drift on the 3100-ft. level is in 870 ft. from the south line of the Crown Point, the face still in good ore. The winze from the 1300 to the 1400-ft. level is down 90 ft., and still in fine ore. The winze from the 1200 to the 1300 ft. levels is down 51 ft., also in good ore. The different ore breasts throughout the mine are all looking and yielding splendidly as usual. Since the fire in the Woonville.—Sinking the new shaft east of the cañon is making good progress, the rock in the bottom blasting well. The repairs to the incline are completed and hoisting ore again resumed. The main drift at the second station is looking finely.

Buckeye.—The ore bodies at the first, second and fourth stations are developing finely. There is ore enough already in sight, of a good quality, to keep the mill running for the next six months. The ore works $14 per ton at the mill.

Savage.—Sinking the incline is making good progress, the rock in the bottom blasting finely. There is nothing new to report of the prospecting operations on the different levels.

Dayton.—The body of ore found in the main

[Continued on Page 220.

The Great Tuolumne Canon.

At the last meeting of the California Academy of Sciences, R. E. C. Stearns read a paper entitled, "Remarks on the Upper Tuolumne Cañon," which, as it contains matter of general interest, we produce in fnll. Mr. Stearns said:

"Recent numbers of the *Overland Monthly* have contained contribntions by Mr. John Muir, descriptive of the npper valley of the Tuolumne, and that portion of said valley known as the Hetch-Hetchy.

It is gratifying to know that Mr. Mnir has found the valley not difficult of access, thongh at one time supposed to be so, after a partial effort made from an inaccessible point, by Mr. Clarence King.

In the above publication for August last, Mr. Muir says: "Sometime in August, in the year 1869, in following the river three or four miles below the Soda Springs, I obtained a partial view of the Great Tuolumne Cañon before I had heard of its existence. The following winter I read what the State Geologist wrote concerning it." He here quotes from Prof. Whitney as follows:

"The river enters a cañon which is abont twenty miles long, and probably inaccessihle through its entire length. * * * It certainly cannot be entered from its head. Mr. King followed this cañon down as far as he could, to where the river precipitated itself down in a grand fall over a mass of rock so rounded on the edge that it was impossible for him to approach near enough to look over. Where the cañon opens ont again twenty miles below, so as to be accessible, a remarkable counterpart to Yosemite is found, called the Hetch-Hetchy Valley. * * * Between this and Soda Springs there is a descent in the river of 4,500 feet, and what grand watsr-falls and stupendous scenery there may be here it is not easy to say. * * * Adventurous climbers * * * * should try to penetrate into this unknown gorge, which perbaps may admit of being entered through some of the side cañous coming in from the north."

Mr. Muir here resmes: "Since that time I have entered the Great Csñon from the north by three different side cañons, and have passed through from end to end, entering at the Hetch-Hetchy Valley and coming out at the Big Meadows below the Soda Springs, without encountering any extraordinary difficulties. I am sure that it may be entered at more than fifty different points along the walls by mountaineers of ordinary nerve and skill. At the head it is easily accessible on both sides."

I do not intend to question the motive or the taste of Muir's remarks, which might be regarded as a commentary npon his quotation from the State Geologist, or to explain why Mr. King did not explore the valley *at the time* referred to. It seems to me reasonable to suppose that upon the line pursued by Mr. King, the valley *was* inaccessible, and it is unreasonable to suppose that if an experienced mountain-climber like Mr. King had really desired to enter the valley he would have been deterred from doing so by obstacles of an ordinary character, as no person can with truth deny to him the possession "of ordinary nerve and skill."

This interesting region has heen again visited this summer by Mr. Muir and several other persons, and will soon become familiar to an increasing mumber of tonrists, from year to year.

On pages 428-9 of Volnme I (Geology), in his "Report of progress and synopsis of the Fieldwork," of the Geological Snrvey, "from 1860 to 1864," Prof. Whitney in commenting on the msin geological and topographical features of this region, remarks: "Tbe vicinity of Soda Springs and, indeed, the whole region abont the head of the Upper Tuolumne, is oue of the finest in the State for studying the traces of the ancient glacier system of the Sierra Nevada. The valleys of both the forks * * * * * exhibit abundant evideuces of having, at no very remote period, beeu filled with an immense body of moving ice, which has everywhere rounded aud polished the surface of the rocks, up to the hight of at least a thousand feet above the present level of the river at Soda Springs. This polish extends over a vast area, and is so perfect that the surface is often seen from a distance to glitter with the light reflected from it as from a mirror. Not only have we these evidences of the former existence of glaciers, hut all the phenomena of the moraines—lateral, medial and terminal—are here displayed on the grandest scale."

In a foot-note on page 429, Prof. Whitney says: "These glacial markings were *first noticed* by Mr. J. E. Clayton, and the fact of their existence was communicated by him to the California Academy of Natural Sciences, *several years ago*." (The italics are mine.)

At a meeting of this Academy, held on the 21st of October, 1867, [Vide Proc. Cal. Acad. Sci., Vol. III, page 368; see also *Evening Bulletin* of October 22d, 1867.] Profsssor Whitney exhibited some photograpbs and stereographs, taken for the Geological Survey by Mr. W. Harris in the Upper Tuolumne Valley, near Soda Springs, Mount Dana, Mount Hoffman and Mount Lyell. He also presented the following account of a remarkable portion of the Tuolumne Valley, which forms almost an exact counterpart of the Yosemite. It is by Mr. C. F. Hoffman, the head of a party of the Geological Survey, by which it was explored last summer.

Notes on Helch-Hetchy Valley.

Tuolumne Valley, or Hetch-Hetchy, as it is called by the Indians, is situated on Tuolumne Rivsr, about 15 miles in a straight line below Tuolumne Meadows and Soda Springs, and about 12 miles north of Yosemits Valley. Its elevation above the sea is from 3,800 to 3,900 feet, a little less than that of Yosemite. The valley is three miles long, rnnning nearly east and west, with but little fall in this distance. Near its center it is cut in two by a low spur of shelving granite coming from the south. The lower part forms a large open meadow with excellent grass, one mile in length, and gradnally increasing from ten chains to a little over half a mile in width, and only timbered along the edges. The lower part of this meadow terminate in a very narrow cañon, the hills sloping down to the river at an angle of from 40° to 60°, only leaving a channel from six to ten feet wide; the river in the valley having an average width of about fifty feet. This is the principal cause of the overflow in spring time of the lower part of the valley, and probably also has given rise to the report of there being a large lake in the valley. Below this cañon is another small meadow, with a pond. The upper part of Hetch-Hetchy, east of the granite spur, forms a meadow one and three-fourths miles in length, varying from ten to thirty chains in width, well timbered aud affording good grazing. The scenery resembles very much that of the Yosemite, although the bluffs are not as bigh, nor do they extend ss far. On the north side of the valley, opposite the granite spur we first have a perpeudicnlar bluff, the top of which is 1,800 feet above the valley; the talus at the base is about five hundred feet above the valley, leaving a precipice of about 1,300 feet. In the spring, when the snows are melting, a large creek precipitates itself over the western part of tbis bluff. I was told that this fall is one of the grandest features of the valley, sending its spray all over its lower portion. It was dry, however, at the time of my visit. The fall is 1,000 feet perpendicular, after which it strikes the debris and loses itself among the rocks. About thirty chains further east we come to the Hetch-Hetchy fall; its hight above the valley is 1,700 feet. This fall is not perpendicular, although it appears so from the front, as may be seen from the photograph by Mr. Harris. It falls in a series of cascadss at an angle of about 70°. At the time of my visit the volume of water was much greater than that of Yosemite fall, and I was told that in the spring its roarings can be heard for miles.

Still further east we have two peaks, shaped very much like "The Three Brothers," in the Yosemite. Their hase forms a large, naked and sloping granite wall on the north side of the valley, broken hy two timbered shelves, which run horizontally the whole length of the wall. Up to the lower shelf or bend, about eight hundred feet high, the wall, which slopes at an angle of from 45° to 70°, is polished by glaciers, and probably these markings extend still higher up, as on entering the valley the trail followed back of and along a moraine for several miles, the hight of which was about 1,200 feet above the valley. The same polish shows itself in places all along the bluffs on both sides, and is particularly fine on the granite spur crossing the valley. There is no doubt that the laigest branch of the great glacier which originated near Mount Daua and Mount Lyell, made its way by Soda Springs to this valley. A singular feature of this valley is the total absence of talus or debris at the base of the bluffs, except at one place in front of the falls. Another remarkable rock, corresponding with Cathedral Rock in the Yosemite, stands on the south side of the valley, directly opposite Hetch-Hetchy fall; its hight is 2,270 feet above the valley. The photograph by Mr. Harris will give some idea of this rock.

At the upper end of the valley the river forks; one branch, nearly as large as the main river, coming from near Castle Peak, the main river itself from Soda Springs. About half a mile up the cañon the river forms some cascades, the highest being about 30 feet. The valley was first visited in 1850 hy Mr. Joseph Screech, a mountaineer of this region, who found it occupied by Indians. This gentleman informed me that up to a very recent date, this valley was disputed ground between the Pah Utah Indians from the Eastern slope and the Big Creek Indians from the Western slope of the Sierras; they had several fights in which the Pah Utahs proved victorious. The latter still visit the valley every fall to gather acorns, which abound in this locality. Here I may also mention that the Indians speak of a lske of salt water on their trail from here to Castle Peak. Mr. Screech also informed me of the existence of a fall about 100 feet high, on the Tnolumne River, about 4 miles below this valley, and which prevents fish from coming up higher. Tbe olimate is said to be milder in winter than that of Yosemite valley, as is also indicated by a large number of oaks and a great number of *Pinus Sabineana*. The principal tree of the valley is *Pinus Ponderosa*; besides this we have *P. Sabineana*, cedar, *Q. Sonomensis*, *Q. Crassipocula;* also poplar and cottonwood. The valley can be reached easily from Big Oak Flat by taking the regular Yosemite trail, hy Sprague's Ranch and Big Flume, as far as Mr. Hardin's Fence, between south and middle fork of Tuolumne river, about 18 miles from Big Oak Flat. Here the trail turns off to the left, going to Wade's Meadows or Big Meadows, sometimes called Reservoir Meadows, the distance being about seven miles. From Wade's Ranch the trail crosses the middle fork of Tuolumne and goes to the Hog Ranch, five miles; theuce up divide between the middle fork and main river about two milee to another little ranch called "The Cañon." From here the trail winds down through rocks for six miles to Tuolumne Cañon. This trail is well blazed, and was made by Mr. Screech and others for the purpose of driving sheep and cattle to the valley. The whole distance from Big Oak Flat is 38 miles.

Another trail, equally good, hut a little longer, leaves the Yosemite trail about half a mile beyond the crossing of the south fork, thence across the middle fork within about one and a half miles of the sonth fork, crossing, and follows up the divide between the middle fork and the main river, joining the first-named trail at the Hog Ranch.

Painting from Nature.

Art in some respects is non-progressive. It is inclined to follow one groove, repeating itself till repetition becomes irksome. Peter is content to paint as Paul did a hundred years beforc, and Silas, blind to the present, copies the dull, uncouth and smoke-colored productions of the artists of the middle ages. Doubtless this sort of thing has its advantages—it must be a sorry thing that has not, yet for many reasons a change is earnestly to be desired. There is no reason why art should not be progressive. Painting is as much a live principle as any other of the arts, and being so should surely keep pace with them in the grand march toward perfection. There are some sciences which indeed seem incapable of improvement. Some are still in the grub state, burrowing in darkness; some have got as far as the aurelia, giving indications of life, but unable to burst the barriers around them; others have succeeded in escaping from the chrysalis, hut still hankering for their prisons are undecided whether to return thereto or stretch their wings into the regions of sunshine.

Art should not be like these. It is true, that being an æsthetic principle it has little sympathy with the realism of the age. But it should reflect the phases of the age, nevertheless. There are scenes continually around us which are worthy the master's pencil—scenes indentified with the times—yet which are rarely or never transferred to canvas.

There is no necessity to return to the creations of the past for inspiration. It can be drawn from those of the present and in a more vivid and more tangible manner. There is a good deal of humbug about ancient art, and it is time it were exploded. A sort of traditiou has prevailed that to attain celebrity the student must devote a certain period of his life to copying the works of the old masters. As a sequence no man was considered fit to paint who had not served such an apprenticeship. The result of this absurdity is apparent in the productions of nearly every artist from the days of Reynolds to the present. Instead of fresh, free and original pictures, reflecting the individuality of the artist, we have works fashioned in the style of some school, and as strongly marred by faults as beautified by excellencies.

The word "school" is a compendious word, but it means nothing. A certain man several hundred years ago painted in a certain manner, he used umber in his shadows and formed the Bolognese school. Another man several hundred years later, employed a red pigment in his lights and founded the Venetian school. Other men subsequently established other schools, the main principles of which were the use of certain colors, forcing of effects and eccentricity of composition. The men who founded these schools were of course fine artists. They painted better than any artists of their time, made their names famous, opened large studios, received pupils and set the fashion in painting. They died, but their works remained, and being continually copied the names of their creators were at last canonized. The merit of their works became perfect, and he was deemed a heretic who would cast a critical stone at them. This feeling still remains, but is less positive than formerly, and in the course of a thousand years will probably be almost extinct. It will take this length of time undoubtedly, for the human mind is such that when once an error has become fashionable, it is exceedingly slow to cast the incubus aside. Perhaps the artists in the Old World will never be emancipated from this thraldom. Not at least till the great sources from whence they draw their inspiration have ceascd to exist. But with us it is otherwise. We are removed from the influences which surround them. We have before us nothing but the grand masterpieces of nature, which we are free to imitate untrammeled by the conventionalities of art. We can draw our inspiration from the same source as the great masters. They studied nature; and while confining themselves to her manifestations were truly great; but fashion, ignorance and eccentricity too often reduced their sublime conceptions to the verge of buffoonery.

Nature to be perfect must be simply and truthfully interpreted. No two mcn see the same scene alike. No two can transfer it equally on canvas. Hence the variety of styles among artists who draw their conceptions from nature. It is hard to define the color of any object under sunlight. In fact, it has no distinct color. Its tone is continually changing; its very appearance varying as the light fluctuates. Even where the light is steady, it is not easy to tell the color of an object. The face of a rock may look gray, but the nearest imitation on canvas fails to give the exact tint of the original. Herein painting from Nature differs from copying from pictures. A fairly experienced artist will have no difficulty in approximating pretty closely to the coloring of any picture, even one moderately sullied by time, moisture and the smoke of altar-tapers. He knows that blue and yellow were used in the greens, black and white in the grays, and umbers in the background. He matches the originals as nearly as possible; but if he fails has no occasion for despair. The picture is unlike Nature. Its tints are permanent. He can go day after day, and month after month, if he will, and work upon his subject, till he brings it to a reflex of the original. Not so with him who works from Nature. He has a thousand difficulties to contend against. Blinding sunshine, changing light, varying outlines, dust, fogs, winds, insects and reflections. It is one thing to sit quietly in a well-lighted room and copy a work which is unchangeable, another to squat upon the trunk of a tree under a blazing sun, endeavoring to catch effects which are every instant changing, while a host of flies buzz about your ears, and a snake—a rattlesnake may-hap—strikes his castanets within a few feet of your resting-place. One state is the genius of comfort—the other the acme of infelicity. The first presents attractions which might attract even a sybaritic nature. The last is rife with annoyances. Ay! dangers which might appal the most druidical of artists. Hence, perhaps, the comparative paucity of landscapes from Nature. None but the boldest and most enthusiastic brushmen venture to encounter the toils and perils of the wilderness. We speak of this country particularly, where out-door sketching is attended with difficulties, not found in more thickly-settled countries. Yet in England, that paradise of sketchers, Nature is not closely studied without discomfort; panthers range among the sketching-grounds of the Eastern painters, and the California artist may at any moment find his studies interrupted by the intrusion of some hungry plantigrade roaming through the thicket in search of a breakfast.

Yet, if sketching from Nature has its unpleasant phases, it is the surest road to distinction. It is, in fact, the only road a man can take who would justly portray the beauties of his art. Painting is simply a representation of Nature idealized. All men who have become eminent in art have drawn their conceptions from this grand original; and as Nature herself is unchangeable—the same to-day as she was a thousand years since—so their works are as true now as when first created. Being true they are as appreciable now as they were then, and will so continue till they have mouldered into nothingness. Hence we say, Paint from Nature. It is the quickest and noblest way to eminence. Let every man who feels he has the gift of art within him strike out for himself. Discard the fogy trumpery of the past and give new conceptions from the present. Be a living principle, not a fossil. The ancients have done enough for us, let us do something for the future. We have no lack of talent, and no want of Nature. All that is wanting is the energy to utilize these endowments. When this is done, our artists will open new roads toward their own preferment and inaugurate a new era in California art.

HECTOR A. STUART.

THE KROM CONCENTRATORS at Star Cañon, Nevada, still continue to work in a satisfactory manner both mechanically and pecuniarily. Another lot of concentrations has just been shipped from the mill to San Francisco. These concentrations average $1,000 per ton and represent in every 7½ tons, the metalic value of 104 tons of rock of the second and third grade from the De Soto Mine.

The superintendent of the mill writes under date of Sept. 13th, that the machinery is fnlfilling every expectation as regards capacity and durability, and that the steel rolls have not evsn been faced np. This fact is one of great interest considering the length of time and amount of work done, they having been put in operation in March last. It will be remembered that the ore is first crushed in a Blake crnsher and then put through these steel rolls instead of under stamps. The snperintendent also writes that in every case of trial npon the various kinds of ore bronght in for working, perfect success attended the working of the concentrator; "upon all classes of base and sulphuret ores the concentrations are perfect."

THE Shasta *Courier* states that Mr. I. B. Potter, in behalf of the Iron Mining Company recently organized in Sacramento, has secured the exteusive deposit of ore situated near the site of the old Silverthorn Bridge, on the McLoud River, in this county. He has purchased a portion of Silverthorn's road, and will soon commence taking out ore for shipment below. It is estimated that millions of tons of good paying ore can be taken from the snrface of the ground claimed by the company, and that the expense of taking it up from its original place of deposit will be very trifling. The Iron Company have done work enough on Iron Mountain, above Shasta, to entitle them to hold the ground and apply for a patent for mineral land, and it is their intention to do so. Tests show that the ore on Iron Monntain contains not only iron bnt also other valnable minerals—which establishes the fact that the ground is subject to entry under the Mineral Land Law exclnsively.

A SUIT FOR DAMAGES:—Alexander McLean has sued the Blue Point General Mining Company, Snoker Flat, for $40,000 damages. He avers that a blast was carelessly let off in the mine, about 300 feet from which he was at work, and a large rock was thrown against his arm, maiming him for life. McLean states that previous to the acoident the company ordered its employés engaged in setting off blaste to discontinue giving warning of explosion, as it caused loss of time and labor. If this be true, it was rather a singular proceeding that the company should lay itself liable for damages in this manner, by issuing any such orders.

Useful Information.

Conservation of Fruits.

Certain kinds of fruit cannot he kept during the winter; they change rapidly in contact with the air, and rot. It is well known, however, that apples and pears when placed without touching one another, on hoards in a dry place, may he kept during a whole winter. It is also known that most fruits, when boiled in a sugar solution and changed into the so-called conserves, or placed in brandy, are preserved by the power of the sugar or alcohol. But cherries, peaches, berries, grapes, etc., cannot he kept in the natural state; to treat them as apples or pears is useless—they change rapidly. Science has taught to preserve them against the action of the atmosphere hy placing them in a vacuum; and cherries have been kept for years in this way; but the method is not very practicable, and an efficacious practical way of preservation during winter has always been very desirable.

If the problem has not been solved for all kinds of fruits, it has at least been solved for grapes by an able French wine-grower, who has succeeded in preserving bunches of grapes until the month of April, when they were as beautiful, fresh, and savory as in October. He has kept his method secret for a long time, but recently concluded to give it publicity. He leaves the bunches attached to the vine as long as possible—until the end of October; or, if the weather permits, to the beginning of November. Before the first frost they are cut, with the precaution to leave attached to every bunch a piece of branch with four or five knots, of which two or three are to be below the grapes and two above. The upper end of the branch is closed by covering it with wax, so as to check the evaporation of the liquids contained in the pores. The imperfect grapes on the bunch are then carefully removed, and the lower end of the branch is placed in a bottle containing water, in which a few ounces of charcoal are present. The latter is the whole secret of the process, as it prevents the water from spoiling, keeping it fresh, and the grapes also. The bottle is closed with a good cork, cut in half and hollowed out so as to pass the branch of the bunch of grapes through, and the cork covered over with wax, when the whole operation is finished. The bottles are then placed on the shelves of a dry room, in a support which prevents them from falling by the weight of the bunch, and at proper distances so as not to touch one another. By this inexpensive method beautiful grapes may he kept till late in the winter, and even until the beginning of the spring; but it is necessary to examine the grapes from time to time, and cut those off which commence to spoil, as this appears to he contagious. The temperature of the room must never be allowed to descend below the freezing point. — *Manufacturer and Builder.*

How White Lead is Made.

The following is the process through which pig lead, as it is termed in the markets of the world, goes, before it assumes the desired appearance and properties of white lead, and to which it is subjected in all the leading manufactories of this article. The pig lead is thrown into a furnace, and afterward carried through a machine which cuts it into a shape closely resembling an ordinary buckle. Thence it is conveyed to the beds, which are composed of alternate layers of earthen pots about half full of the leaden buckles and corrosive acid, and covered over with planks, to render distinct the numerous strata of the heap, which usually rises to a hight ranging between twenty and thirty feet; and over all is thrown a complete covering of tan, a refuse matter obtained from tan-yards, or the odure of horses. This is called putting the lead to bed. Through the center of the dormitory runs a leaden steam pipe. In undisturbed repose the lead remains about two months. Then the coating of manure is shoveled off, and the pots are opened and found to be filled with a white substance resulting from the corrosion of the common pig lead. From the earthen pots the lead is now transferred to wooden pails and carried to an upper room, whence it passes through a shute to the screen room. Here it is subjected to the action of a series of rollers, ground fine, washed, and then pumped into large tanks, where it is allowed to remain a few hours to settle. Then it resumes its journey and flows into a room called the drying loft, heated to temperature of 150 degrees. Here, in the unnatural atmosphere, it is that the severest sufferings of the white lead workmen are endured. In this department the lead is spread on large tables, about fifty or sixty feet in breadth, where it remains for four or six days. It passes thence through the mixing process, and afterward to the white stones. Here it reaches the completed state, and is at once packed in kegs for transportation to any quarter of the globe. The whole air of these factories is impregnated with white lead, and even in the streets a square or two distant one can detect the noxious scent.

Furniture Oil.—Mix half a pint of olive oil with one pound of soft soap. Boil them well, and apply the mixture to your oiled furniture with a piece of dry cotton wool. Polish with a soft dry flannel.—*Journal of Chemistry.*

Lead Pencils.

The first, and still the most widely extended use of plumbago, was for making crayons or pencils. The original method of manufacture was very simple. The lumps of mineral were cut into the required shape and used in the natural state. At a later date it was sawed into the shape now used, and covered with wood, making the well known lead pencil; but the Borrowdale mine, in England, the best known, finally ceased to produce the mineral pure enough for the purpose, and that method was reluctantly abandoned. The refuse about the mine was then utilized by purifying and pressing into blocks, and these in turn were sawed into "pencil leads." But the leads made in this way were weak and unreliable, and even had they been useful the march of civilization required pencils of different grades, some soft and others harder, while the sawed leads were all alike. The present method consists in selecting the best granulated plumbago (found till recently only in Germany), pulverizing it finely, and floating it in water through a series of vats, the coarser particles settling to the bottom of the first vat, the finer in the next, and so on till after passing through several, that which settles in the last is considered fine enough for the purpose. A suitable clay is found, as yet only in Germany, and this is treated to the floating process, the finest only being fit for use. The plumbago and clay are then mixed together with water to the consistency of cream, and ground together like grinding paint. When this operation is completed, the mass is plastic, water enough having evaporated to leave it in that state. It is then put in a press and forced through an opening of the size desired for the pencil leads, and the leads are cut to a suitable length, straightened and dried. When they are dry enough to handle they are placed in a crucible, the air is excluded, and they are subjected to a high heat, which bakes them, and brings them out ready to be placed in the cedar for pencils. The different grades are produced by the different mixtures of clay and plumbago; the more clay, the harder the grade produced.

A Strong Adhesive Paste.—According to Fr. Sieburger, an excellent paste may be prepared as follows: Four parts, by weight, of glue are soaked for several hours in 15 parts of water, and then slowly warmed until a perfectly clear solution is formed. This solution is then diluted with 65 parts boiling water and thoroughly stirred. In the meantime 30 parts of starch are stirred into 200 parts of cold water, so as to form a thin, milky liquid, free from lumps. Into this is poured the solution of glue, stirring continually and heating. When cold, 10 drops of carbolic acid are added. The paste made in this way is said to possess extraordinary adhesive power, joining leather, paper, pasteboard, etc. By keeping it in closed vessels, so that the water cannot evaporate, it may be preserved for years. Where no great strength is desired, ordinary flour or starch paste is used, a little carbolic acid being added to prevent souring.

To Whiten Shells.—Boil the shells in weak lye for two or three hours, turn that off and boil in soapsuds, then put them into clean water and brush them with any old brush; they will be white and nice. Shells or cones are more durable put on with putty than with glue. For shells get white lead ground in oil, (it comes in boxes,) and put in a little whiting, about a tablespoonful to a pound of lead; it is whiter than common putty. For cones add a little lamp black.

Working Green Wood.—A correspondent of the *Scientific American* says: Some of my brother wood-workers may not know that the difficulty of finishing a small piece of green wood, as is some times necessary, may he overcome by scorching the piece after it is shaped out. A few lighted shavings will do, and you can then file and sandpaper without trouble.

A German inspector of passenger cars states that a single stem of hemp, with the leaves and blossoms, mixed with the stuffing of a car seat, will protect it from moths for years, and that hemp for this purpose should be gathered just when in blossom, dried rapidly in the shade, and kept in covered wooden vessels in a dry place.

Any one desirous of keeping seeds from the depredations of mice, can do so by mixing some pieces of camphor gum in with the seeds. Camphor placed in drawers or trunks will prevent mice from doing them injury. The little animal objects to the odor, and keeping a good distance from it, he will seek food elsewhere.

An electrical apparatus has lately been invented to signal the entry of water hy leakage into the holds of vessels. When the water enters, it establishes a current, and a communication is thus set in operation which gives notice to the officers on deck.

Petroleum is preferable to the fatty oils for cleaning weapons, especially gun barrels, as it does not become rancid and has greater solvent powers for dirt and grime.

Flexible Paints.—Yellow soap cut into slices, 1 1-2 lbs.; boiling water, 1 gall.; dissolve and mix while hot with oil paint 1 1-4 cwt. Used to paint canvas.

Good Health.

What We Should Sleep On.

One may imagine the internal impurity of a feather bed after it has been slept upon a month, a year; but five, ten, twenty years! That baffles imagination! The reeking secretions of, nobody knows how many, bodies, in some cases sick and dying bodies, are stowed away in these ticks, and when they are heated up by your kindly warmth, they come out and attack you with their countless little envenomed darts, just when you are least active, least able to resist them. Is not this reason enough why languor and headaches follow such a nights' rest? I always shudder when I get into a "hospitable" feather bed. Some housekeepers wash them every five years. I should want them washed every five weeks, and then not feel safe in them.

There is reason enough for discarding feather beds, but what shall we put in their place? Hair is elegant and comfortable, but very expensive, and it needs cleaning at least once a year; oftener, in fact, which is an additional expense. Clearly, everybody can't have hair. Straw, if often changed, is a good bed for those who work hard and sleep soundly, and delicate people sometimes put their feather bed under it, spread a thick comfortable over it, and find themselves far more refreshed than when sleeping on feathers. But husks are better still—not the coarse, soiled, mildewed article, but the inside husks, soft and clean. If we want the best bed we can make from them, we will wet, braid, and then dry them; then undoing, strip them with a fork or gauge, as we choose, or this can be done without braiding, which only curls them. A merry evening or two, with the children to help, will prepare enough for a bed. Put them into an open tick, so they may be readily aired; spread a comfortable over them, and you will have a bed scarcely inferior to the best hair mattress for comfort and durability. This material makes good pillows also, does nicely for children, who do not mind the slight rustling; but hair is still softer, and it costs no more than feathers.

For bedding, nothing excels the thick Whitney blanket. Comfortables next the sheet, like the feathers, entangle too much air. Even the blanket should be washed as often as once in three months. Use no more bedding than absolutely necessary; better wear flannel or Canton flannel nightdresses, and oven drawers, but never the same worn during the day. If the feet are liable to be cold, wash, rub, and dry thoroughly, and wrap them in a foot blanket. They must be kept warm at all hazards, if you wish for health. In cold weather, it is advisable to have a "foot comfort," coming half-way up the bed. A "day comfort" is also a useful addition to a bed, where one takes a nap in the day time. It may be made of old silk dresses, with bright ties. Failing some much convenience, persons often lie down in the day-time with little or nothing over them, and, of course, being less energetic than when awake, they cannot so successfully resist the tendency to take cold.—*Julia C., Health Reformer.*

French Experiments with Oatmeal.

We see by an article in *La France Medicale* that M. Dujardin Beaumitz has been experimenting with oatmeal as a food for young children. He made use of a jelly prepared hy soaking a tablespoouful of the meal in a glass of water for twelve hours, then straining through a sieve, boiling till the whole assumes the consistency of jelly, and adding sugar or salt to taste. According to analysis, 100 grammes of the meal contain 8.7 grammes of water, 7.5 of fatty matters, 62.5 of starch, 12.2 of nitrogenous matters, 1.5 of mineral substances, and 7.6 of cellulose, dextrine and loss. Its nutritious value, therefore, as food for children, in regard to nitrogenous or plastic elements, as such as are respiratory, is analagous to that of human milk or cow's milk. Besides these, it contains more iron than do most of the articles of food.

Four newly-born infants were fed with the preparation just described, and in every case with satisfactory results. In addition to its qualities as food, it acts efficiently against colic and diarhœa. It enters into the composition of the syrup of Lnther, which is said to he much used in Germany. M. Gillette, surgeon of the hospital of Melun, has also given oatmeal combined with cow's milk to six children, and finds it to be a valuable food in cases where the natural supply of milk is deficient.

The late Dr. Marahall Hall, of England, said: "If I were seriously ill of consumption I would live out doors day and night, except in rainy weather or midwinter; then I would sleep in an unplastered log house. Physic has no nutriment, gasping for air cannot cure you, monkey capers in a gymnasium cannot cure you, and stimulants cannot cure. What consumptives want is air, not physic—pure air, not medicated air—plenty of meat and bread.

Nitrate of Amyle.—This is one of the new numerous products of coal-tar, and a few drops on the handkerchief will, when inhaled, prevent epileptic fits, and relieve asthma.—*Manf. and Builder.*

Domestic Economy.

Orangeade.—Impregnate a few lumps of loaf sugar with oil of orange, by rubbing into them as much as you can readily from the rind of four oranges. Roll as many oranges as you design to use, squeeze the juice, allowing eight to one quart of water. Throw the skins into a half-pint of water as you squeeze them, letting them stand a little while, then press them a little, and add this water to the other juice. The very highest flavored oranges should he selected, and if not found sour enough to impart an agreeable acid, lemon juice may be added, with the caution that it must not he used freely enough to impair the distinct flavor of the orange, which is meant to predominate. The oil should only be slightly rubbed from the oranges. Allow half a pound of sugar to the quart of orangeade, but in this matter consult, if possible, the taste of some experienced dessert maker. With all care to give an exact recipe, the proportions of both sugar and water may require modifying—a little more or less, as the case may be.

Starching and Ironing.—Starch and iron shirt bosoms as usual, and when the articles are thoroughly dry, place one at a time on a narrow, hard and very smooth board, which has one thickness of cotton cloth over it, sewed tightly; have the "polishing iron" heated so that it will not scorch, and rub it quickly and hard over the surface, up and down the bosom, using only the rounded part on the front of the iron. A still higher polish may be obtained by passing a damp cloth lightly over the smooth surface, and then rubbing hard and quickly with the hot iron. It needs a good deal of patient practice to do this admirably, but it is crowned with success, and when once learned is as easy as other ironing. A "polishing iron" is small and highly polished, with a rounded part which allows all the friction to come on a small part at one time, which develops the gloss that may be in both linen and starch. These irons may be had for about seventy-five cents each; one is sufficient for a family. Collars and cuffs look nicely done in this way.

A New Way to Serve up Peaches.—Take good-sized freestone peaches, wipe them with a towel, halve them, and place them flat side down in hot butter or lard. Let them fry to a nice brown, then turn and fill the seed-cup with sugar, which by the time the fruit is properly coated will be melted and form with the juice of the peach a rich syrup. Serve up hot, and if you don't like them you need not repeat the experiment. Most persons think the dish a superb one. Medical writers caution people against eating peaches served up in any form in the evening. It is asserted that they are depressive to the circulation, and exhaust the system hy the prussic acid which they contain. It is better to eat them in the morning, or not later than an early dinner, so that some exercise may follow eating to aid their proper digestion.—*Ohio Farmer.*

Almond Blanc-mange.—One gallon of cream. Soften in a small portion of this cream (cold) two ounces of isinglass. Have ready blanched two pounds of sweet almonds, with two dozen and a half peach kernels or bitter almonds. Beat these fine in a mortar, with a little rose-water to prevent their oiling. Put the gallon of cream with the melting isinglass into a preserving kettle over the fire, and stir until perfectly dissolved, adding meanwhile one pound and a quarter of white sugar. Let the cream come to a boil. Stir in the almonds smoothly just as you take the blanc-mange from the fire; set aside in a bowl to cool, stirring occasionally until luke-warm, when pour into moulds previously dipped in cold water.

How to Cook a Beefsteak.—A cotemporary says:—Put a frying pan on the stove, heat it quite hot; in this put the beefsteak previously pounded; allow the steak to merely glaze over, and then turn it over quickly to the other side, and thus turn it several times in the same manner, until it is done, which it will be in four or five minutes. Then lay it on a platter, previously warmed, and butter and salt it and set in the hot oven for a few minutes, when it is ready for the table.

If people must have their steaks fried, this is doubtless as good a way as any. For our own part, we prefer steaks broiled, fresh, crisp and juicy.

Delicious Food.—No part of any animal used for food is more delicious to many people than the brain when well cooked. It may be fried in butter, boiled in milk, and then placed in vinegar, or boiled in water two or three minutes, then heaten fine, mingled with sage salt, yolk of an egg, a gill of cream and fried in the form of drop cakes in butter. Before cooking it should be carefully washed.

Apple Jelly.—Apples make an excellent jelly. The process is as follows: They are pared, quartered and the core completely removed, and put into an oven or over a fire. When pretty well stewed the juice is to be squeezed out through a cloth, to which a little white of an egg is added, and then the sugar. Skim it previous to boiling, then reduce it to a proper consistency, and an excellent jelly will be the product.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:
Saturday Morning, Oct. 4, 1873.

Legal Tender Rates.—S. F., Thurs., Oct, 2.—buying 90; selling 91.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—The Ne Plus Ultra Saw Mill; Removing Officers of Mining Companies; Silver Bars, 209. A Good Run; The Possibility of Flying; The Wyoming Mine; Security in Mines, 216. The Mining Districts of Utah, 217.

ILLUSTRATIONS.—The Ne Plus Ultra Saw Mill, 209. The Mining Districts and Railroads Within 60 Miles of Salt Lake, 217.

CORRESPONDENCE. — Quicksilver Extraction, 210.

SCIENTIFIC PROGRESS.—Aluminum; The Approaching Transit of Venus; The Function of Gums in Plants; Manganese a Substitute for Nickel in the Arts; Action of a Light on Olive Oil; Volatilization of Iron, 211.

MECHANICAL PROGRESS.—Phosphor-Bronze; Making Hay While the Sun Shines; Vapor Power; A Fireless Locomotive; Slate Paint for Roofing; Glycerine, 211.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 212.

MINING SUMMARY from various counties in California and Nevada, 213.

USEFUL INFORMATION. — Conservation of Fruits; How White Lead is Made; Furniture Oil; Lead Pencils; A Strong Adhesive Paste; To Whiten Shells; Working Green Wood; Petroleum; Flexible Paints, 215.

GOOD HEALTH. — What We Should Sleep On; French Experiments with Oatmeal; Nitrate of Amyle, 215.

DOMESTIC ECONOMY.—Orangeade; Starching and Ironing; A New Way to Serve up Peaches; Almond Blanc-mange; How to Cook a Beefsteak; Delicious Food; Apple Jelly, 215.

MISCELLANEOUS.—Mining Suit; Victoria Needle; Tin; Speculating; Invention of Porter; A Strange River; Mine Managers; A Triumph of Art; Home Made Wares; Deep Well; The Effect of Continued Strain, 210. The Great Tuolumne Canon; Painting from Nature; The Krom Concentrator; A Suit for Damages, 214. Patents and Inventions, 217. System in Irrigating; The Yellowstone Expedition; Safety at Sea, 218.

Horticultural Society.

The Bay District Horticultural Society of California opened its antnmnal fair on Tnesday evening last. The display of flowers and fruite ie. as usnal with this society, highly meritorione and to a reasonable extent appreciated by onr citizens. Throngs of visitors are in attendance every day and evening to enjoy the pleasing scene and listen to the volnptnons straine of music from the band, as it floats throngh the mazes of beautiful tropical and other shrubs, plante and flowers, that adorn by their artistic arrangement the whole lower floor of the spacions pavilion. Our citizens should give it a generous and cordial support by their willing presence.

By a cave in the Brandy City mine near North San Juan, Nevada conuty, a few days ago, two men named Stevene and McIntyre were entombed twenty-three hours and a half. Some forty men worked like Trojans from the moment of the cave nntil the prieoners were rescned. At first continued caving drove the men from the work, and it wae only after running a carefully timbered drift sixty feet that the entombed men were reached. They were unhurt, but very weak.

The cave fnll of ore, found in the Fuller mine, owned by the Toledo and Utah Mining Co., is creating conciderable excitement in Utah. At the hottom of the main incline in the shaft, 250 feet from the surface, a cave was broken into, the dimensions of which are, ae far ae prospected, 110 feet in length, and from 3 to 12 feet wide, and from 20 to 50 feet in hight. Ore has fallen from the foot-walls and heen deposited in hnge maeee in the bottom of the cave.

The firet dividend of the Central Pacific Railroad Company, of three per cent. on its capital etock, has heen declared.

The Possibility of Flying.

The attention of the world is again turned to aerial navigation hy the Wise experiment in ballooning. For centnriee inventore have racked their hrains in vain in the attempt to solve the prohlem: How to fly. And even in pre-historic timee, if we take the mythological account of the trip made by Dædalus and Icarus, the qneetion commanded the attention of men. After emulating the fish in its element, it certainly seemed hard tbat they were still surpassed by the hird in its proper domain.

The devices for flying put forward up to the preseut, each thought by its inventor infallible, may be hroadly divided into two classee: self-supporting machines and those in which the halloon ie an auxiliary. Among the former was the attempt to fly by simply attaching wings to the arme; of conrse a failure. And no more successful wae the apparatus, in which a man the expected to riee in the air by hringing into nse, besides, the greater power of the leg muscles, on the principle of the oarsman's eliding seat. Man's unaided strength is too small, it had to be admitted, in comparison with his weight, to afford the least hope of succeee in thie direction. On the failure of this plan, inventors naturally turned their minds to other forces, in search of an adequate motor. Steam has been tried, hnt the same objection holds as hefore. The weight in any existing engine, together with the weight of fuel and water necessary, is dieproportionate to the power developed.

As an example of the second class of proposed aerial ships, there is the adaptation of propeller screws to elongated balloone, to be worked either hy hand or by steam. The difficulty here experienced is that the power attainable is not sufficient to overcome the resistance of euch a vast surface in the balloon as ie necessary to give the reqnired support. Hence all snch inventions have heen qnite as much at the mercy of the winds as the simple balloon.

Latterly, research has been directed to the posibility of utilizing the varying directione of air currents at different elevatione. Theee are known to be independent of each other. Could their laws he once mastered, it would only be neceesary to throw overhoard ballast and rise to a higher, or let out gas and sink to a lower, cnrrent, when the aeronant desired to change his course.

On the belief that there exists an upper current setting permanently eastward, Wise and Donaldeon base their faith. Experiment and obeervation wonld seem to bear them ont, in this theory, and the proposed further, hazardoue experiment is designed to test its truth. Ae yet, however, the conditions of npper atmospheric movement are too little known to render possible any systematic guidance of balloons.

The questions theu arise: Will aerial navigation ever he made practicable; that is, safe, snre and speedy? And in what way will thie end be accomplished? It ie no longer thought visionary to affirm a belief that flying is possihle. Sooner or later the problem, not so difficult by far as many already solved, will yield to the incessant efforts made to master it. The precise form of the air-ship of the future is, of course, a matter of mere speculation. It is safe, however, to exclude the mixed system as too bnlky, cumbrous and nnmanageable. We have left, ae modes from which to choose, the flying machine *per se*, in its original simplicity, and the ntilization of air currents for balloon travel. There ie no donbt but that the former method, if poseible, would be preferable. If a machine capahle of flying were once made, fly it could and must nnder all conditions of wind and weather. It would be comparatively independent of ordinary atmospheric change. As the fish is the model to he copied in water, so, probably, ie the hird in air. Plans so far made have been from two leading types,—machines having wings alone, or wings to support and propeller to drive. There is no force known at preeent which can be generated in sufficient quantity in proportion to the weight of apparatus neceseary. But it is only reasoning from analogy to argue that as great as has been the advance in mechanical contrivancee heretofore, so great will be the progress in future. Certainly the steam engine of to-day would he no easier of conception in the minds of the anciente, than an engine, of whatever kind, which shall be suitable for a flying machine, is to us. We have seen too many startling improvements of late to doubt the poesihility of still greater. The problem of flying ie apparently much easier than, for instance, that of transmitting intelligence thoueands of miles in an instant of time.

It is generally admitted that we shall soou see a revolntion in prime motors. The steam engine, as constructed, is one of the moet wasteful appliances imaginahle. It loses, we are told, some eighty per cent. of power which ehould be obtained from fuel, as calculated from heat nnits. Already many other forces are competing with that resulting from the expansibility of steam, some of which may supersede it. Electricity ie as yet anything but a practical motive power; but there is no reaeon why it should not he made one. Model electrical engines work to perfection; and in time electricity may he a veritable and cheap motor, applied on a large scale. Then there is the hot air engine, which needs no weight of water. So that we will not be limited to steam as the power for flying machines. Bnt even were such the case, important improvements might be made, in leseening dead weight. Fnel might be used which ehould he more effective with less bulk, thus relieving the air ship of much incumbrance. For certain parts of the machinery aluminum might be substituted for iron or eteel, thus again gaining in lightness. Many such modifications suggest themselves.

A Good Run.

Last February the South Anrora Mill, White Pine, started up on a run of 6,000 tons of ore for the Eberhardt & Aurora Company, and the work hae heen completed. The Superintendent of the mill has furnished the White Pine *News* with the following statement, showing the result:

The total quautity worked was 6,046½ tons, the average aeeay value of wbich was $56.78 per ton. Total assay value, $343,357.26. Actual value of bullion produced and depoeited, $298,892.82. This result showe the ore to have been worked np to 87 per cent. of the aseay valne. The average number of tons worked per day wae 37.8—the mill carrying 30 stamps. The loss of quicksilver wae hut 1.77 pounds per ton. The ore was fnrnished entirely from the North Aurora mine, nnder the superintendence of Capt. Frank Drake. Although the ore was remarkably free chloride, containing but a small per cent. of hase matter, still the yield is acknowledged to have equalled, if not excelled, any which hae ever been made on the same claee of ores produced in the mines of Treasure Hill.

The mill company guaranteed 82½ per cent. of assay value, and ae the yield wae about five per cent. ahove this, the mill owners made $20,000 over and above the milling price of $13 per ton. As they received $78,598 for the milling work, they got altogether upwards of $98,000 for the whole job. The *News* thinks that perhaps it ie due to the encouragement given to the Eberhardt & Aurora compeny, that they have determined to rebuild the mill bnrned laet year. It ie expected that thie mill —30 stamps—will etart np on the first of next month. It now looks as though White Pine, notwithetanding ite many reversee, would come out all right after all.

The Wyoming Mine.—We received thie week a very handeome specimen of ore from the Wyoming mine, Deer Creek, Nevada county, Cal. This mine was located as far back as 1851, and hae been conetantly worked ever since. The average net yield of thie mine in early days wae from $6 to $10 per day to the hand, bnt this was before improved appliances were in vogue and when there was no machinery of account in the mine. The *Transcript* thinks that with a good mill and all the moderu implements for raieing rock, the Wyoming can be made one of the best paying mines in the county. It has recently heen purchased hy a company in this city, who immediately erected hoisting works; the mine is being put in condition for thorough and systematic working to a depth of several hnndred feet. The *Transcript* of the 30th saye:

An incline shaft ie being sunk, which is already down fifty feet, carrying a fine ledge of sulphnreted ore, averaging fifteen inches wide. Water ie being brought from the Gentry tunnel hy a ditch, and boxes will be carried to a tank on the roof of the hoisting works, inenring protection and supplying the boiler. By next Monday the ditch will he completed, and the hoisting works will be etarted. The new proprietors of the Wyoming have started in well, and there is no reason to doubt that the mine will prove itself to he all that ite owners desire and that ere long it will repay them a hundred fold for their investment.

Security in Mines.

Since the last accident in the Yellow Jacket mine on the Comstock lode, people have commenced to think that the minee are subject to be blown up or catch fire at any time. At the Coroner's inquest, held after the late explocion, one of the miners testified that when in the employ of the Gould & Curry Company, upon eeveral occasione explosione occurred in the mine, caused by candles being brought in proximity to carhurreted hydrogen gas. Many think that the great calamity of 1869 wae from the same cause ae the late explosion. The Virginia *Chronicle* says that when we take into conaideration the fact that one of the explosions occurred on top at the old Yellow Jacket worke, 1,800 feet from where the fire was in the 1,300 foot level of the Jacket mine, we may imagine to what extent a mine may be filled with gaees. We add a portion of the verdict of the Coroner'e Jury, that our readers may judge for themeelves: "It is the unanimous conviction of the jury that the aboved named parties came to their death from asphyxia, cansed hy inhaling carhnreted hydrogen gas while in a state of combustion, together with other gases. We are aleo of the helief that the deadly gaees were generated by the fnmes of charcoal rising from the Crown Point and Belcher hlacksmith forges, taken in connection with other chemical reactions going on in the mine, from earth, minerals and decayed wood. We find that the fire was kindled in the winze over and from sparks rising from the Belcher blacksmith shop. We severely censure the managere of the mine for allowing the hlacksmith shop to be located underground, thereby cansing the death of six highly-esteemed citizene; and we also recommend that hereafter no blacksmith shops or firee of any kind be allowed in any of the mines on the Comstock lode."

Mr. Samuel Jones, Superintendent of the Crown Point mine, eensibly intende taking some precautionary measuree to prevent loes of life in case of such accidente. Hie plan as pnblished in the *Enterprise* is as follows: He intends arching over each tunnel connecting on the several levels of the Crown Point with other mines with solid masonry for a distance of eeveral feet. In theee arched ways he will place, a few feet apart, two eets of iron doors, eo arranged that they may be closed at a moment's warning. The donble doors of iron will resist any explosion that is likely to occur, and at the same time will prevent deadly gasee finding their way through in sufficient volume to strike down the workmen without a moment's warning, as they were stricken down dnring the late fire and in that of 1869. The drifts being clear of timhere for a considerable distance, it will cut off the mines adjoining it and form a perfect wall of defence againet the advance of any fire that may occur on the outeide of the mine; and in case of a fire in the Crown Point, the arched drifts and iron doors wonld serve to prevent the fire epreading to the mines adjoining. The coet of doing thie work would he a mere trifle, when we consider the value of the mine and the sense of eecurity euch an arrangement would give to both the miners and the owners of tbe mine.

These mines contain ench a large amount of timher that if they once caught fire it would take probably eeveral yeare before the mines could be entered. The caves ensuing would deetroy a large amount of property, and perhape eome lives. Mr. Jones' plan seems a good one and ae hlackemiths' forgee will probably be abolished in the mines, and sent to the npper regione, and additional precantione adopted, we do not expect to hear of any more accidente until thie one is forgotten. The miners themselves, are, generally epeaking, the most careless people in the world, never thinking of danger until they meet it face to face. This being the case, it becomee the dnty of their employers to adopt the necessary precantions to prevent accident.

Peavine District, Nev., is increasing in prosperity since the ledge was etruck in the Poe mine. A mill is being bnilt on the mine; the machinery is on the ground and the bnilding has been completed. Prospecting has been going on in the district for some time to find the ledge which has supplied the placer mines with gold. After being struck in the Poe mine it wae fonnd in the Paymaster tunnel, 350 feet in. There is considerable excitement over the prospect of the camp and a town eite has heen located and surveyed, called Poe City.

The Newark mine in Pioche has a three foot steak of good ore, eome of which runs $200 per ton. The Caroline mine people who helieve that the hody ie in their ground are running a drift to prove their aesertion.

The Crown Point and Belcher mines on the Cometock lode have produced upwards of $26,000,000, of whioh $14,000,000 hae been paid out ae dividende. There is plenty of rich ore yet in the bonanza.

The Mining Districts of Utah.

The accompanying map, showing the mining districts and railroads witbin sixty miles of Salt Lake, was prepared for the *Utah Mining Gazette*, by Col. B. A. M. Froiecth, and will be of interest as a means of reference to parties investing in mining property in those localities. The map shows some of tho principal mining districts situated in the Wasatch and Oquirrh ranges of moantains. The Wasatch is a very extensive rauge, traversing the entire Territory from nortb to south, and it contains a large number of districts, only a portiou of which, however, are ehown on the map. By referring to the map it will be seen that fourteen organized districts are shown in the Wasatch range, one on an island in Great Salt Lake, seven in the Oquirrh range, one southwest of Stockton, in the Cedar range, and one in the Pelican Point range, west of Utah Lake. These districts commencing with Willow Creek, on the northeast corner of the map, are numbered respectively from one to twenty-four, in which order we shall proceed to doscribe them as fully as our space will permit.

Willow Creek District (No. 1) is in Box Elder county, about 6 miles from Corinne and 50 miles from Salt Lake City. It was organized in 1870, but has been very little developed. Ahout all that can be said of it is that quantities of argentiferons galenn and also eome gold-bearing quartz have been discovered, which when properly developed may provo as valuable as tbat found in other districts.

Mineral Point District (No. 2) is in Cacbe county, nbout sixty-five miles from Salt Lake City, and was organized in 1870. The ores are principally iron, large deposits of whicb have bsen discovered. This district bae lately attracted considerable attention from outside capitalists, and ae it is only 18 miles dietant from Brigham City, on the Utah Northern Railroad, it is anticipated thnt before long it will be extensively developed.

Weber District (No. 3) is situated in Morgan county, aboat 35 milee from Salt Lake City direct, and was organized in 1870. The character of the oree ie principally argentiferous galena, but some iron and gold have been found. The remarks made concerning Willow Creek are applicable to Weber, and aleo to Farmington (No. 4), and Centerville (No. 5), which are in Davis county. It ie impossible to pronouuce upon their real value until they are more fully developed.

Adams District is in City Creek Cañon about 10 miles from Salt Lake City. It was formerly embraced in the Hot Spring District which was organized in 1870. The ores are principally iron, argentiferous galena, and some milling rock carrying a small per cent. of gold.

New El Dorado District (No. 7) is in Salt Lake county, about 10 miles from Salt Lake City, and was organized in 1870. This district, as well ae the others of the Waeatch range, ie accessible from Salt Lake City either by stage direct or by the Utah Southern Railroad to Sandy Station, and thence by stage. New El Dorado ie about eix miles wide by ten milee long, and embraces Emigration and Parley's Park cañone. The ore is principally argentiferous galena.

Big Cottonwood M. District (No. 8) is 22 milee southeast of Salt Lake City. The general formation of the district ie limestone and quartzite, the former predominating. The ores are principally argentiferous galena, and carbonatee of lead carrying silver, with traces of antimony and arsenic. The mines in thie district are very valuable, and are continually being worked.

Uintah M. District (No. 9) is 35 miles from Salt Lake City, and ie located on the divide between Parley's Park and Provo Valley. It was organized in 1870, and is about four miles square. The ores are of a high grade and are both milling and smelting.

Little Cottonwood (No. 10) is about 25 miles S. E. of Salt Lake City and is accessible from it by the Utah Southern R. R. to Sandy Station, chance by the Wasatch and Jordan Valley R. R. to Fairfield Flat, which ie the winter terminus of the road, and distant about 12 miles from Sandy. The district is 10 miles long by 4 miles wide. The character of oree is varied, but they are principally carbonates and argentiferous galena. Tho mines in the district yield about 2,400 tone of ore per week or annually about 120,000 tons, valued at $7,200,000. From 500 to 600 men are employed duriag the busy season. The smelting worke in the Cañon are the Flagetaff works with three furnaces, the Davenport, one furnace, and the Monitor patent force blast smelting furnace. We have before given detailed descriptions of the mines and furnaces of this district in the letters of our traveling correspondent, L. P. Mc., who is now in the Territory in the interests of the Press.

American Fork District (No. 11.) is in Salt Lake County, S. E. of Little Cottonwood, 40 miles from Salt Lake City, from which it is accessible by the Utah Southern and American Fork R. R. It was organized in 1870 and is about 6 miles square. The ores are both smelting and free milling, the former predominating. The Sultana Smelting works in Forest City have three furnaces in constant operation.

Snake Creek District (No. 12.) is E. of Little Cottonwood and American Fork Districts about 55 miles from Salt Lake City, from which it is approached by wagon road by way of Parley's Park, and from Provo City up the Provo River. It was organized in 1870 and is about 8 miles long and from 3 to 4 miles wide. The ore is principally argentiferous galena.

Silver Lake District (No. 13) is 35 miles from Salt Lake City in Utah Co. and is accessible by all rail communications. It was organized in 1871; ore principally argentiferous galena.

Cook District is E. of Provo and Springville in Utah Co. 50 miles S. of Salt Lake City and was organized in 1870. Very little proepecting hne been done.

West Mountain or Bingham Cañon District (No. 15) ie in Salt Lake county, 25 miles S. W. of Salt Lake City, across the Jordan Valley. It, as well ae the other districts in the same range, is accessible at present only by a daily line of stages; hut the Bingham Cañon and Camp Floyd R. R. now in course of construetion will bring them in direct rail communication with Salt Lake City. The district was organized in 1863, and is 12 miles long by 5 miles wide, containing eeveral cañone and gulchee, viz: Bingham Cañon, Silver Hill, Bear Gulch, Spring Gulch, Carr Fork, Muddy Fork, Markham Fork and Butterfield cañon in esch of which a certain distinct character of ore predominatee. The district ehips about 600 tons of ore weekly on an average. The Winnemuck Co., have ten furnaces.

Tooele M. District (No. 16) ie in Tooele county, 30 miles distant from Salt Lake City. The district wae organized in 1870, and is ahout 8 miles long and 4 milee wide. The oree are hoth milling and smelting.

Stockton or Rush Valley District (No. 17), ie aleo in Tooele county, thirty-five miles distant from Salt Lake City. It was organized in 1864, and is about six milee long by five miles wide. The oree are principally argentiferone galena and carbonate of lead, and are unequalled for smelting purposes. The carbonate ores of the Stockton mines are very easily smolted, and can be used as a flux for all the other ores produced in the surrounding districts, as their peculiar composition renders it practicable to mix them with other ores in any quantity. There are three smelting works in this district in constant operation.

Ophir Mining District (No. 18) in Tooele county, forty-five miles from Salt Lake City, was organized in 1870. It is six miles long by five miles wide, and consists of East Cañon, Lion Hill, Silverado Hill, Chloride Hill and Dry Cañon. The ores are of a high grade, and very varied in character, and are about equally divided, one-half being milling, and one-half smelting ores. There are two stamp mills and six smelting works in this district.

Lower District (No. 19) is in Utah county, fifty miles from Salt Lake City. It was organized esrly in 1871, but very little development has been made so far, and there is little or nothing doing there at present.

Camp Floyd District (No. 20) is in Tooele county, about sixty miles from Salt Lake City. It was organized in 1871, and is about five miles long by six miles wide. The ore is free milling rock, comprising antimonial and horn silver. This district is one of the finest in the country for milling ores and it has also produced the pureet bullion ever refined in Utah, being 999 fine. There is an excellent twenty stamp mill in thie camp, belonging to the Camp Floyd Silver Mining Company, of London and another for custom work is located at Fairfield. Profitable results are soon expected from the English company's mines, now under the able management of Henry Sewell, Esq., who has had great experience in treating this clase of oree.

Osceola Mining District (No. 21) is southb of Camp Floyd, in both Utah and Tooele counties. It containe principally free milling oree in a limestone formation. It is not much developed, and there is very little prospecting going on at present.

Columbia District (No. 22) ie in the Onaqui Mountains, west of Rush Valley, and southwest of Ophir District, eixty miles from Salt Lake City. It gives very promieing indications of becoming a flonrishing camp. Argentiferous galena ie the principal metal found, of which twenty-five tons per day are now produced.

Pelican Point District (No. 23) is in the mountains of the same name west of Utah Lake, forty miles from Salt Lake City. It was organized in 1871, but is very little known and has heen hut little worked. The ore is principally milling and yields a fair percentage of silver.

Antelope District (No. 24) is on an island in Great Salt Lake, eighteen miles distant from Salt Lake City. It was organizsd in 1871, and at one time created considerable excitement on acconnt of the discovery of large deposits of manganese, together with copper and iron. Only one mine is worked there at present, employing four men, which is yielding a considerable qaantity of copper ore.

The foregoing comprises a list of the principally developed mining districts in Utah, with the exception of those in the southern part of the Territory. The southern counties also contain large qnantities of valuable minerals, among them coal and iron, which are in process of development, aad which will add very materially to the wealth of the country if only properly utilized at home, by doing away with the necessity of so much foreign importation. To this end cheap railroad transportation is the one thing needful.

Scale 15 miles to an inch.

THE MINING DISTRICTS AND RAILROADS WITHIN SIXTY MILES OF SALT LAKE.

Silkworm Eggs.

This time a favorable report comes to us from Mr. J. F. Souffringnon, four miles from San José. Mr. S. has been successful in growing over fifty ounces of fine healthy eggs, of the French annual variety. The worms were hatched early, fed on white mulberry—*Morus Alba*—in a building of plank, the inside papered and ventilated by openings in the upper and lower portions of the building.

His experience teaches him that there should be a ceiling between the feeding room and the roof, as a preventative against too great heat by day and too much cold by night, which will transpire if no ceiling ie interposed between roof and room below. Egge begin to hatch when the temperature risee to 60°. The first and second days' hatching are not as healthy as the worme from the third, fourth and fifth days, nor are those that come on after the fifth day. They often make fair looking cocoons, but the worms are not so strong or healtby.

Mr. S. is of the opinion that with labor at one dollar a day he can grow eggs at $5 per ounce with profit; but with labor at that price, he cannot grow silkworme for their silk and make it pay. We would like to hear of thie year's success in silk growing in Nevada county and the profit attending its culture. Who can inform us?

Meetings and Elections.

Table Mountain Blue Gravel M. Co., Sept. 29.—Trustees: J. W. Roberts, J. W. Gashwiler and J. F. Boyd. At a subsequent meeting J. W. Roberts was elected President; G. D. Roberts, Treasurer; W. M. Hellman, Secretary; and W. G. Gillette, Superintendent.

Eureka M. Co., Nevada, Sept. 29.—Directors: J. B. Haggin, Chas. E. Elliott, Wm. Willis, Jas. Clark (President), Thos. Derby, Geo. D. Roberts, and T. P. Beach (Secretary).

Alaska M. Co., Coleman District, Lyon Co., Nevada, Sept. 29.—Directors: J. H. H. Williams (President), H. T. Wheeler, H. P. Wakelee, H. C. Ribbe, Chas. T. Holbrook (Secretary, Geo. R. Spinney.

North Star M. Co., Grass Valley.—Trustees: A. K. P. Harmon (President), Thomas Bell (Vice President), John O. Fall, Wm. B. Bourn and J. W. Gashwiler.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's Office, San Francisco:

Suisun Marble Co., Sept. 30.—Object: To do a general business in quarrying, shipping and dealing in marble. Directors: R. F. Knox, Michael Heverin, Samuel L. Theller, Whilliam Sherman, John M. Coughlan. Capital Stock: $1,000,000, in shares of $50.

Kit Carson M. Co., Sept. 30.—Location: Elko county, Nevada. Directors: A. P. Mincar, Frank Swift, T. J. Shackleford, D. L. McDonald and J. C. Vimout.

Alden Fruit Preserving Co., Sept. 30.—Object: The treatment and preservation of fruit, meat, fish and all animal and vegetable material, and all manufacturing and mechanical purposes and operations connected with or pertaining thereto; to deal in fruit, meat and fish, and to transact all business appertaining thereto. Directors: Geo. W. Deitzler, Frank Pyle, Thomas Cole, William M. Wherry, D. P. Belknap. Capital stock: $250,000, in shares of $50 each.

Mint Operations.—The employés at the Mint in this city are kept pretty busy now-a-days, and have turned out a large amount of coin during the past few months. Last month the coinage was as follows: Double eagles, $2,040,000; half eagles, $45,000; quarter eaglee, $17,500; this makes $2,102,500 in gold. The silver was as follows: Trade dollars, $137,000; half dollars, $19,000; dimes, $6,000; total, $162,000. Total coinage for month, $2,264,500.

For the three months ending September 30th, the coinage amounted to $7,477,500, of which $7,162,500 was gold and $315,000 was silver. Included in thie statement was the sum of $7,100,000 in twenty dollar pieces.

The Quartz Mines of Calaverae County are in a flonrishing condition and the propects in the various campe are encouraging.

System in Irrigating.

It has heen the custom in this valley for persons to eupply themselves with water from any stream within their reach hy using obstructione or other temporary means; and with very little regard to the rights or welfare of others. Thus the lack of system has rendered the chance of eupply uncertain by this tampering with the sonrce; and demoralization and discouragement have followed efforte at improvement. When the Wuchumna Water Co. undertook to extend its works above the town, there were those who entertained the hope that system and confidence might take the place of disorder, distrust, extravagance and failures in irrigating, as some of the men connected with the enterprise were known to have had experience in handling and distribnting water. We now learn that little or nothing has heen done, or will probahly he done, in preparing to run water in thie direction, for the reason that hut few of the property-holdere of the town have taken any interest in the enterprise. If the work ehould be extended southward, less than one mile additional of canal would enable the Company to reach the hed of the Packwood and thus to open up the whole of the fertile region between here and Tulare, in which a lack of water is about the only drawback. We understand that many of the land owners along the line indicated are alive to the importance of the enterprise.

Thue onr eupiuenese is liahle to re-enact our railroad experience! We could hardly expect that a system worthy of the name could be provided for a town situated like ours is without our citizene heing called upon to contribute five or ten thousand dollars to the capital stock of the Company. If this enterprise begins in the wrong direction and is unworthy of our confidence, for the credit of the place let us eay nothing ahout it until we have commenced a proper system elsewhere; and not have it said that a civilized community have, for a quarter of a century, occupied a valley as fertile as that of the Nile, without organizing an effort to develop ite capacities for irrigatiou, and other resources.—*Tulare Times.*

THE YELLOWSTONE EXPEDITION.—The expedition under Captain W. A. Jones, of the engiueer corps, sent out hy the Government to survey the route to the Yellowstone Lake, has arrived at Camp Brown, Wyoming, on its returu. They found three passes iu the Yellowstone Valley from the east and west. One route via the head of Wind River is easy for a wagou road, and through a very fine country. The pase is a very easy one. It is 160 miles from Camp Brown to Yellowstone Lake. The results are quite gratifying. General Ord, commanding, regards it as certain that a wagon road will soon he opened from Point of Rocks, on the Union Pacific Railroad, to the lake.

Advices from the Yellowstone Expedition, under date of Septemher 6th, hy way of Bismark, September 16th, state that General Custer, with three squadrone of the Seventh Cavalry, together with the engineers, reached the stockade of the Yellowstoue river, September 4th, having separated from the main command in the three days' march east of the Mussle Shell river. Stanley, with the infantry, and one squad of cavalry and train, struck directly for the old trail of the Yellowstone, and wae not expected at the stockade until the 12th. The expedition hae been a complete success, every object for which it was inaugurated having been effectnally accomplished. An area of three hundred miles of unknown country to the west and south of the Yellowstone has heen explored the Indians thoroughly whipped, and the snr vey of the Northern Pacific Railroad completed

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SAFETY AT SEA. — The recent sudden destruction of two large passenger ships, the Atlantic and City of Washington, hae called attention to the deeirability of availing ourselves of the means which modern science has placed at our command for the prevention of snch disastrous accidente. For this purpose, each large passenger ship ehould carry a small, but powerful steamboat or launch, and in foggy weather thie steam launch should he sent on ahead some few hundred yards, being counected with the paesenger ship hy a flexihle telegraphic cable, provided with an electric battery, eo that signals or meeeages might be continually trausmitted from one to the other. The steam launch should also carry an electric or other strong light, and he provided with a powerful steam whistle. On meeting with ice or with vessels, or unexpectedly approaching the coast, it would be comparatively easy to stop the steam launch and give warning in time to save the paesenger ship from danger. The suggestion ie due to Mr. John Newlande, F. C. S.

ENGLISH censue returns for 1871 show that there is a gradual increase in the length of human life on the islaud. A few decades ago the average life of the Englishman was reported at 25 years; now it is 44 years. Notwithstanding this fact, for such we take it to be, there are less aged people in England than in America. It was not long ago that an eminent English writer stated that he did not helieve that there existed in the civilized world a person who had reached one hundred years, hut we have in this country several well atteeted instances where one hundred and ten, and even one huudred and twenty years have been reached. At the preeent rate of increase it will be some time before England exhibits many Methusalehs, hut it willno t be long before men will live to see their three score and ten years.

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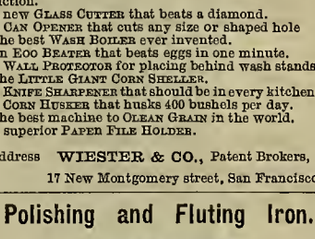

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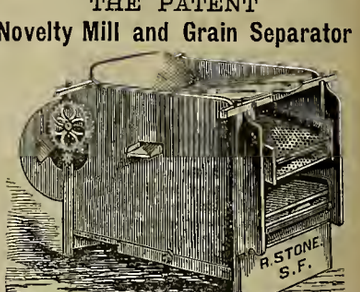

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[Continued from Page 213.]

west drift at the second station continues to improve in hoth looks and quality as the work of development progresses. The dumps are all full of ore awaiting an oportunity to get it crushed.

TYLER.—Sinking the shaft is making good progress, the rock in the hottom working well. Small seams of quartz, of a very promising character, are occasionally encountered in sinking, and there is a slight increase of water, hut not enough to impede the progress of the work.

CHOLLAR-POTOSI.—Daily yield 120 tons of ore, the assay value of which is $36 per ton. The ore hreasts continue to look well, and yield the usual amount of ore. Nothing else new to report.

SIERRA NEVADA.—Daily yield, 60 tons of ore, keeping the company's mill husy. The ore hreasts are looking and yielding finely as usual; in fact, the ore is rather improving in quality as the work penetrates deeper into the hill.

KOSSUTH.—The main shaft is down 210 ft., the rock iu the hottom working finely, and the sinking making excellent progress. Some little water was encountered during the week, hut not sufficient to interfere in the least with the progress of the work.

OVERMAN.—Sinking the shaft is making good progress, the rock in the hottom working finely. Some good indications of ore have heen developed in the cross-cuts from the main west drift at the 1,000-ft. level.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIO PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., September 30, 1873.

FOR WEEK ENDING SEPTEMBER 16TH, 1873.*

WORK BOX.—Ezra Hinckley, S. F., Cal.

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MITRE BOX.—John P. Tieruay, Sacramento, Cal.

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MANUFACTURE OF ILLUMINATING GAS.—Wm. H. Sterling, S. F., Cal.

WINN MILL.—Ephraim A. Atwood aud Harry H. Bodwell, S. F., Cal.

DESIGN.

WATCH CHAIN.—Henry H. Markley and Alphonse Mathieu, S. F., Cal.

*The patents are not ready for dellvery by the Patent Office until some 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possihle (by telegraph or otherwise) at the lowest rates. All patent business for Pacifio coast inventors transacted with greater security and in much less time than by any other agency.

[From the Daily Mining Press of Sept. 27, 1873.]

We Drop Anchor!

The wind don't just suit us for a long voyage and we have concluded to quit our *daily* mining cruise. Having sailed on the square, we wind up the publication of the DAILY MINING PRESS to-day with a clear record, satisfactory, we believe, to "all concerned." If aught be due to any, call at the office of the MINING AND SCIENTIFIO PRESS, No. 338 Montgomery St. Generous patrons "good morning!"

Convinced now that we can do better service at the present for the mining public by bestowing additional attention to our weekly, the MINING and SCIENTIFIO PRESS, we shall, on closing our daily, bend our energies more in that direction. Established in 1860, that journal has steadily advanced, and is even now more prosperous than at any former period.

Mining advertisements will be published in the MINING AND SCIENTIFIO PRESS at our regular and extremely low rates. No other journal has so many mining readers. All corporation notices in the DAILY MINING PRESS have been published simultaneously and legally in the MINING AND SCIENTIFIO PRESS, and will be so continued to the end of this term of publication.

WITH 1000 subscribers like the following, our Daily might have heen a never fading light:

SAN FRANCISCO, Sept. 24, 1873.—EDITORS DAILY MINING PRESS—Gents: I hegin to prize more and more your little daily. At first, I deemed it an experiment of doubtful success, and I predicted for it an ephemeral existence. But now I peruse it every day with pleasure as well as profit. If I have not time during the day to read it in husiuess hours, I place it in my pocket to examine at my leisure. I consider it a medium for information of a specific character, not found in any other journal, increasing in interest every issue. It is worthy of the support and patronage of all who feel intereated in mining matters and the development of that interest. In a small space you condense a large amount of very useful and practical information. Your enterprise is worthy of success, and I hope it will be appreciated as t ought to be. Respectfully yours, W. B. S.
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TO THE PUBLIC.

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Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Bunker Hill Quartz Mining Company—

Office, No. 19 First street, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 10th day of September, 1873, an assessment (No. 11) of ten dollars ($10) per share was levied upon the capital stock of the corporation, payahle immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 19 First street, San Francisco, California. Any stock upon which this assesement shall remain unpaid on Monday, the thirteenth day of October, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the fifth day of November, 1873, to pay delinquent assessment, together with costs of advertising and expenses of sale. WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, California.

SPECIAL NOTICE.

At a meeting of the Board of Trustees of the Bunker Hill Quartz Mining Company, held this day, the assessment No. 10, levied June 5th, 1873, for ($10) ten dollars per share was rescinded.

Any stock upon which said assessment has been paid shall have the amount so paid, credited upon Assesement No. 11.

WALES L. PALMER Secretary.

Buena Vista Petroleum Company.—Location

of principal place of business, San Francisco, State of California. Location of works: Buena Vista, Kern county, Oal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 26th day of September, 1873, an assessment (No. 17) of one dollar per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 430 Jackson street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 7th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 25th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

L. AGUAYO, Secretary.

Office, No. 430 Jackson street, up staire, San Francisco, California. se27

Cincinnati Gold and Silver Mining Company—

Principal place of business, San Francisco, California. Location of works, Keleey Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Directore, held on the 13th day of September, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 331 Kearny street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

WILLIAM SMALL, Secretary.

Office, Room 14, No. 331 Kearny street, San Francisco, California. se20

California Silk Manufacturing Company—

Location of principal place of business, San Francisco, Cal. Location of works, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 5) levied on the 29th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J H Blumenburg	16	1	$5 00
J H Blumenburg	17	1	5 00
J H Blumenburg	18	1	5 00
J H Blumenburg	19	1	5 00
J H Blumenburg	20	1	5 00
J H Blumenburg	21	1	5 00
Jas Dale Johnston	111	1	5 00
Jas Dale Johnston	116	1	5 00
Jas Dale Johnston	117	1	5 00
Jas Dale Johnston	118	1	5 00
Jas Dale Johnston	119	1	5 00
Jas Dale Johnston	120	1	5 00
Jas Dale Johnston	121	1	5 00
Jas Dale Johnston	127	1	5 00
Jas Dale Johnston	128	1	5 00
Jas Dale Johnston	129	1	5 00
Jas Dale Johnston	133	1	5 00
Hentsch & Berton	28	2	10 00
H H Bancroft & Co	46	10	50 00
Jonathan Kittredge	53	10	50 00
Marsh, Pilsbury & Co	55	2	10 00
P Douglas	57	1	5 00
P Douglas	58	1	5 00
P Douglas	202	1	5 00
P Douglas	205	1	5 00
C W Smith	59	5	25 00
C W Smith	175	5	25 00
M M Cook & Son	60	2	10 00
B F Ellis	64	1	5 00
Albert H Jordan	74	2	10 00
Albert H Jordan	97	2	10 00
Robert P Smith	79	½	1 25
Britton & Ray	85	6	30 00
Strant, White & Co	93	2	10 00
H Rosekrans	94	2	10 00
H Rosekrans	232	1	5 00
H Rosekrans	233	1	5 00
G Wenpe	100	5	25 00
A Hollub & Co	107	2	10 00
John Hall & Son	136	3	15 00
J M Feard & Co	137	1	5 00
Wm Englander	168	5	25 00
Jas Leigh	185	1	5 00
Redington, Hostetter & Co	197	10	50 00
F B Wilde	201	1	5 00
J W Hodgkin	187	1	5 00
George Doherty	70	1	5 00
Robert Christy	200	1	5 00
Miss Miunie Neeley	203	1	5 00
Lewis Schumacher	158	2	10 00
A F Hinchman	160	4	20 00
E Carr	176	5	25 00
J W Egan	204	1	5 00
Bartlett & Pratt	188	1	5 00
Mrs Jane Sheridan	230	2	10 00
Edmund C Burr	234	16	80 00
Edmund O Burr	258½	30	150 00
Edmund C Burr	261	23	115 00
P A Eakins, Trustee	241	8	40 00
A P Brayton, Trustee	244	10	50 00
A P Brayton, Trustee	253	20	100 00
C M Hitchcock	248	6	30 00
W G Doolittle	250	1	5 00
Frank S Sutton	258	1	5 00
Robert Morrison	259	10	50 00
D M Boke	260	1	5 00
Wm E Prall	262	25	125 00
F Weisenborn, Trustee	263	40	200 00
O Crandall	264	21	105 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 559 Market street, San Francisco, Oal., on Monday, the 20th day of October, 1873, at the hour of 2 o'clock P. M., of such day, to pay delinqnent assessments thereon, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office—559 Market street, San Francisco, California. oc4

Eureka Mining and Smelting Company—

Location of works, Eureka County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment, No. 2, levied on the 21st day of August, 1873, the several amounts set opposite the namcs of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T P Beach, Trustee	9	10	$2 00
T P Beach, Trustee	10	20	4 00
T P Beach, Trustee	11	10	2 00
T P Beach, Trustee	12	20	4 00
T P Beach, Trustee	13	25	5 00
T P Beach, Trustee	14	25	5 00
T P Beach, Trustee	15	50	10 00
T P Beach, Truste	16	50	10 00
T P Beach, Trustee	17	50	10 00
T P Beach, Trustee	28	2000	400 00
T P Beach, Trustee	29	2000	400 00
T P Beach, Trustee	30	1000	200 00
T P Beach, Trustee	55	300	60 00
T P Beach, Trustee	54	500	120 00
T P Beach, Trustee	68	1000	200 00
T P Beach, Trustee	73	500	100 00
T P Beach, Trustee	80	1555	313 00
T P Beach, Trustee	81	1555	313 00
T P Beach, Trustee	82	1528	306 60
S L M Barlow	67	4000	800 00
S F Butterworth	87	2000	400 00
Oliver Eldridge	78	1555	313 00
J B Haggin	52	10	2 00
F A Hyde, Trustee	85	7910	1582 00
A Jacoby	63	1250	260 00
B B Minor, Trustee	53	1240	248 00
B B Minor, Trustee	54	750	150 00
B B Minor, Trustee	77	1555	313 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 217 Sansome street, San Francisco, California, on Monday, the 13th day of October, 1873, at the hour of 12 o'clock M. of said day, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. P. BEACH, Secretary.

Office, No. 217 Sansome street, San Francisco, California. se23

Equitable Tunnel and Mining Company—

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of Works, Alta City, Little Oottonwood, Utah Terrltory,

NOTICE.—There are delinquent, upon the following described Stock, on account of assessment (No. 3) levied on the eighth day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Saml. Baird	392	10	$1 00
Thomas Berwick	106	25	2 50
J W W Brown	18	20	2 00
Mrs Wm J Bryan	117	25	2 50
Chas S Buell	150	50	5 00
Peter Carter, Trustee	189	25	2 50
Peter Carter, Trustee	190	10	1 00
Clohecy & Wilson	584	57	5 70
Clohecy & Wilson	585	100	10 00
Clohecy & Wilson	586	100	10 00
Clohecy & Wilson	587	100	10 00
Clohecy & Wilson	588	100	10 00
Clohecy & Wilson	589	100	10 00
Clohecy & Wilson	590	100	10 00
Danl N Dole	137	100	10 00
Danl N Dole	138	100	10 00
G W Ellingwood	541	50	5 00
John Esten	277	10	1 00
Wakefield Fenton	578	166	16 50
Wakefield Fenton	579	100	10 00
Wakefield Fenton	580	100	10 00
Wakefield Fenton	581	100	10 00
Wakefield Fenton	582	100	10 00
Wakefield Fenton	583	100	10 00
Julius Fischer	355	50	5 00
Arthur J Foster	233	10	1 00
Arthur J Foster	234	10	1 00
Arthur J Foster	235	10	1 00
Arthur J Foster	235	20	2 00
E M Furbush	43	50	5 00
Jerusha F Griswold	415	665	65 50
J S Higgins	527	20	2 00
J S Higgins	528	20	2 00
J S Higgins	529	20	2 00
J S Higgins	724	2	20
J S Higgins	725	3	30
J S Higgins	725	3	30
J S Higgins	741	1	10
J S Higgins	742	1	10
A Hinds	243	25	2 50
H E Leszinsky	598	50	5 00
Thos McCord	671	10	1 00
J E Mackley	145	10	1 00
Wm A Manning	575	10	1 00
B K Michaelis	170	20	2 00
George S Peter	239	10	1 00
Joseph Santiff	537	25	2 50
Henry Simmler	55	50	5 00
Elijah Sniffen	19	50	5 00
Elijah Sniffen	20	25	2 50
Elijah Sniffen	21	25	2 50
Elijah Sniffen	22	20	2 00
Wm F Smith	455	133	13 30
Richard Watt, Jr	769	20	2 00
J S Jameson	95	100	10 00
J S Jameson	98	50	5 00
Oscar Ames	115	25	2 50

And in accordance with law, and an order of the Board of Directors, made on the eighth day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the company, No. 35 New Merchants' Exchange, San Francisco, California, on Monday, the sixth day of October, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. se20

Gold Run Mining Company—Principal

place of business, San Francisco, Cal. Location of works, Nevada county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, corner of Market and Spear streets, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

O. O. PALMER, Secretary.

Office, corner of Market and Spear streets, San Francisco, Oal. se16 e&d

Hasloe Mill and Mining Company—Location

of Works, Gentry's Gulch, Mariposa County, California. Principal place of business, San Francisco.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of August, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Geo H Baker	7	20	$ 15 00
Geo H Baker	8	15	11 25
Mrs Swift	11	10	7 50
Charles Leavett	25	5	3 75
E Riley	29	45	33 75
E Riley	31	5	3 75
T V Julian	71	10	7 50
C J Eaton, Trustee	98	2000	1500 00
C J Eaton, Trustee	115	500	375 00
E J Jones	105	10	7 50
G W Woods	103	10	7 50
G W Woods	104	10	7 50

And in accordance with law and an order of the Board of Directors, made on the 13th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, 403 California St., room 14, San Francisco, on the 6th day of October, 1873, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. W. TRIPP, Secretary.

Office—408 California St., San Francisco, California.

Homiguera Mining Company—Location

of principal place of business, City of San Francieco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assesement (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D., 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assesment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment ie hereby postponed until Saturday, the 4th day of October, 1873, and the day of sale of delinquent stock ie hereby postponed until Monday, the 27th day of November, 1873. By order of the Board of Directors. HENRY PICHOIR, Secretary pro tem.

Office, No. 603 Washington street, San Francisco, Oal. San Francisco, Sept. 1, 1873.

REMOVAL.—Office of Homignera Mining Company ie removed to office of L. L. Robinson, No. 603 Washington street, corner Montgomery, San Francisco, Oal. HENRY PICHOIR, Secretary pro tem.

Hayden Hill Mining Company—Location

of works, Hayden Hill, Lassen County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of September, 1873, an assessment (No. 1) of Fifteen Cents per share was levied upon the capital stock of the Corporation, payable immediately to United States gold coin, to the Secretary, at the office of the Company, No. 331 Montgomery street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 14th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. KNIGHT, Secretary.

Office, No. 331 Montgomery street, San Francisco, Cal.

Ida and Rhoda Lewis Consolidated Mining Company

—Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1), levied on the 28th day of August, A. P. 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Clarcsy, Trustee	67	1000	$100 00
John Clarcsy, Trustee	68	50	50 00
John Clarcsy, Trustee	69	500	50 00
John Clarcsy, Trustee	76	200	20 00
John Clarcsy, Trustee	77	200	20 00
John Clarcsy, Trustee	78	100	10 00
John Clarcsy, Trustee	79	100	10 00
John Clarcsy, Trustee	81	100	10 00
John Clarcsy, Trustee	90	50	5 00
John Clarcsy, Trustee	96	25	2 50
John Clarcsy, Trustee	98	20	2 00
John Clarcsy, Trustee	100	20	2 00
John Clarcsy, Trustee	101	20	2 00
John Clarcsy, Trustee	102	10	1 00
John Clarcsy, Trustee	253	100	10 00
John Clarcsy, Trustee	257	100	10 00
John Clarcsy, Trustee	85	50	5 00
John Clarcsy, Trustee	86	50	5 00
John Clarcsy, Trustee	258	60	5 00
John Clarcsy, Trustee	259	50	5 00
John Clarcsy, Trustee	260	25	2 50
John Cody, Trustee	142	100	10 00
John Cody, Trustee	143	100	10 00
John Cody, Trustee	144	100	10 00
John Cody, Trustee	146	50	5 00
John Cody, Trustee	147	50	5 00
John Cody, Trustee	148	50	5 00
John Cody, Trustee	149	50	5 00
John Cody, Trustee	150	25	2 50
John Cody, Trustee	151	25	2 50
G P Martinoni, Trustee	262	100	10 00
G P Martinoni, Trustee	264	25	2 50
G P Martinoni, Trustee	265	25	2 50
G P Martinoni, Trustee	266	25	2 50
G P Martinoni, Trustee	2-3	25	2 50
A E Davis	267	300	30 00
Wm Cory	270	113	11 30
Wm Cory	271	100	10 00
Wm Cory	273	100	10 00
F R Lewis, Trustee	153	1000	100 00
F R Lewis, Trustee	154	1000	100 00
F R Lewis, Trustee	155	1000	100 00
F R Lewis, Trustee	156	168	66 80
F R Lewis, Trustee	157	100	10 00
F R Lewis, Trustee	159	100	10 00
F R Lewis, Trustee	160	100	10 00
F R Lewis, Trustee	163	50	5 60
F R Lewis, Trustee	164	50	5 00
F R Lewis, Trustee	165	50	5 00
F R Lewis, Trustee	166	50	5 00
F R Lewis, Trustee	167	25	2 50
F R Lewis, Trustee	168	25	2 50
F R Lewis, Trustee	169	25	2 60
F R Lewis, Trustee	170	25	2 50
F R Lewis, Trustee	171	25	2 50
F R Lewis, Trustee	172	25	2 50
F R Lewis, Trustee	173	20	2 00
F R Lewis, Trustee	174	20	2 00
F R Lewis, Trustee	175	20	2 00
F R Lewis, Trustee	176	20	2 00
F R Lewis, Trustee	177	20	2 00
F R Lewis, Trustee	199	50	5 00
F R Lewis, Trustee	297	200	20 00
John P Lawson	30	50	5 00
J de Sta Marina, Trustee	31	509	50 00
J de Sta Marina, Trustee	32	500	50 00
J de Sta Marina, Trustee	33	500	50 00
J de Sta Marina, Trustee	34	500	50 00
J de Sta Merina, Trustee	36	330	33 00
J de Sta Marina, Trustee	38	100	10 00
J de Sta Merina, Trustee	40	100	10 00
J de Sta Mariua, Trustee	41	100	10 00
J de Sta Merina, Trustee	43	100	10 00
J de Sta Merina, Trustee	44	100	10 00
J de Sta Merina, Trustee	45	100	10 00
J de Sta Merina, Trustee	46	100	10 00
J de Sta Merina, Trustee	63	50	5 00
J de Sta Merina, Trustee	56	50	5 00
J de Sta Merina, Trustee	206	20	2 00
J de Sta Merina, Trustee	210	20	2 00
J de Sta Merina, Trustee	214	50	5 00
J de Sta Merina, Trustee	218	100	10 00
J de Sta Marina, Trustee	219	100	10 00
J de Sta Merina, Trustee	220	100	10 00
J de Sta Merina, Trustee	221	1000	100 00
J de Sta Merina, Trustee	222	500	60 00
J de Sta Merina, Trustee	225	234	23 40
A C Moree, Trustee	179	10	1 00
A C Morse, Trustee	180	10	1 00
A C Morse, Trustee	182	10	1 00
A O Morse, Trustee	183	20	2 00
A O Morse, Trustee	184	20	2 00
A O Morse, Trustee	189	50	6 00
A C Morse, Trustee	191	50	5 00
A C Morse, Trustee	193	100	10 00
A C Morse, Trustee	226	2434	243 40
A C Morse, Trustee	198	500	50 00
F R Lewia	248	1000	100 00
F R Lewis	249	1000	100 00
F R Lewis	260	1000	100 00
F R Lewis	251	1000	100 00
F R Lewis	252	500	50 00
F R Lewis	253	466	46 60
Charles Spencer	227	100	10 00
Charles Spencer	228	100	10 00
Charles Spencer	229	100	10 00
Charles Spencer	230	100	10 00
Charles Spencer	231	100	10 00
Charles Spencer	235	100	10 00
Charles Spencer	236	100	10 00
Charles Spencer	241	500	50 00
Charles Spencer	242	500	50 00
Charles Spencer	243	600	50 00
Charles Spencer	244	500	50 00
Charles Spencer	245	600	60 00
Charles Spencer	334	334	33 40
W H Sharp	13	1000	100 00
W H Sharp	16	1000	100 00
W H Sharp	247	1000	100 00
Ambrose Sorba	104	400	40 00
Ambrose Sorba	114	100	10 00
Ambrose Sorba	116	100	10 00
Ambrose Sorha	118	50	5 00
Ambrose Sorha	126	25	2 50
Ambrose Sorha	129	25	2 50
M J McDonald	268	200	20 00
L A Johnsou	269	137	13 70
L A Johnson, Trustee	132	100	10 06
L A Johnson, Trustee	133	100	10 00
L A Johnson, Trustee	134	100	10 00
L A Johnson, Trustee	136	50	5 00
L A Johnson, Trustee	137	60	5 00
L A Johnson, Trustee	138	50	6 00
L A Johnson, Trustee	139	50	5 00
L A Johnson, Trustee	140	50	6 00
L A Johnson, Trustee	162	100	10 00
L A Johnson, Trustee	276	25	2 50
L A Johnson, Trustee	277	25	2 55
L A Johnson, Trustee	278	25	2 50
L A Johnson, Trustee	279	25	2 50
L A Johnson, Trustee	280	25	2 50
L A Johnson, Trustee	281	25	2 50
L A Johnson, Trustee	282	25	2 50
L A Johnson, Trustee	284	25	2 50
L A Johnson, Trustee	284	50	5 00
L A Johnson, Trustee	285	50	5 00
L A Johnsou, Trustee	286	50	5 00
L A Johnson, Trustee	287	50	5 00
L A Johnson, Trustee	288	50	5 00
L A Johnson, Trustee	289	50	5 00
L A Johnson, Trustee	290	50	5 00
L A Johnson, Trustee	291	50	5 00
J A Luskin, Trustee	295	100	10 00
W H Smith, Trustee	296	100	10 00
B F Scott	298	240	25 00
B F Scott	299	250	25 00
B F Scott	300	200	20 00
B F Scott	301	300	30 00
George Scott	302	1000	100 00

And in accordance with law, and an order of the Board of Directors, made on the 28th day of August, A. D. 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the Company's office, Room No. 12, Express Building, San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 12 M., of said day, to pay delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office—Room No. 12, Express Building, San Francisco, California. oc4

Lemon Mill and Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors held on the 27th day of September, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 608 Merchant street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the third day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal. oc4

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the eighth day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Esten	68	10	$1 00
Jas S Higgins	331	1333	133 30
Jas S Higgins	334	100	10 00
Jas S Higgins	336	100	10 00
Jas S Higgins	338	3	30
Jas S Higgins	339	3	30
Jas S Higgins	342	3	30
Jas S Higgins	343	5	50
Jas S Higgins	367	261	26 10
W n F Van Ness	314	20	2 00

And in accordance with law, and an order of the Board of Directors, made on the eighth day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, California, on Monday, the sixth day of October, 1873, at the hour of eleven o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office.—No. 35 New Merchants' Exchange, San Francisco, California. se20

McMahon Silver Mining Company---Location

of Principal Place of Business, San Francisco, California. Location of Works Scheel Creek District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 4th day of September, 1873, an assessment (No. 5) of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 320 California street, room No. 5, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the sixth day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the Twenty-seventh day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. GEO. R. SPINNEY, Sec'y.

Office, 320 California street, San Francisco, California. sep5

Manhattan Marble Company of California

—Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T M Antisell	159	50	$50 00
Francis Blako	108	119	119 00
Jas L Barker	129	119	119 00
John Currey	49	20	20 00
John Currey	50	20	20 00
John Currey	51	20	20 00
John Currey	52	10	10 00
John Currey	53	10	10 00
John Currey	54	10	10 00
John Curr y	55	10	10 00
John Currey	56	10	10 00
John Currey	57	9	9 00
Jno W Coleman	90	100	100 00
Jno W Coleman	91	19	19 00
Irad Cochran	125	119	119 00
F Cunningham, Trustee	155	7	7 00
F Cunningham, Trustee	156	22	22 00
J P Dyer	47	60	60 00
Edwd P Flint	24	60	60 00
Edwd P Flint	25	69	59 00
Ohas Webb Howard	126	119	119 00
T R Hopkins	not issued	119	119 00
J M Lord	13	50	50 00
J M Lord	16	50	50 00
J M Lord	92	19	19 00
Geo C Potter	64	10	10 00
Oco C Potter	65	10	10 00
Geo C Potter	66	10	10 00
Geo C Potter	67	10	10 00
Geo C Potter	68	10	10 00
Geo C Potter	132	10	10 00
Geo C Potter	157	30	30 00
Geo C Potter	158	30	30 00
E Tripp, Trustee	42	119	119 00
George Tait	134	50	60 00
George Tait	135	50	50 00
George Tait	136	19	19 00
H P Wakeleo	151	119	119 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of August, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 319 Pine street, San Francisco, Cal., on the 13th day of October, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. D. M. BOKEE, Secretary.

Office, No. 319 Pine street, San Francisco, Cal. s27

Land Purchasers Association—Office, No. 425 Kearny street (up stairs), San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (instalment No. 37) levied on the 26th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J K Basford	63, 64, 65, 87	4	$40 00
John Bays	28	1	10 00
J E Boyce	9	1	10 00
W G Burke	30	1	10 00
John A Callison	31	1	10 00
V Chevallier	93	1	10 00
J D Hooker	100, 101, 171	3	30 00
S W Hoyt	138	1	10 00
L Kilgour	21, 22	2	20 00
Mrs N McCarty	111	1	10 00
H O Robinson	150	1	10 00

And in accordance with law and an order of the Board of Directors, made on the 26th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 425 Kearny street (up stairs), San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.

Office, 425 Kearny street (up stairs), San Francisco, Californiu. oc4

Phenix Tunnel and Mining Company----

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 2) of 20 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the first day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc4

Silver Wave Mining Company—Principal

place of business, San Francisco, California. Location of works, White Pine Mining District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of September, 1873, an assessment of Forty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of said Company. Any stock upon which this assessment shall remain unpaid on Thursday, the 30th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 25th day of November, 1873, at the hour of 2 o'clock P. M., at the office of the Company, to pay the delinquent assessment, together with costs of advertising and expenses of sale. J. W. CLARK, Secretary.

Office, No. 418 California st., San Francisco, Cal.

State of Maine Mill and Mining Company

—Principal place of business, San Francisco, California. Location of works, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of October, 1873, an assessment (No. 4) of Five Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 305 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 4th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office—305 Montgomery street, San Francisco, Cal. oc4

Stanislaus Water Company—Location of

principal place of business, 525 Kearny street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
M A Wheaton	10	65,250	$1000 00
John Burcham	17	25	60
John Burcham	18	50	1 00
John Burcham	19	75	1 60
E Tripp, Trustee	20	100	2 00
E Tripp, Trustee	21	100	2 00
E Tripp, Trustee	22	100	2 00
E Tripp, Trustee	23	100	2 00
E Tripp, Trustee	24	100	2
E Tripp, Trustee	25	100	2
E Tripp, Trustee	30	2,100	42 00
E Tripp, Trustee	41	200	4 00
E Tripp, Trustee	43	200	4 00
E Tripp, Trustee	44	200	4 00
E Tripp, Trustee	45	200	4 00
E Tripp, Trustee	46	200	4 00
E Tripp, Trustee	47	200	4 00
E Tripp, Trustee	48	200	4 00
E Tripp, Trustee	49	200	4 00
E Tripp, Trustee	50	200	4 00
S W Newhall	36	57	1 14
A E McGregor	38	82	1 64
E A Richardson, Trustee	55	56,250	1125 00
D E Hayes, Trustee	56	25,500	510 00
Charles Elliot	63	10,000	200 00
Charles Elliot	64	10,000	200 00
Charles Elliot	65	9,998	81 40
Charles Elliot	65	20,000	400 00
S O Field, Trustee	58	12,000	240 00
S C Field, Trustee	59	6,000	120 00
S C Field, Trustee	60	7,886	3 97

And in accordance with law, and an order of the Board of Directors, made on the 2d day of July, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 626 Kearny street, San Francisco, Cal., on Tuesday, the 26th day of August, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CLINTON O. TRIPP, Secretary.

Office, No. 626 Kearny street, Rooms 1 and 2, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 1st day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON O. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 8th day of September, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 6th day of October, 1873, at the same hour and place. By order of the Board of Directors. CLINTON C. TRIPP, Secretary.

San Francisco Co-operative Land and

Building Association. Office and principal place of business, 306 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co-operative Land and Building Association, up to, and including those for the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale. By order of the Board of Directors.

B. B. CONGDON, Secretary.

San Frnnoisco, September 20, 1873. se20-1m

Southern Pacific Consolidated Gold Mining Company.

Principal place of business, San Francisco, California. Location of works, Kern County, California.

Notice is hereby given that at a meeting of the Board of Directors of the above named company, held on the 11th day of September, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the twenty-fifth (25th) day of October, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Tuesday, the twenty-fifth (25th) day of November, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale

C. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California. sep13

Stevens Pacific Smelting and Mining Company

—Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of September, 1873, an assessment of ten cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at 320 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the third day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. KNIGHT, Secretary.

Office, 320 Montgomery street, San Francisco, California.

Sapphire Silver Mining Company.—Location

of principal place of business, No. 438 California street, San Francisco, California. Location of works, Gold Hill Mining District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 5th day of September, 1873, an assessment (No. 2) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 30th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors. JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, Cal.

Table Mountain Alpha Mining Company—

Location of works, Table Mountain District, California.

NOTICE.—There is delinquent upon the following described stock, on account of assessment (No. 1) levied on the 8th day of August, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T H Holt	40	901	$112 63
Wm L Ustick, Trustee	50	500	52 50
Wm L Ustick, Trustee	51	500	62 50
Wm L Uetick, Trustee	53	500	62 60
Wm L Ustick, Trustee	56	100	12 60
Wm L Ustick, Trustee	57	100	12 50
Wm L Ustick, Trustee	59	300	37 50
A Smith	11	500	62 50
A Smith	44	226	28 25
A Smith	62	500	62 50
A Smith	63	500	62 50
A Smith	64	90	11 25
B Marks	33	100	12 50
B Marks	36	450	56 25
W H Sharp	65	25	3 13
T F Cronise, Trustee	66	450	56 25
Lucinda Foreman	20	100	12 50
John Ashton	29	100	12 50
John Ashton	30	100	12 50
John Ashton	28	300	37 50
John Ashton	26	500	62 60
E A Richardson, Trustee	12	500	62 50
E A Richardson, Trustee	10	500	62 50

And in accordance with law, and an order of the Board of Directors, made on the 8th day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company No. 438 California St., up stairs, San Francisco, California, on Tuesday, the 7th day of October, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. F. CRONISE, Secretary.

Office—438 California St., up stairs, San Francisco, California. se20

Union Gold Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Howland Flat, Sierra County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 12th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Emeric, Joseph	232	200	$100 00
Emeric, Joseph, Trustee	252	100	60 00
Nelson, Mrs E.	69	20	10 00
Austin, A C	65	15	7 50
Stuart, W A	90	7	3 50
Kilgour, L, Trustee	126	10	5 00
Kilgour, L, Trustee	146	40	20 00
Gilbert, Mrs E W	260	25	12 50

And in accordance with law, and an order of the Board of Directors, made on the 12th day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal., on Monday, the 6th day of October, 1873, at the hour of 1 o'clock P. M. of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

ALFRED K. DURBROW, Secretary.

Office, Room No. 22, Merchants' Exchange Building, California street, San Francisco, Cal. se17

Washington Mining Company—Principal

place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T B Wingard, Trustee	10	200	$400 00
Jno F Boyd	24	100	200 00
Thos Bell, Trustee	26	150	300 00
Geo E Webber, Jr.	55	100	200 00
W H Tuttle	49	175	350 00
Moses L Rodgers	53	50	100 00
Moses L Rodgers	65	50	100 00
J W Gashwiler	68	100	200 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of August 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at Maurice Dore's, 317 Montgomery St., San Francisco, on the 10th day of October, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office—Room 13, No. 318 California street, San Francisco, California. se18

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Particular attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

THE RISDON
Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore,	Jesse Holladay,	O. E. McLane,
Wm. Norris,	Wm. H. Taylor,	J. B. Haggin,
	James D. Walker.	

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS B. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC
Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

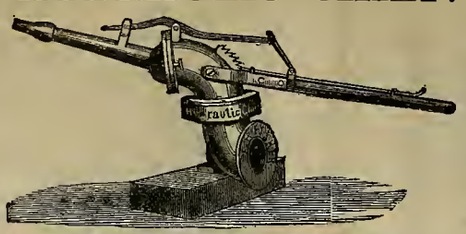
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydranlic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

SACRAMENTO FOUNDRY,

N. E. corner N and Front streets.....SACRAMENTO,

Steam Engines—all Kinds of Mining Machinery.

SHIP, AGRICULTURAL, STOVE, RANGE AND HOUSE CASTINGS.

Iron Railings and Ornamental Work of every description

At the Lowest Rates.

13v27-1y WM. GUTENBERGER.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

Foundry Facings of the Best Quality

FOR SALE AT

THE WHELPLEY & STORER MILL.

☞ These are WARRANTED equal to the BEST. 5v57-3m

THOMPSON BROTHERS,
EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

☞ BUY BARBER'S BIT BRACE. ☜

Machinery.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

Hie patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

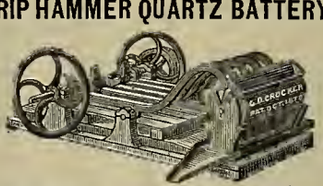
If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

CROCKER'S PATENT
TRIP HAMMER QUARTZ BATTERY.



The inventor having perfected and tested the durability and capacity of these Batteries to his entire satisfaction, is now ready to manufacture and guarantee them. Parties in want of a Battery cannot find their equal in regard to PRICE, WEIGHT, CAPACITY, POWER TO RUN THEM.

State and County Rights for Sale by

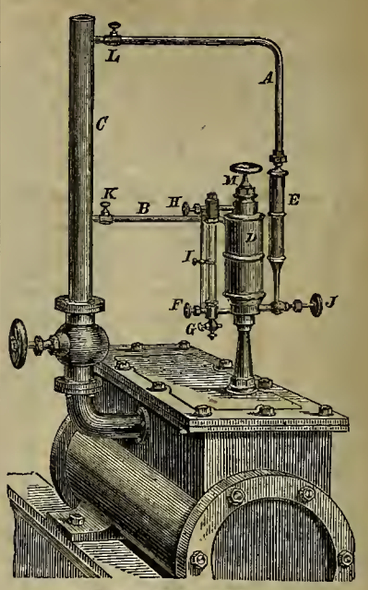
G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

10v27tf No. 32 FREMONT STREET.

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

Parshall's Lubricator for Steam Engines.

These Lubricators are suited to all steam Engines, delivering the lubricant, whether tallow or oil, to every kind equally well. They are subject to be placed in the steam pipe, steam chest cover or the cylinder head, as is desirable. They admit the steam freely to the lubricant, which is constantly saturated with it and kept thereby in a free liquid state. When condensation of the steam begins, the water settles below and raises the oil to the top. The oil is fed from the top of the cup, through a tube which passes down through its center. All sediment in the oil settles to the bottom of the cup, and the oil, on going to feed the engine, is always pure. By simply turning a screw in the top of the cup, the flow of oil is regulated to suit the requirements.

We have numerous testimonials from Railroad Engineers and others, speaking in the highest terms of their superiority. The first one put in use on this coast is at the Pacific Saw Manufactory in this city. Parties desiring further information will please send for descriptive circular and price list, or call at our office.

WIESTER & CO.,
General Agents for the Pacific Coast,
17 New Montgomery street,
Grand Hotel Block, San Francisco.

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.

MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

13 and 15 Fremont street, near Market, San Francisco
10v14qr

Gravel Claims and Hydraulic Mining.

Special attention given to the development of this important interest in California.

SURVEYS AND REPORTS MADE—COMPANIES ORGANIZED.

Mills, Mines, Mining Machinery, Wood and Timber Lands.

REAL ESTATE BUSINESS OPPORTUNITIES.

Best of References.

W. B. SKELLINGER,
No. 422 Montgomery street, San Francisco.
13v27-3m

JOS. THORNHILL, 1612 Mason Street, near Green. C. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.

For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom,

SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks

Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. GEO. D. WYMAN,
5v27-3m Superintendent.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

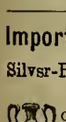
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setters for themselves, at the office, 229 Fremont Street, San Francisco

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.



Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

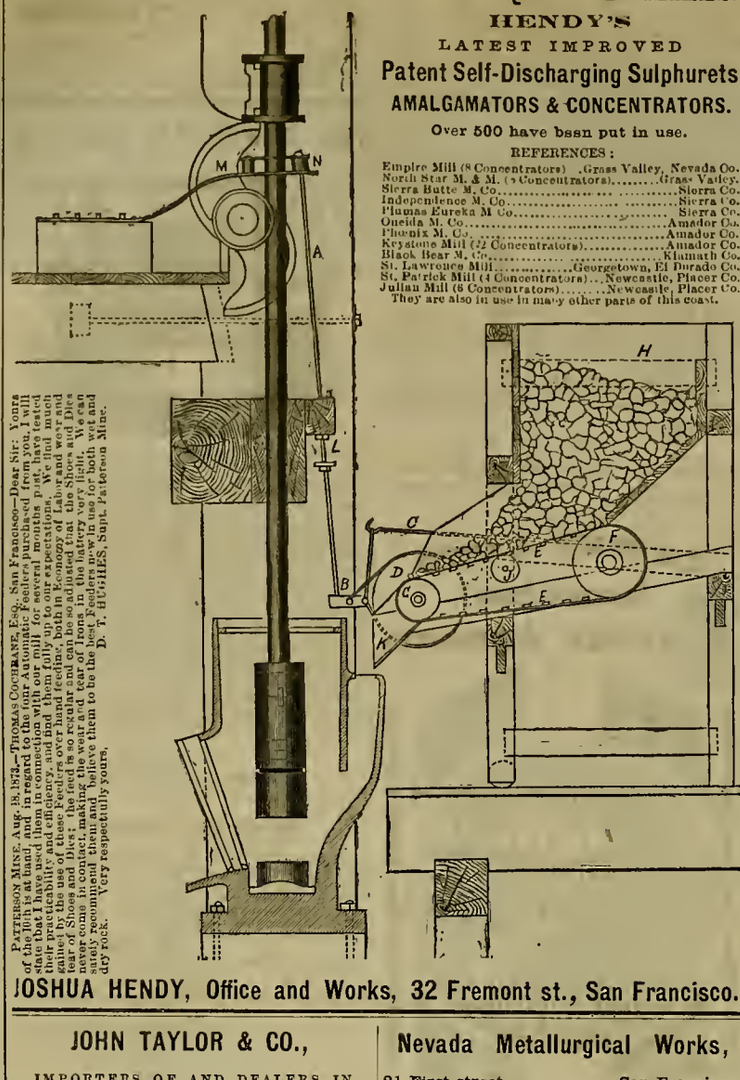
CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,

San Francisco.

COCHRANE'S ORE FEEDER FOR QUARTZ MILLS.



PATTERSON MINE, Aug. 18, 1873.—THOMAS COCHRANE, Esq., San Francisco—Dear Sir: Yours of the 15th inst. received. In reply to the four Automatic Feeders purchased from you, I will state that I have used them in connection with our mill for several months past, have tested their practicability and efficiency, and find them fully up to our expectations. We find much gained by the use of these Feeders over hand feeding, both in economy of labor and wear and tear of Shoes and Dies, as they feed more regularly and evenly, thereby saving the wear and tear of Irons in the battery very light. We can safely recommend them and believe them to be the best Feeders now in use for both wet and dry rock. Very respectfully yours, D. T. HUGHES, Supt. Patterson Mine.

HENDY'S LATEST IMPROVED Patent Self-Discharging Sulphurets AMALGAMATORS & CONCENTRATORS.

Over 500 have been put in use.

REFERENCES:

Empire Mill (8 Concentrators) ..Grass Valley, Nevada Co.
North Star M. & M. (8 Concentrators).....Grass Valley.
Sierra Butte M. Co.....Sierra Co.
Independence M. Co.....Sierra Co.
Plumas Eureka M Co.....Sierra Co.
Oneida M. Co.....Amador Co.
Phœnix M. Co.....Amador Co.
Keystone Mill (2 Concentrators).....Amador Co.
Black Bear M. Co.....Klamath Co.
St. Lawrence Mill.....Georgetown, El Dorado Co.
St. Patrick Mill (4 Concentrators)...Newcastle, Placer Co.
Julian Mill (6 Concentrators).....Newcastle, Placer Co.

They are also in use in many other parts of this coast.

JOSHUA HENDY, Office and Works, 32 Fremont st., San Francisco.

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,
Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

CONSIGNMENTS OF GOODS.

4v15-3m

KROM'S DRY ORE CONCENTRATOR

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Ores sampled.
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Plans furnished for the most suitable process for Ores.
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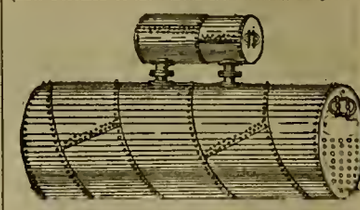

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Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

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—AND—

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The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Shafting, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

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PURCHASERS please say advertised in Scientific Press.

San Francisco Metal Market.

WEDNESDAY, M., Oct. 1, 1873.

IRON.—			
Scotch Pig Iron, ₱ ton	$52 50	@	— —
White Pig, ₱ ton	52 50	@	— —
Refined Bar, bad assortment, ₱ lb	—	@	— 4
Refined Bar, good assortment, ₱ lb	—	@	— 4½
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 08	@	— 08½
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 6	@	— —
Other Irons for Blacksmiths, Miners, etc.	— 5	@	— —
COPPER.—			
Braziers	35	@	— 38
Copper Tin'd	— 50	@	— —
C.Nie'ls Pat	— 55	@	— —
Sheathing, ₱ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₱ lb	— 40	@	— 42½
STEEL.—English Cast, ₱ lb	— 18	@	— 22
Drill	— 18	@	— 22
Plat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
ZINC	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 8¾	@	— 8
QUICKSILVER, per lb	—	@	1 10

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

WEDNESDAY M., Oct. 1, 1873.

Shippers are obliged to get rid of their surplus stock, which is sent to the East, Japan, etc. This creates some activity and a constant steadiness in the Leather market, as the same shipments are made, whether the exporters make or not hy the process Harness Leather of all grades is in particular request just now. Prices of other kinds, too, appear to be stiffening considerably. The fall trade generally is much better than was to have been expected from its unpropitious opening.

City Tanned Leather, ₱ lb	26@29
Santa Cruz Leather, ₱ lb	26@29
Country Leather, ₱ lb	25@28
Stockton Leather, ₱ lb	26@28
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 15 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 16 Kil. ₱ doz	55 00@ 70 00
Cornellian, 12 to 16 Ko	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumerville, 15 Kil	60 00@ — —
Simon, 18 Kil., ₱ doz	61 00@ 63 00
Simon, 20 Kil. ₱ doz	65 00@ 67 00
Simon. 24 Kil. ₱ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₱ lb	1 00@ 1 35
California Kip, ₱ doz	40 00 to 50 00
French Sheep, all colors, ₱ doz	8 00@ 15 00
Eastern Calf for Backs, ₱ lb	1 00@ 1 25
Sheep Roans for Topping, all colors, ₱ doz	9 00@ 13 00
Sheep Roans for Linings, ₱ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 4 50
Best Jodot Calf Boot Legs, ₱ pair	5 00@ 5 25
Good French Calf Boot Legs, ₱ pair	4 00@ 4 75
French Calf Boot Legs, ₱ pair	4 00@ — —
Harness Leather, ₱ lb	30@ 37½
Fair Bridle Leather, ₱ doz	48 00@ 72 00
Skirting Leather, ₱ lb	34@ 37½
Welt Leather, ₱ doz	30 00@ 50 00
Buff Leather, ₱ foot	19@ 22
Wax Side Leather, ₱ foot	17@ 19
Eastern Wax Leather	—@—

GENERAL MERCHANDISE.

WEDNESDAY NOON, Oct. 1, 1873.

BAGS.			
Eng. stand. Wh't	12	@	13
Detrick's Mach e Sewed, 22 x 36,	—	@	1
Gilroy K	1¼	@	—
do, 22x36, do W	12¾	@	13
do. 22x40, do	13¼	@	—
do, 23x40	12¾	@	—
do, 24x40	13½	@	—
Flour Sacks ⅝s	12	@	15½
" " ¼s	8¼	@	9
Stand. Gunnies	—	@	20
" Wool Sacks	—	@	62½
" Barley do	—	@	1½
Hessian 45-in gds	—	@	11½
do 60	—	@	16
Burlaps, yard	10¼	@	10¾
CANNED GOODS.			
Assd'd Fruits in 2½ lb cans	3 00	@	—
do Table do	—	@	4 00
Jams & Jellies	4 00	@	4 50
Pickles ½ gl	—	@	3 00
Sardines, qr box	—	@	2 15
do ht boxes	—	@	3 15
COAL.—Jobbing.			
Australian, ₱ ton	9 —	@	9 50
Coos Bay	— —	@	10 —
Bellingham Bay	— —	@	8 50
Seattle	— —	@	11 —
Cumbar'd, cks	— —	@	— —
do bulk	21 00	@	25 00
Mt. Diablo	6 25	@	8 25
Lehigh	14 —	@	15 —
Liverpool	11 00	@	12 —
West Hartley	12 00	@	14 —
Scotch	10 00	@	11 —
Scranton	10 00	@	— —
Vancouver's Isl	12 00	@	14 —
Charcoal, ₱ sk	15	@	—
COFFEE.			
Sandwich Island	19½	@	—
Costa Rica, per lb	22	@	—
Guatemala	20	@	21
Java	—	@	26
Manilla	19	@	20
Ground in cs	25	@	27
Chicory	10	@	—
FISH.			
Pac. Dry Cod, new cases	—	@	7½
Eastern Cod	8½	@	9
Salmon in hhls.	8 00	@	9 00
do ½ hhls	4 50	@	5 00
do 2½ lb cans	—	@	—
do 2 lb cans	3 75	@	4 00
do 1 lb cans	2 25	@	—
Do Cod, ½ lb	4 50	@	5 00
Pick. Cod, hhls	22 00	@	—
do ½ bbls	11 00	@	—
Bos. Sm'k'd Her'g	40	@	50
Mack'l, No. 1, ½ hhls	10 —	@	10 50
" Extra	12	@	12 50
" in kits	2 75	@	—
" Ex mess	3 50	@	4 00
" Ex mess, ½ hfs	13 00	@	—
NAILS.			
Assorted size, ₱ lb	5	@	7
NAVAL STORES.			
Tar & Pitch, ₱ lb	7	@	8
Oakum pr bale 50lb	4	@	4 50
Rosin	6 00	@	6 50
Anchors	8	@	8½
Chains	7	@	7½
OILS.			
Pacific Glue Co. Neat F't No. 1	—	@	—
Pure	1 25	@	—
Castor Oil, No. 1	40	@	45
do do No. 2	1 25	@	1 35
Cocoanut	55	@	60
Olive Plagniol	5 00	@	—
do Possel	4 75	@	—
Palm	9	@	—
do Bagicalupi	—	@	—
Linseed, raw	95	@	1 00
do boiled	1 00	@	1 05
China nut n cs	—	@	80
Sperm, crude	40	@	50
do bleached	90	@	—
Coast Whales	30	@	35
Polar, refined	45	@	50
Lard	85	@	95
Coal, refined Pet	37½	@	40
Oleophine	—	@	33
Devoe's Bril't	43	@	45
Long Island	—	@	33
Eureka	37½	@	40
Oevoe's Petro'm	37	@	39
Barrel kerosene	30	@	—
Downer Kerose'e	50	@	52½
Gas Light Oil	37½	@	40
PAINTS.			
Atlan. W. Lead	11½	@	12
Whiting	1½	@	1¾
Putty	—	@	4
Chalk	—	@	1
Paris White	2½	@	—
Ochre	2½	@	3
Venetian Red	3	@	3½
Red Lead	10½	@	11
Litharge	10	@	11
RICE.			
Chins No. 1, ₱ lb	6	@	6¾
do 2, do	5½	@	6
Japan	6	@	7½
Siam Cleaned	7	@	—
Patna	7	@	—
Hawaiian	6½	@	7
Carolina	10	@	10½
SALT.			
Cal. Bay, per ton	12 00	@	15 —
do Common	5 00	@	8 00
Mexican	14 00	@	15 00
Carmen Island	18 00	@	20 —
Liverpool fine	22 00	@	—
do coarse	20 00	@	21 00
SOAP.			
Castile ₱ lb	10	@	13½
Local brands	8	@	9
SPICES.			
Allspice, per lb	15	@	16
Cloves	—	@	40
Cassia	27½	@	—
Nutmegs	12	@	15
Whole Pepper	—	@	26
Gr'nd Allsp pr dz	—	@	1 00
do Cassia do	—	@	1 50
do Cloves do	—	@	2 25
do Mustard do	—	@	1 25
do Ginger do	—	@	1 00
do Pepper do	—	@	1 00
do Mace do	1 20	@	1 30
SUGAR, ETC.			
Cal. Cube per lb	11	@	—
Circle A crushed	11	@	—
Powdered	—	@	11¼
Ory granulated	10½	@	11
Extra do	10¼	@	—
Hawaiian	7½	@	9½
California Boet	9	@	11
Golden C	9½	@	—
do Rey'g grade	7	@	—
Cal. Syrup in bls	30	@	32½
do in ½ bls	32½	@	35
do in kegs	40	@	—
do Hawaiian	20	@	22½
TEA.			
Oolong, Canton, lb	19	@	25
do Amoy	23	@	50
do Formosa	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	80
do Moyune	60	@	90
Gunpowder, Canton	30	@	42½
do Pingsuey	50	@	90
do Moyune	65	@	1 25
Y'ng Hy., Canton	28	@	40
do Pingsuey	40	@	70
do Moyune	65	@	85
Japan, ½ chests, hulk	30	@	75
Japan, lacquered hxs, 1½ and ½ lbs	46	@	67
Japan do, 3 lb hxs	45	@	90
do pl'n hx, 1½ lb	35	@	65
do ½ & 1 lb paper	30	@	55
TOBACCO.—Jobbing.			
Bright Navys	50	@	65
Dark do	45	@	50
Dwait Twist	57	@	62½
12 inch do	57	@	62½
Light Pressed	68	@	75
Hard do	60	@	70
Conn. Wrap't	40	@	50
Penn. Wrapper	35	@	45
Ohio do	30	@	40
Virgi'a Smok'g	60	@	95
Fine ot che'g, gr	50	@	25
Fine cut chewing, buc'ts, ₱ lb	75	@	90
Banner fine cut	75	@	25
Eureka Cala	8 00	@	8 50
TURPENTINE.			
Eastern	67½	@	70

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Started in 1860, is ona of the oldest weekly journals now published in San Francisco. It has been conducted by its present proprictora for ten years, during which period it has been repeatedly onlarged and constantly improved. The active and steadfast efforts of its publishers have gained for its conduct an amount of practical experience greater than any other puolisners have accumulated on this coast, of a weekly journal.

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September, 1873.

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Any person who will carefully examine the COMPLETE WASHER will be convinced that tha inventor has struck the right principle, and that this machine is not merely a device with a *handle* and a *name*, but a real laborsaving machine for practical every-day use. It is simple in construction and more simple in its operation. It will fit any size tuh and will wash any garment from the smallest handkerchief to the largest blanket. It does the most washing where the most washing is required—remaining at the will of the operator—on soiled wristbands, collara, etc., until they are entirely clean. The price of tha machine is small, which enables those who hava the most nead of a washer to buy one. We desire to get a good traveling agent for each county on the Pacific Coast.

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SEALED PROPOSALS, for furnishing certain materials and constructing a portion of the Napa State Asylum Building for the Insane, will be received at the office of the President of the Board, No. 204 Sutter street, San Francisco, until 12 o'clock M. of the 30th day of October, 1873.

The printed specifications and printed forms of proposals can ha had on application to Messrs. Wright & Sanders, Architects, 418 California street, where plans and drawinns can be seen and all further information obtained. No bids will be entertained unless made on the specified printed forms of proposals and accompanied with a certified check or bond with two or more good and sufficicut sureties, in a sum equal to ten per cent. of the total sum of the tender, to be returned on the due entering into tha contract by the party to whom it may be awarded, or to be forfeited if the party fails to enter into the said contract.

The Board reserves the right to reject any or all bids.

oc4-tf J. F. MORSE, President of the Board.

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September, 15, 1873.

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Peterson's	3 00
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ondon Society	6 00
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HALLIDIE'S

Patent Endless Wire Ropeway.

Co ered by Numerous U. S. Patents.

IMPORTANT TO

Mining Companies, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up hy you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get ont of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be douhled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. C. GOODWIN.

EMMA HILL CONSOLINATED MINING Co., Little Cottonwood, Utah.

SUPERINTENDENT'S OFFICE, Sept. 23, 1872.

T. M. MARTIN, Esq.,—Sir: The Ropeway constructed hy you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work tor the Company, and recommend it to others wishing a sure and speedy transit across over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,

113 and 115 Pine Street, SAN FRANCISCO.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

Wire of all kinds and descriptions, furnished at lowest rates. A. S. HALLIDIE, 113 and 115 Pine St.

MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, OCTOBER 11, 1873.

VOLUME XXVII. Number 15.

California Animals, Insects, etc., for Europe.

The Paris Acclimatizing Society has decided upon the importation, naturalization and the propagation, in France and French Colonies, and in various sections of the globe, of animals, mammalia, birds, fishes, insects, plants, etc., which may improve the alimentary, medicinal, or industrial productions of any country or at any rate serves for the purpose of embellishment. There exists in many regions a large number of plants and animals which can be very easily made the subject of such an attempt. M. Drouyn de Lhuys, an eminent French Statesman, and formerly French Minister of Foreign Affairs, who has for many years been President of the French Acclimatizing Society, has written a letter to Mr. Edmund Breuil, Consul General of France in this city, requesting his coöperation in this enterprise, and encloses a series of questions comprising the principal items of importation which he requires.

M. Breuil has enclosed the letter to the President of the California Academy of Sciences together with the questions, asking him to enlist the members of the Academy in the service. The French Acclimatizing Society was established in February, 1854, and by a decree of the 20th of February, 1855, was recognized as being of public utility. The importance of the enterprise they have in view induces them to write to this country in order to find out as much as possible concerning our animals, birds, plants, fishes, etc. The latter states that it is indispensable to specify the different characteristics of each animal, whether it is abundant or scarce; whether it is stationary or migratory; mode of living and breeding; manner in which they may be reared; most successful mode of cultivation of plants, etc. The species should be indicated by their common appellation and if possible, also by their scientific name. The information is wanted on the following subjects:

I. Mammalia.—1, Alimentary; 2, Medicinal; 3, Industrial, (furs, hair, wool, hides, hoofs, antlers,); 4, Domestic, (pack animals, animals used for draught purposes, watch animals, etc.); 5, Accessory, (for ornament or pastime, hunting).

II. Birds.—6, Alimentary; 7, Industrial, (furs, feathers,); 8, Domestic, (destroyers of insects, etc.,); 9, Accessory, (for ornament or pastime, singing birds, birds kept in aviaries or parks, etc.).

III. Reptiles and Fishes.—10, Alimentary; 11, Medicinal; 12, Industrial; (scales, skins, glue,); 13, Accessory, (ornament or pastime, fishes in ponds, streams, or the sea).

IV. Insects and Crustacea.—14, Alimentary; 15, Medicinal(galls for instance); 16, Industrial (silks, coloring materials, galls, wax, etc).

V. Mollusca and Zoophytes.—17, Alimentary; 18, Industrial (shells, mother of pearl, pearls, coloring materials, filaments, corals, spongea, etc).

VI. Plants—Alimentary; 20, Medicinal; 21, Industrial (coloring materials, those containing sugar, perfumes, wood, trees and the use made of the wood; 22, Accessory (those serving for purposes of ornament or embellishment on account of their foliage or flowers.)

VII. What species of animals or plants, do you desire to have introduced in your country, the Acclimatizing Society being desirous of reciprocating the advantages that it may derive from an exchange with other sections of the globe?

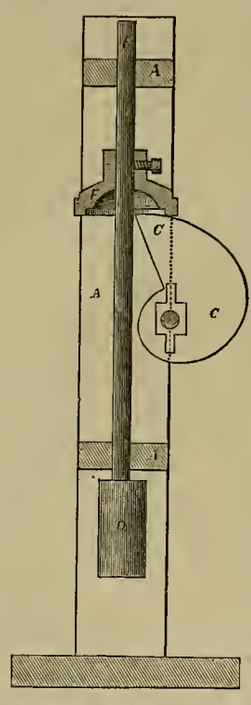
VIII. Is such an exchange of animals or plants favorable or desired by the Societies of your section.

IX. Are there any Zoölogical, Agricultural or Botanical Societies in your section, with which we might exchange publications? Any information that might assist the Acclimatizing Society will be received with the most vivid interest and you will thereby hasten its progress.

Hammond's Improved Cam and Tappet.

The accompanying cut illustrates an improved method of operating the stamps of a quartz battery, invented by William P. Hammond of Napa, Napa county, Cal. Mr. Hammond claims that by the means he employs, the stamp can be raised with a less expenditure of power than when the stamp is operated in the ordinary manner. By referring to the cut, the peculiarity of construction will be seen.

A, A, represents the ordinary frame work of the battery. The cam shaft revolves in the bearings on the frame, *A*, to which the power is applied in the usual manner. To this shaft is attached the cam, *C*, which is made somewhat spiral so as to tend to rotate the stamp stem, *E*, when it is raised. *D*, is the stamp which is attached to the lower end of the stamp stem, *E*, which moves up and down in the



Hammond's Improved Cam and Tappet.

guide holes in the frame, *A*, in the usual way. *F*, is a tappet, through which the center of the stamp shaft, *E*, passes and which is adjustably secured to said shaft, by a set screw so that it may be adjusted to cause the stamp to be raised to a greater or less hight as desired. The lower side of the tappet, *F*, is concave so that the cam, *C*, may operate only upon the edge or rim of the tappet. The tappet, *F*, is made of such a size, that the part upon which the cam, *C*, operates, may be directly over the driving shaft.

By this construction and arrangement of the tappet and cam, it is claimed friction will be lessened, the cam will rotate the stamp more surely and regularly, and the power required to raise the stamp will be diminished, the point of contact of the cam and tappet being directly over the driving-shaft. William P. Hammond or Henry Mygatt, of Napa, Napa Co., will furnish further information, if desired.

The paper mill on Clackamas river, Oregon, after a suspension of three months, has again been started up.

The Largest Gold Bar.

There has been some little rivalry of late among certain mining companies and banks as to who should make the largest gold bar on the coast, or in the United States. Three weeks ago the Spring Valley Canal and Mining Company of Cherokee, Butte county, shipped to this city a single bar weighing 141 pounds, valued at about $41,000. The company at that time thought that it was the largest ever made in the United States. Since then they learned that Seligman & Co., bankers of this city, had received a larger one from Colorado, and write to us to find out whether the report was true.

We called at several places where they would be likely to know of any unusually large bars, and find out that Seligman & Co. did have the largest one. This "boss bar" was made up by Seligman & Co.'s agents at Helena, Montana, for exhibition, and was the result of dust purchases for a month. It was 900 fine, and valued at exactly $50,000.

The largest bar received at the London and San Francisco Bank was worth $35,000.

The largest bar handled at the San Francisco Assaying and Refining Works for the Bank of California was valued at $40,000.

The mint last month received a gold bar valued at upwards of $40,000.

It is conceded by all who are posted on the subject, that Seligman & Co.'s $50,000 bar is the very largest ever made on this coast. It will be remembered, however, that it was made for the special purpose of exhibition and was intended to be the largest ever made on the coast.

Salmon Breeding on the McCloud River.

Livingstone Stone, the energetic Fish Commissioner, went East on the 30th ult. with 600,000 salmon eggs for distribution in the waters of some of the Eastern States. The expedition to the McCloud river has been a success in every respect. From a letter to one of the publishers of this journal we gather the following information concerning it:

The expedition went into camp July 20th, 1873. The first salmon eggs were taken August 26th. The first eye spots showed September 12th. The first shipment of eggs East was made September 20th. One million and a half of eggs are ready for shipment, which will be distributed as follows: To James Duffy, Penusylvania, 150,000 eggs; Seth Green, New York, 250,000; R. G. Pike, Connecticut, 150,000; Charles G. Atkin, Maine, 50,000; Cold Spring Trout Ponds, New Hampshire, 50,000; Dr. W. A. Newell, California, 5,000; E. A. Brackett, Massachusetts, 50,000; Dr. J. H. Slack, New Jersey, 800,000.

The camp will break up in three or four weeks. A very valuable collection of *salmonidae* specimens was made for the Smithsonian Institute at Washington. The eggs taken East will cost $2 a thousand in gold, while three years ago the States paid $40 a thousand for them. Mr. Stone seems to be a very persevering man, and is just suited for his office. He takes every possible measure to perfect all his plans, and as he is an enthusiast on fish, has been very successful. Fish culture is fast becoming a subject of great importance in this country, as it should have been years ago, and we hope that the time will come when every available stream and pond will be well supplied with the best species of food fish.

The Murchie mine, Nevada county, which has formerly relied on water power to run its ten-stamp mill, now has a steam engine, so that the mill can continue running in the fall when the water is low. An additional ten-stamp battery will shortly be added.

Our Patent System.

The more familiar we become with the relations that exist between progress and inventions the more thoroughly are we impressed with the great value of our patent systems as a promoter of knowledge, and a source of revenue to the government. Few branches of industry present so fair a prospect to the man of mechanical sense and judgment as that of supplying some public want with a new invention, and to the man who really possesses mechanical talent no labor is more inviting, than to explore the field of mechanics in order to discover some new and useful improvement, and no labor is better rewarded than that which results in relieving a public want.

The young man who possesses a medium quantity of brains, *mixed with a fair share of inventive genius*, can readily supply a want of capital by a proper use of his mechanical knowledge. The world is full of crude implements and machines. The boy of to-day will live to see many of our present wonderful machines superseded by others far superior. When the old Hoe hand press which was capable of printing about two hundred sheets per hour, at the expense of an exhausted human operator was first introduced to the public, the world stood aghast at the wonderful improvement and the praises of that machine still linger in our ears. But what a crude embodiment of mechanical ideas it now appears to us who are familiar with the operations of lightning cylinder presses which turn off rising 20,000 sheets per hour. And this is but one illustration out of thousands which we might produce.

Step by step we progress. One improvement suggests another, until finally we begin to wonder where this thing is going to stop, the fact is, *there is no stop*. It is invent, improve, to the end of the chapter, and when that end will be, and what the result will be when it does come, are questions which we never try to answer, and hardly stop to think about. The inventor is as necessary to the healthy organization of a community or a government as the farmer, the mechanic, the manufacturer or the skilled workman. Each has his field and each supplies the other with the means for producing successful results from his labors, and all combined form a healthy, industrious, progressive people.

International Weather Reports. — The Vienna Congress has assented, by unanimous vote, to the proposition that it is desirable, with a view to the exchange of weather reports, that at least one uniform observation, of such character as to be suitable for the preparation of synoptic charts, be taken, and recorded daily and simultaneously at as many stations as practicable throughout the world. The formal announcement of this principle, with such sanction, will tend directly to an exchange of signal service and weather reports between all civilized nations. It is interesting, in reference to American reports, to know that the Chinese Government is preparing to establish a system of storm-warnings and weather reports for China and the Chinese Coast of the Pacific.

It is stated that a gentlemen of this city will soon establish a technical school for the instruction of boys in the use of tools for working both wood and metal. The course of instruction is to combine theory and practice. An institution of this kind will furnish a practical solution of the problem "What shall we do with our boys?"

CORRESPONDENCE.

Notes of Travel in Utah.

[By our Traveling Correspondent.]

Salt Lake City,

The capital of Utah Territory, and the great head center of Mormonism, is about 12 milcs southeast of the most southerly point of Great Salt Lake, and about 36⅓ miles eouth of Ogden, the junction of the C. P. R. R., the U. P. R. R. and the U. S. Railroads; and distant from San Francisco, Cal., 917⅓ miles; fare from your city (all coin) $51.80. This city began ite existence about 28 years ago; it covere an area of about 9 square miles; the streete are wide, with running water on either eide of them, and the blocks are evenly cut in plote of ten acres each. The estimated population of Salt Lake City is 25,000, of which about 4,000 are Gentiles, and 21,000 Mormons.

The Great Mormon Tabernacle,

Situated near the ceuter of the city, occupies an entire block, including the space allotted to the Great Mormon Temple, not begun. The present tabernacle, in its unfinished state, resembles a huge sea tortoise, and is said to be 170 feet from the floor to the dome and has a seating capecity for 13,500 people, including all the galleries attached.

The acoustic properties of this memmoth structure are very good, taking into account its immense area. In one spot, however, of about 200 feet square in the centre, the words of Orson Pratt (and he is an excellent orator) become a perfect jumble, although perfectly clear and distinct, 300 feet further back from the pulpit.

The Mammoth Organ,

Of which you have heard and read so much, somewhat disappointed me. It is claimed to be the eecond in size in the world. I do not know its exact size, but having seen the one in Music Hall, Boston, I would say that it presents about three-fourths as much frontage as the latter meutioned; has places for 54 stops, 19 of which are yet to be put into position, and will require some 40 or 50 pipes yet to make it a 7½ octave organ. At present the compass is but 5 octaves. The workmanship, however, is deserving of great praise, and is as fine as any I ever saw. The tabernacle block is entirely surrounded by a granite stone wall some 15 or 18 feet high. The residence of President Young is within the enclosed block adjoining the tabernacle on the east, similarly enclosed by stone walls, and occupying the entire block. I neglected to state that the streets of Salt Leke City are laid out to the true points of the compass, north and south and east and west, and are named, commencing at the Temple Block, Esst Temple street, North Temple street, West Temple street, South Temple street, etc., and the second street verging from either of the above mentioned, are named according to the direction they run from the temple, as Second East street, Second North etreet, etc,, and so on to the suburbs of the city.

Mercantile Houses and Hotels.

The largest Mercantile establishment here is known as "Zion's co-operative mercantile institute." It has some ten departments, employs 140 clerks, and is carrying a stock at this writing of $1,400,000 in the different departments. The next largest mercantile establishment is that of the "Walker Bro's." The firm are carrying a stock of $400,000 worth of goods. They employ 40 clerks, do a banking business, and run mines, farms, etc. There are sometен or a dozen hotels in Salt Lake City, about equally divided between Mormon and Gentile proprietors. The principal oue of which, the finest structure, and the most centrally located is the "Walker House," presided over by the Kitchen Bro's.

The Surroundings of Salt Lake City.

The city itself is situated at an elevation of about 4,600 ft above the sea, and about 200 above the level of Great Salt Lake. To the east and eonth of Salt Lake City, almost as far ae "Utah Lake," is a well defined water line at a point on the west side of the Wasatch range of mountains, about 400 feet above the elevation of Salt Lake City. A peculiarity that may not generally be known, ie tbat the sink of the Carson, Truckee and Humboldt rivers in the State of Nevada, are of the same elevation as Great Salt Lake, or within a few feet of the same. Outside of one small stream in southern Utah no water rune out of that Territory, and none at all rune out of the State of Nevada, all the moisture sinking within its borders.

Extinct Volcanoes.

About 160 miles south of Salt Lake City, is the town of Filmore, the county seat of Millard Co., Utah Ter., and commencing at a point 10 miles south of Filmore, extinct volcanoes are to be seen to the extent of 21 in number within an area of 45 miles. One of these has been in action 5 times, once within the last hundred years, the lava from which flowed for a distance of 5½ miles; between these flows of lava, sre other earth formations, aud in one place where tbere exists a deep crevice, there is a cold spring of water, surrounding which is perpetual ice, although the thermometer 40 feet distant, would range from 80° to 100° during the summer season. One of these extinct volcanoes I visited rises up from an almost level plain some 60 feet, snrrounded by a dreary desert scene; on ascending this volcano to the crater, it sounds like an iron kettle. At a depth of about 65 feet in this crater and near the center, there is a green bunch of grass from 18 inches to 2 feet bigb. This crater is about 100 feet in diameter, and everything that surrounds it is as dry es a chip,

Bullion Shipments and Railroads.

Twelve miles south of Salt Lake City is located Sandy Station, from which point Messrs. Gordon & Murray shipped 12 car-loade of bullion, between the first and fourth daye of September inclusive, that aggregated 3,225 bars, valued at $260,884, which was from the Flagstaff, Last Chance, Davenport and Saturn furnaces. During the same length of time, and from the same place, Messrs. Durant & Cutting shipped 14 car-loads of bullion, aggregating 3,365 bars, valued at $302,301. If these are average shipments, it shows a cleerance of 1,647 bars of bullion daily from Granite station, valued at over $140,000. The bullion shipped by Durant & Cutting was from the Mountain Chief, Winnemuck, Flagstaff and Sheridan Hill Furnaces.

The Utah Central Railroad,

Counectiug Salt Lake City with Ogden; distance 37 miles; fare $2; gauge 4 feet 8½ inches. Passenger trains ply twice a day. John Sbarp is President and General Superintendent, and Wm. Jennings, Vice President. This road paid to its stockholders last year 9 per cent. on the capital stock. The gross earnings were 25 per cent. of an increase in 1872 over 1871. The Utah Southern is merely an extension of the Utah C. R. R. and its terminus at this writing is at Lehigh, 33 miles south from Salt Lake City. The gauge of this road is the same as the above. The manegement is a little different, Mr. Wm. Jennings being President, Mr. John Sharp, Vice President, Mr. F. Little, Superintendent. Passenger trains run over this road twice per day; fare to Lehigh from Salt Lake City ie $2.25; another branch of this road is the

Wasatch and Jordan Valley R. R.

Some nine miles are completed on this road, but the present terminus is at Granite, eight miles from Sandy Station on the Utah S. R. R. tbe junction of these two roads. The gauge of road is three feet, and the average grede is 250 feet to the mile; fare 75 cents. Passenger trains ply twice a day. Tbie road was begun iu November, 1872, and completed to Granite in April, 1873. The freighting consists chiefly of ore and bullion and granite building stone.

Union Depot Hotel,

Located at Ogden, Utah Territory, the junction of the Union Pacific, Central Pacific, and Utah Central Reilroads, is probably the finest conducted of any between your city aud Omaha. The building occupied is 158 feet long, by 30 fcet wide, and conteins 20 rooms. G. S. Erh is proprietor. From Belmont and Reese River Districts in my next.

L. P. Mc.

Quicksilver Extraction.

EDITORS PRESS:—In reference to an article on the extraction of quicksilver, that appeared in the PRESS of August 23d, an explenation is given in the same paper of September 6th, 1873. This explanation in support of the 99½ p. c. quicksilver extraction, would not induce me to make any remarke, if it were not, to uee Mr. Knox's own words, for the purpose of "preventing your readers from being humbugged" by so-called practical men. To prove that 99⅓ p. c. extracted in his furnace is not imaginary, Mr. Knox gives reasons of the following style: "The suction ie strong enough to prevent the vapors of mercury from penetrating the walls; nor can any vapors escape at the charging-pot; no gases from within the furnace can possibly reach the outside and escape; it is physicelly impossible for any vapors of the furnace to penetrate the masonry; sixty hours of red heat is long enough to extract the last of mercurial vapors of the ore; no metal can be lost, except by neglect; nothing excapee us, and we believe the amount of metal escaping by the coke chimney to be very small—I think—I am well satisfied," etc.

Now, I repeat what I said in another article. "Belief only is required," and the 99½ p. c. is all right. It might be a good hint to millmen to retort their amalgam in similar furnaces, in place of the iron retorts, whicb, taking accidental bursting into consideration, suffer more loss than one-half of one per cent. Of course, analysis is inconvenient, and not fit to confirm 99½ p. c.; but 1 to 5 pounds of ore retorted, that is the thing; "it will come near the truth" (how near?)

The same objection which Mr. Knox puts forth in reference to unreliable average assays of large quantities of quicksilver ore might be applied with the same reason to silver, copper and other ores, and if he does not believe in the correctness of assays on small samples, he is now in the same position as many prospectors were ten years ago, who insisted on assays of at least five pounds of silver ore iu order to come near the truth.

If only one-half of one per cent. is lost, consequently nothing left in the furnace, there could be no obstacle in putting through 50 or 100 tons of ore as a trial. Treat the ore in the same way for sampling as is done with thousands of tons of more precious metals than quicksilver is; have correct assays made; compare the results of working with tbe amount shown by the assay, and you will find tbat a loss of one-half per cent., as well as the graciously admitted 5 p. c., is nothiug but a fiction, no matter what the bricks of the furnace or the debris of the ore show. G. K.

The Proposed Bear River Tunnel.

EDITORS PRESS:—In the PRESS of Sept. 27th, you publisb an article on this subject, signed "W," Oakland, Sept. 13th, in which some statements arc made in regard to the proposed American and Bear River tunnel, which I think, in justice to all partiee concerned, should be corrected.

Now, I have no personal interest iu this thing more than to state some common-sense reasons in the premises, and also to show tbat the writer (W.) has not the slightest knowledge of what he is writing about. I have been a miuer in this immediate sectiou of Bear River for twenty-two years, and I flatter myself that I have at least common intelligence, and am prepared to make a practical statement, as I understand it.

In the first inetance I will venture this assertion, that there is not a practical miner in the whole vicinity of Bear River, Steep Hollow or Greenhorn Creeks, (which are the streame proposed to be drained), but who will endorse what I say, wbich is, tbat it is a perfectly feasible and practical tbing, and that it will pay, provided the cost is no more than now estimated by practical engineers; that being $600,000, for running the tunnel from Bear River to the American, a distance of a little over two milee.

Now, admitting the first proposition of "W." that to run a tunnel through solid rock 12,540 feet, is no small undertekiug, and then flume it with a 12 foot flume, which, of course, is a necessary tbing, of course it will necessitate a large expenditnre of money, probably more than the estimate made. But the point I wish to make is this, tbat "W." bas not stated the plan correctly, for no one ever proposed to give a flume 6 inches to the 12 feet grade; if they did tbey were not practical minere. Four inches grade to 12 feet is sufficient, and more than that with the body of water tbat will have to pass through the flume would certainly be a detriment. All those streams mentioued bave 4 inches fall to the 12 feet; that fact bas been demonstrated time and again by surveye. Now, if you set a flume in the river giving it 4 inches to 12 feet, any one can see that it exactly fills the bill, for it will keep right along on tbe bed rock just as far ae you desire to run it.

And now, about another thing; W. says that Bear River had an ordinary sluice grade, tailings would not have accumulated to the extent they have. This is a foolish assertion; but I will venture to say, that had a flume 16 feet wide and 6 feet deep been placed in Bear River and kept in running order before those tailings commenced to be run in, and a tunnel had been opened into the American, tbere would be no tailinge in Bear River to-day.

The reasons of those tailinge being there are very p'ain. One is that the Auburn Ditch Company have a dam where the proposed tunnel intersecte Bear River, 17 feet bigh, tbat would certainly make them back up that high; and in doing that, would not it make the river a great deal wider and of course, less of tbem pass away. Now, about tbe amount of gold and quicksilver in those streams; I don't pretend to know what quantity there ie, bnt I was a miner in those streams before those tailinge from the hills commenced to come in, and know that they were good paying streams, and I will venture the assertion, that not one-tenth of the gold was taken out before the tailinge came in and drove the miners out. My knowledge of the minee in this immediate neighborhood justifies me in the conclusion that there is gold enough in these streams to pay the expenditure estimated for the tunnel. All the hundreds of tons of quicksilver that have been brought here, with the exception of tbe small stock now on hand, have passed away iu those streams, and why not a great portion of the gold with it? M.

Little York, Sept. 28.

Troy District.

This district, situated in the White Pine range, about eighty milee south of Hamilton, is showing a very marked improvement since the return of Mr. Davies from his visit to England on business of the Troy Silver Mining Company, limited, of which he ie the managing agent. Notwithstanding the discouragements which the company have met with, from many adverse circumstances, they have increased the capital to the extent of about $400,000, and are determined to prosecute its enterprise for the production of silver. The company have a number of valuable ledges, upon the principal part of which work ia being pushed with great activity, employing about 40 bands. The mill and Stedefeldt furnace were started up about the first of this month, and we learn from Mr. Davies thst it had been his intention to make the first clean up on Saturday last. We are unable at present to state the result of the run, but will probably learn how succesaful or otherwise it has been, on tbe arrival of the stage due this afternoon. The difficulty with tbe workings of the ore heretofore, has been on account of the large percentage of zinc blend and copper which it carries. The large percentage of silver contained has encouraged further experiments to obtain bullion of satisfactory fineness, which it is to be hoped have already proved successful as the Troy Company, incorporated in Lancasbire, England, has proved itslf one of the moet resolute and liberal of the many foreign organizatione that have contributed to the development of the bnsiness of silver mining on thie coast.—*White Pine News.*

Silver Coinage.

A few days ago we published an article in the *Call*, having reference to the deprcciation of the value of silver bars, and urging the coinage of silver by the Mints, with a view to ite entering more extensively into circulation in the United States. There is no reason why a country which produces large quautities of silver should take steps to depreciate its value, particularly when so much is needed to aid in stimulating manufactures, agriculture and commerce. There is required in the United States two or three hundred million dollars of silver coin, and hereafter it will be found neceesary to regulate its issue with more care than ever before. As was etated a few daye ago, we have silver coin ranging from five to fifty cents in nominal value, but really worth, in comparieon with gold coin, from one to two per cent. less.

The laws under which silver is coined at our Mints should be at once changed. The coin should be increased in weight so as to equal gold coin, dollar for dollar; and as the gold dollar is unpopuiar and going out of use, a eilver dollar should take its place. As there is no probability of the world ever being over supplied with gold, it is believed it would be well to consider the propriety of using no gold coin of less value than five dollars. Certainly, we should have no gold coin of less value than two and a balf dollars. If the general Government would enact laws properly arranging our monetary system, there would be no danger of depreciation in the value of silver for many years to come, and probably never, for the rage which now runs to gold would be modified by other countries adopting more extensively silver coinage, in imitation of ourselves. In California we need silver coinage equal in value to gold. We desire to see a handsome dollar—one wbich is worth a dollar. California could as well as not use some millions of silver in addition to what she now circulates. Nevada would be pleased to have an addition to her currency in the way suggested, and so would the whole Pacific Coast; hnt we do desire to be rid of the half dollars wbich must be sold at from one to two per cent. discount. California can certainly stand a full-value silver coin, as a legal tender in amounts up to one hundred dollars—possibly more. If California can use silver, why cannot the other portions of the country? It will require a large amount of coin to reeume specie payments throughout the States on the other side of the continent. It will be difficult to fill the void with gold. Why, then, ehould not silver be used extensively there? The people would be as well pleased with silver dollare as with gold coin, possibly more so than with small gold coin.

At any rate, witb silver dollars of full value, made a legal tender for eums as high as one hundred dollars, steps would be taken beneficial to the people, and et the same time much would be done to absorb the silver turned out of our mines. The inhabitants of this coast ehould make an effort to have silver enter more extensively than it does at the preeent time into the monetary eystem of the country. It was well enough, perhaps, when our eilver coin was debased in imitation of the English system, for then silver wae scarce and gold wes plentiful. Now the gold supply is diminishing and the silver increasing. The situation of the United States in respect to the two metals has changed entirely. Why, then, should not our laws change to suit tbe altered position? By raising the standard of silver coins, every State on this side of the continent would be benefited. Nevada would be greatly benefited, and this would be advantageous to San Fraucisco. In the Eastern States the benefits to accrue to the people would be even greater than those conferred upon ourselves, for it would aid in a resumption of specie paymente by the banks. At the present time in Europe, the tendency is to use gold coinage. Silver has been discarded, for the same reasons which induced a change in the United Statee. The diminished supply of silver and increased production of gold brought about the result. It is not unlikely that a reversal of the situation will ultimately induce other countries to turn to silver again to help them out. With the multiplication of railroads, steamers and telegraphs, which multiply the interchange of commodities, an increase of money becomes a necessity. And to give stability to paper money, an increase of a metallic basis becomes necessary, and this must he obtained by placing silver coinage on a better basis.—*Call.*

PUDROLITH.—A new kind of explosive ia made by mixing equal parts of apent tan, sawdust, nitrate of potash, nitrate of baryta, charcoal and sulphur.

MECHANICAL PROGRESS.

Submarine Blasting.

A series of interesting submarine blasting operations in the Schuylkill river are now in progress, having for their object the removal of rocks which impede navigation. Two months ago work was commenced at a point where 800 cubic yards of rock had to be removed so as to make the channel 19 feet deep at low tide. Three kinds of rock were found—one of soft mica, another of feldspar and quartz, very hard, and the third of a hard, dark sandstone. To remove these rocks, holes 3¼ to 4 inches in diameter, and 5 or 6 feet apart, were bored to the required depth, which varied, of course, with the size of the obstruction. Burleigh's steam drill was used. This drill, which is a compact form comprises an engine and the drill proper, is mounted on a tripod with telescopic legs, to conform to the irregularities in the bottom of the river. Steam is supplied through a flexible hose from a boiler on the workman's scow, and the drill is made to give from 150 to 200 blows per minute. The drills are from 16 to 18 feet in length, rose bitted, with four lips of cast steel from 3¼ to 4 inches in diameter. The drill is connected directly with the piston of the cylinder, and is given two motions, perpendicular and rotary. It is self-feeding, and as the work proceeds, the cylinder of the engine follows the drill, thus allowing a play of about 3 feet with each one of the drills of different lengths. The holes are bored from 3 to 11 feet deep, and with this machine about 18 feet are bored each day. Water is pumped into the hole made by the drill during the operation to wash out the sediment, and, when completed the holes are plugged up by a diver, a rope connecting all the plugs and guiding him to the several holes. The diver is dressed in an india-rubber suit, with copper helmet and breast-plate, lead shoes, and heavy weights are fastened to his side. The shoes have leaden soles, and weigh 60 pounds. The helmet weighs 80 pounds, the sinking weight 200 pounds, and the suit about 40 pounds, so that the diver carries 380 pounds into the water. Few men can bear the load in ascending and descending, but in the water the weight is not felt, and the diver can work at the bottom of the river for many hours without extraordinary fatigue. The copper helmet is very large, and has three glass windows in it that look like the port holes of a ship. When these are closed the diver's only supply of air is from an india-rubber tube into which air is continuously pumped by two men. The air circulates about the man's head and escapes at the back, but any stoppage of the supply would result in almost instant death. The diver first sets the drill in position, then returns and plugs up the hole, again returns, withdraws the plugs, and puts in place thereof dualin cartridges, and after the blast has been made, again descends to put chains around the heavier rocks, that they may be lifted out of the river. The advantage of using dualin instead of powder is that, as a general rule, it reduces the rock to powder, or breaks them up into such small pieces that they can be removed by means of the dredger. The dualin cartridges used are from 4 to 8 inches in length, and sometimes several are used in one hole. They are fired off by means of an electrical battery, to which is attached an insulated line terminating in metallic fuses fastened inside of the cartridges.—*Iron Age.*

Fabrication of the Paper for Greenbacks.—All the paper used to print the national currency on, is made in the Glen Mills, near Westchester, Pa., by a 62-inch Fondrinier machine. The principal peculiarity is that short pieces of red silk thread are mixed with the pulp, and this is poured on the wire cloth, without going through a sieve, as this would retain the threads. Next, from a separate contrivance worked in a very peculiar manner, a shower of short blue silk threads falls in strips on the paper while this is in the process of formation. One side of the paper is thus covered with blue lines, formed by the blue silk thread; and this is used for the front of the greenback, on which these threads are distinctly visible, conform to the manner in which they were superficially distributed, notwithstanding they are deeply enough embedded in the texture of the paper.

The peculiarity of this machine is to make a paper so peculiar as to be practically impossible to imitate; and this is one of the principal guarantees against forgery in the possession of the government. We need scarcely mention that this paper-making machine is night and day under the charge of Treasury employés.

An English exchange describes a new process of coating metallic articles with tin, zinc, etc., as follows: In coating with tin, according to this invention, oil or fat, together with chloride of zinc, are placed in a heating pot having a rotary or oscillatory motion, and when the fat or oil is sufficiently heated the pins and metallic tin are thrown into the pot, which is turned or oscillated for a few seconds. The pins are thereby coated with tin, and are raked out of the pot into a vibrating riddle or sieve, through which they fall into water. Or a tubular pot may be used, the pins being introduced in one end and removed at the other end, the pins being carried through a rotary pot by a screw-like motion effected by a screw-like rib in the interior of the pot.

Sheathing Iron Ships.

Two of the most effective methods of sheathing iron ships, at present in vogue, differ so peculiarly in their principles and details that the practical results of the two, based on actual experience, would furnish interesting material for comparison. In one of these, in which copper, mixed metal, or zinc, is employed, the inner layer of the iron skin consists of narrow strips of plate, merely wide enough to make lap-joints with the outer layer, and to have a groove between the edges of each pair of outer plates, about as wide as the plates are thick. Into this groove is placed a filling of teak or ebonite, a compound of india-rubber and sulphur. Outside the plating is a layer of tarred felt about one quarter of an inch thick, upon which the sheathing is laid and fastened with sheathing nails of the same metal, driven through the felt into the filings. Intermediate fastenings are obtained, in case of their being found necessary, by inserting ebonite plugs into the holes drilled in the iron plates and driving sheathing nails into them. In the other method, outside the iron skin are riveted angle iron ribs, the projecting flanges of which are dovetailed in section. The inner skin is coated with pitch, and the spaces between the dovetailed flanges are filled by packing and wedging into them short pieces of plank. The outside ribs, with their wooden filling, rise to a short distance above the water line, and the upper edge of the filling is guarded by a longitudinal angle iron. The outer surface of the filling having been paved with pitch, a complete wooden sheathing, about one-and-a-half inches thick, is put on and fastened to the filling pieces with mixed metal nails, but not passing through these pieces. This is also pitched, and then sheathed with copper or mixed metal, care being taken to keep the metal sheathing two or three inches from any exposed piece of iron.—*Stove and Tin Trade Journal.*

Messrs. Wilkinson & Taylor, of Birmingham, have lately invented an improvement in apparatus for casting metals, which is well spoken of. The invention consists of machinery or apparatus to be used for casting long or continuous ingots, bars or strips of metal, to be afterward rolled into plates or drawn into rods or wires. The apparatus consists essentially of a nearly vertical traveling or endless mould, composed of two series of endless bands of jointed plates, supported by and working over drums or pulleys. The plates of one series are of a trough form, open at both ends, and the plates of the other series are flat. The two series of endless bands of jointed plates, are so arranged with respect to each other that in their descending motion they are brought together and constitute an endless mold, and in their ascending motion they are separated from one another. The flat plates are pressed into close contact with the trough-shaped plates by springs. The two series of plates are geared together and worked by racks and pinions. In using the machinery a temporary bottom is fixed in one of the trough-shaped plates, and motion being given to the endless bands of jointed plates, molten metal is poured into the apparatus through a funnel fixed at the highest point of the machine. The ingot or bar formed by the solidification of the metal passes out at the bottom of the machine, the temporary bottom of the mold passing out in front of the ingot or bar.—*Ex.*

A Time Recording Clock.—A clock has been invented by an officer of the Western Union Telegraph Company, which at any time will print the year, month, day, hour and minute. It acts either automatically or by hand, as may be desired. This time-printer is worked by an electro-magnet. Use does not impair or affect it as a time-keeper. Behind the dial, which is of glass, and indicates the time, there is an adjustment of wheels and machinery connected with a small battery, and above all a small press, in appearance such as is usually used for cancelling stamps, receipts, and like purposes. By placing at any hour of the day a slip of paper beneath the face of what appears to be an ordinary die, and pressing down the handle, there will appear instantaneously, printed in clear type, the year, month, day, hour and minute when it was done. This acts automatically, needs no regulation, is always correct, being connected with the chronometer which is regulated by the Washington Observatory, does not get out of order, as there is no friction, and it is about to be put into general use. The whole apparatus is not larger than an ordinary mantel time-piece, and is easy to handle. Its advantages are manifold. It is to be used by persons in charge of railway stations, who will be required to obtain an impression of the hour when trains arrive, pass or leave the depot, thus tending to prevent accidents, and to hold the different employes to rigid responsibility, and placing the blame of failure in duty or accidents upon the proper persons. It will secure vigilance on the part of watchmen, who will be required, at intervals during the night, to obtain impressions from the electric time-keeper, and thus give evidence of their fidelity to their trust. It is not possible to manipulate the machine so that it will record other than the correct time, and is a faultless sentinel of the passing hours.

Material for Gas.—An English stearine company has brought into market a new material for manufacturing gas, called vegetable pitch, obtained from the purification and preparation of certain vegetable oils. This substance gives a gas of great illuminating power, and will be particularly useful when mixed with the coal now used in gas-works.—*Artisan.*

Suppression of Sewer Gas.—*Iron* gives the following account of a new apparatus, known as the Redcliffe Sanitary and Ventilating Trap Composed of stoneware, glazed inside and out, it is not liable to corrosion, which is a palpable advantage. Its shape being that of a very large-sized egg, it admits of no projecting corners to prevent the free passage of any matter going through it to the sewer. It holds about four gallons of water (more than any of its rivals); its diaphragm dips three inches into the water and is hermetically sealed to the underside of the top, so forming a powerful resistance against sewer gas passing that point. The internal conducting pipe which is connected with the soil-pipe from the closets, etc., above, bends under and discharges its contents into the body of water in the trap well below, and beyond the diaphragm on the sewer side, to prevent soil or gas re-entering the soil pipe and escaping thence to the house. There is also an excellent arrangement in the crown of the trap for complete ventilation through a distinct pipe which is carried to the top of each house, and which has only that function to perform. A second inlet, also trapped, takes the waste water from baths, sinks, etc., thereby thoroughly cleansing the apparatus, arresting smells of every description from passing into those parts of the house, or into the waste pipes from cisterns, and, in fact, completely checking the inroads of sewer gas. The trap is moderate in price and is easy of application to existing systems.

SCIENTIFIC PROGRESS.

The Nebular Hypothesis.

In the year 1811, Sir W. Herschel announced that he had (as he supposed) detected changes in the Orion nebulæ. The announcement appeared in connection with a very remarkable theory respecting nebulæ generally—Herschel's celebrated hypothesis of the conversion of some nebulæ into stars. The astronomical world now heard for the first time of that self-luminous nebulous matter, distributed in a highly attenuated form throughout the celestial regions, which Herschel looked upon as the material from which stars have been originally formed. Few theories have met with a stranger fate. Received respectfully at first on the authority of the great astronomer who propounded it—then in the zenith of his fame—the theory gradually found a place in nearly all astronomical works. But, in the words of a distinguished living astronomer: "The bold hypothesis did not receive that confirmation from the labors of subsequent inquirers which is so remarkable in the case of so many of Herschel's other speculations. It came to pass at length that the theory was looked upon by nearly all English astronomers as wholly untenable. In Germany it was never abandoned, however, and a great modern discovery has suddenly brought it into general favor, and has in this, as in so many other instances, vindicated Herschel's claim to be looked upon as the most clear-sighted, as well as the boldest and most original, of astronomical theorizers.

The time came, however, when a new instrument, more telling even than the telescope, was to be directed upon the Orion nebulæ, and with very startling results. The spectroscope had revealed much respecting the constitution of the fixed stars. We had learned that they are suns resembling our own. It remained only to show that the Orion nebulæ consist of similar suns, in order to establish beyond all possibility of doubt the theories which had been so complacently accepted. A very different result rewarded the attempt, however. When Dr. Huggins turned his spectroscope toward the great nebulæ, he saw, in place of a spectrum resembling the sun's, three bright lines only! A spectrum of this sort indicates that the source of light is a luminous gas, so that, whatever the Orion nebulæ may be, it is most certainly not a congerie of suns resembling our own.—*Popular Science Monthly.*

Purification of Animal Charcoal.—The purification of bone black is an important operation in the arts, and the ordinary charcoal sold is generally far from possessing the degree of purity required; its power of decolorization is relatively weak, and it generally contains a certain amount of sulphate of lime, which becomes dissolved in the liquids to be freed of color. M. Grœger, a French chemist, gives the following receipt for producing pure charcoal. After is pounded or ground, boil it with five or six times its own weight of water containing 4 to 5 per cent. of carbonate of soda; let the mixture stand for four days, pour off the water, and treat the charcoal with the ordinary hydrochloric acid of commerce. The charcoal must then be heated, and the acid treatment repeated until the liquor is unaffected by ammonia. Much more acid is required to be used than is generally supposed to affect this purification. The charcoal must be well washed by decantation with a large quantity of water, and then with distilled water by filtration; and, finally the charcoal must be dried at a temperature of 100° to 120° C. By this process, 100 parts of raw charcoal will yield 20 per cent. of purified, the latter forming a light, friable powder, possessing an intense decolorising power, and producing the effect desired with a relatively small quantity, facts which will recommend themselves to all practical minds.

Iron in Snow.

We condense as follows a letter from Dr. Nordenskiold, the great northern traveler, communicated to the Academy of Sciences by M. Dauhrée. It is dated Mossel Bay, lat. 79 degs. 53 mins., September 9, 1872, and arrived at Tromsoe on the 29th July last. The writer states that in December, 1871, the largest fall of snow within the memory of the oldest inhabitants was experienced at Stockholm. It lasted for five or six days, and caused the loss of several lives in the country round Stockholm. Judging that the impurities of the atmosphere must have been swept down during the first days, the writer carefully collected some of the snow corresponding to that period and melted it, to see whether any solid parts were contained in it. He found it charged with a considerable quantity of black stuff resembling soot, but in reality consisting of organic matter, rich in carbon. It also contained small particles of metalic iron, and altogether recalled to mind the meteoric dust which fell at Hessle, near Upsal, on the first of January, 1869. Suspecting the chimneys of the city to have supplied these materials, he wrote to his brother, Carl Nordenskiœld, in Finland, begging him to repeat the experiment. The latter did so, taking the snow from under the trees of a forest, at a distance from all inhabited places, and found the same black matter in it, of the same nature as that at Stockholm. Small iron particles were extracted from it with the magnet. After repeating these researches in various parts of Sweden, the writer had the long sought for opportunity last year of continuing them in the Arctic latitudes. A floating sheet of ice covered with snow gave him the chief material in a state above all suspicion of terrestrial contamination. Its fusion yielded a gray residue, consisting of fragments of northern plants and metalic iron. It would seem, therefor, that the latter must be of cosmic origin.—*Iron.*

Assay of Lead.—We find in *Iron*, of September 13th, the following method of assaying lead ores, which depends on the reduction of this metal by means of nascent hydrogen. On account of the impurities present, it is needful, as preliminary, to convert the lead into sulphate.

The ore is mixed with twice its weight of dry sulphate of ammonia, and the mixture is heated in a crucible, which is covered to obviate loss by projection. It is heated at first moderately till all ebullition has ceased, and the temperature is then raised to full redness. After cooling, the mass is dissolved with the aid of heat in water acidulated with sulphuric acid, to which a few drops of hydrochloric acid have been added. The copper and the iron present are thus dissolved, while the chlorine prevents the solution of the silver. The insoluble portion, containing all the sulphate of lead, is collected on a filter, washed with hot water, dried in a porcelain capsule, and the paper is burned to ashes. To the dry residue is added twice its weight of zinc in fine powder, and the whole is introduced into a flask, into which hydrochloric acid is gradually poured. The reduced metal is then washed either in water freed from air by boiling, or in acidulated water. The mass is then united together by pressure, and placed in a crucible, where it is dried. It is then mixed with 1½ to 2 parts of Plattner's flux (carbonate of potash, 13 parts; dry carbonate of soda, 10 parts; fused borax, 5 parts, and dry starch, 5 parts); the whole is covered with a layer of the same flux, and fused gently until the melted mass is perfectly tranquil. The regulus is then weighed. The zinc employed must, of course, be free from lead; if no pure zinc can be procured, its amount of lead may be previously determined.

Cold.—That very convenient chemical, the solution of chloride of calcium, is equal to either fortune. Refusing to boil except at a very high temperature, it has been used extensively in the production of "tinned beef." Reduced to a temperature that would freeze almost anything else, it acts as an admirable handmaid to ammonia, and assists in freezing large quantities of Australian beef for the home market. The cattle are killed in a frozen slaughterhouse, are kept down to a low temperature and are shipped and preserved in that condition until the meat reaches England. How the meat is kept at a low temperature while in the ship is a mystery not yet divulged, but it is easy to divine that a small ammonia machine on board would produce all the cold necessary, and it is also possible to conceive that the meat being once properly frozen might be packed in air-tight tanks, carefully hedged in by a non-conductor. Speculation would be premature, as the first shipment of Australian beef preserved by the chilling process is now on the road to England, and the value of the new system will soon be tested by actual experiment.

Sulphozone.—Under this strange name is sold a mixture of flowers of sulphur and sulphurous acid, invented by a Mr. Roberts. This preparation is considered four or five times as effective in destroying aphidea, blight, &c., upon plants, as the unmixed flowers of sulphur, and requires to be used with caution.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Oct. 8, 1873.

NAME OF COMPANY.	IN MINE.	FEET	SHARES IN MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co							
Alpha Consolidated	300		6000	25	22	3	
Alta	3600						
American Flat			30000	10	5⅞	4	
Arizona & Utah	1900		18000	11¾	7⅜	3½	
Bacon Mill & Mining Co	65		20000	2½	2½		
Baltimore Consolidated			54000	10⅜	8	1⅜	
Belcher	1040		104000	61⅞	55		½
Best & Belcher	224		22400	6½	4⅞	1¼	
Bowers	20		5000	4	4		
Buckeye			16000	1			
Bullion	2500		25000				
Caledonia Silver M. Co	5000		20000	18	16½		1½
Central	150		10800	10½	8		1½
Central No. Two	100		20000	8½	7⅛		3½
Chollar-Potosi	2800		28000	40	37½		1½
Confidence Silver M. Co	130		24960	9¾	5	4	
Cons. Gold Hill Quartz	34¾		20000	3	2¾		
Consolidated Virginia	1160		28800	155	98	59	
Cook & Geyer	1600		24000				
Crown Point G. & S. M. Co	600		100000	99	92	4½	
Daney	2000		24000	1¾	1¾		⅛
Dardanelles	1200		24000				
Eclipse	70		25000	5½	4		
Empire Hill & M. Co	75		56000	4⅝	3¾	⅝	
Exchequer	400		8000	8	7⅝		
Flowery	3000		12000				
Franklin				2	1½		
Globe			20000	1	75c		¼
Gould & Curry S. M. Co	1200		48000	12¼	11		⅛
Hale & Norcross	400		16000	21	24¼	1	
Imperial	184		100000	5	3⅞		⅞
Indus							
Insurance	2000		30000				
Jacob Little				10c	10c		
Julia Gold and S. M. Co	2000		30000	1⅜	1⅛		
Justice	3000		21000	8	7¼		
Kentuck	55		20000	12¼	10⅜	2	
Knickerhocker	1200		24000	4	3⅜		⅛
Lady Bryan							
McMeans	3600		36000				
Mint Gold & S. M. Co	1600		16000	35c	35c		
Nevada	3000		40000	1¼	1		
New York Consolidated	3600		36000	75c	75c		
Occidental	800		10000				
Ophir Silver Mining Co	1400		16800	53½	43		8½
Overman Silver M. Co	1200		12000	13	11		¼
Phil. Sheridan	1200		24000				
Pictou	2000		30000	25c	25c		
Rock Island			24000	1½	60		
Savage	800		16000	43	40		
Segregated Belcher	160		6400	56	48	1	
Segregated Caledonia			10000				
Senator Silver M. Co			24000				
Sierra Nevada			20000	12½	11	2	
Silver Hill			24000	12	11½		⅛
South Overman			24000	20c	20c		
Succor Mill and M. Co	7600		22800	1¾	1½		
Sutro			24000				
Trench	20		80	1	1		
Tyler	2200		33000	1.05	75c	30c	
Union Consolidated	803		20000	1½	1		
Utah			20000	1½			½
Woodville G. & S. M. Co	1400		28000	87½c	62½c		
Yellow Jacket	1200		24000	69	44¾	5	
NEVADA.							
Adams Hill			50000				
Alps Silver Mining Co	800		30000	75c	70c		
Amador Tunnel & M. Co				2	1		¾
American Flag M. & M			30000	3½	2¼		
Arkansas	300		30000				
Belmont				4½	3¼		
Bowery			30000	50c	50c		
Chapman Mill & M. Co			30000	25c	20c		
Charter Oak S. M. Co	1000		30000	50c	25c		
Chief of the Hill			30000	50c	40c		
Chief East Extension			30000	25c	20c		
Columbus M. & M. Co	10000		50000				
Condor			25000				
El Dorado South				3½	3		
Eureka Consolidated			56000	11½	10¾		
Excelsior			12000				
Harper Silver Mining Co			30000				
Hermes	1000		30000	4	3½	1	⅞
Home Ticket							
Huhn & Hunt S. M. Co	3600		30000	1¼	1		¼
Ingomar Silver M. Co	1000		40000	40c	30c		5c
Ivanhoe			30000	75c	50c		⅛
Jackson			50000	25c	25c		
Juniata Consolidated	5000		50000	25c	25c		
K. K. Consolidated				4	4		
Kentucky Gold & S. Co	1000		30000	3¼	2½		½
Kinston	1000		30000				
Lehigh	1000		30000				
Lillian Hall	1000		15000				
Louise	2400		30000	35c	30c	5c	
MoMahon	1000		30000	2½	2		½
Marion			30000				
Meadow Valley	24023		60000	15½	15		½
Mocking-Bird	1200		30000				
Monitor Belmont							
Murphy	2000		60000				
Newark Silver M. Co	800		32000	5⅜	4⅜		1
Pacific Tunnel & M. Co							
Page & Panaca S. M. Co	2400		40000	87½c	80c		½
Peavine	1000		30000				
Phœnix			50000	25c	25c		5c
Pioche Silver Mining Co	1000		20000	1	5		⅛
Pioche West Extension			20000	1½	1½		
Pioche-Phœnix			40000				
Portland							
Raymond & Ely	5000		30000	70	60½	1	
Silver Peak			30000	25c	25c		
Silver West Consolidated							
Standard Mill and M. Co							
Star Consolidated	18000		50000				
Starlight	6900		25000				
Sterling			30000				
Spring Mount			35000				
Spring Mountain Tunnel			20000				
Ward Beecher							
Washington and Oreole	200		30000	1¾	1⅝		⅛
Yellowstone							
CALIFORNIA.							
Alpine	1200		12000				
Bellevue	8000		20000				
Calaveras Gold M. Co	3200		20000				
Cedenberg Gold M. Co			24000	3	3	1	
Consolidated Amador							
Cottonwood Creek			20000				
Dunderberg M. & M. Co							
El Dorado Ind. Quartz M							
Eureka Gold Mining Co	1680		20000	21	19	1	
Gillie			24000				
Independent Gold M. Co	1800		25000	1¼	1		
Keystone Quartz			10000				
Mt. Jefferson	1500		25000				
Oakville Quartz M Co							
Rye Patch				12	9½	¾	
St. Lawrence M. & M. Co							
St. Patrick	1800		20000				
Tecumseh	3000		30000				
Yulo Gravel	400		10000				
IDAHO.							
Empire			25000	3½	3		
Golden Chariot	750		10000	20	18½		2
Ida Elmore	1300		10000	3	3		
Mahogany G. & S. M. Co	720		10000	7½	5½		½
Minnesota Gold & Silver	1070		20000	14	13		1
Red Jacket			1	1			
South Chariot	650		20000	3	2⅜		
War Eagle	1000		10000	2½	2½		⅛
WHITE PINE.							
General Lee	1000		20000				
Mammoth Silver M. Co	1800		36000				
Noonday	1000		20000				
Orig. Hidden Treasure	800		21333				
Silver Wave							
Ward Beecher			24000				
UTAH.							
Deseret Consolidated	2400		30000				
Wellington			50000				
OREGON.							
Virtue	2300		20000				

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt.	Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business
American Flag M. & M. Co.	Ely Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K. Spinney,	325 California st
Arizona & Utah M. Co.	Nevada	6	50	Sept 8	Oct 13	Oct 31	J. Maguire	419 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 23	C. F. Balcom,	426 Montg'y st
Belmont M. Co.	Nevada	1	1 00	Aug 15	Sept 29	Oct 13	O. H. Bogart,	411½ California st
Chief of the Hill M. Co.	Ely District	3	50	Sept 11	Oct 16	Nov 7	C. S. Neal,	419 California st
South Eureka M. Co.	Nevada	5	50	Aug 30	Oct 6	Oct 27	C. F. Cronise,	428 California st
Empire M. & M. Co.	Idaho	5	1 00	Oct 4	Nov 8	Dec 2	W. Willis,	419 California st
Eureka M. & S. Co.	Nev		20	Aug. 21	Sept. 22	Oct. 13	T. P. Beach,	217 Sansome st
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Huhn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 7	Oct 23	T. L. Kimball,	419 California st
Hale & Norcross S. M. Co.	Washoe	41	5 00	Oct 3	Nov 6	Nov 25	J. F. Lightner,	438 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	O. S. Neal,	419 California st
Independent G. M. Co.	Cal	4	50	Sept 29	Nov 3	Nov 24	G. T. Graves,	240 Montg'y st
Justice M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener,	414 California st
Kentuck M. Co.	Washoe.	11	1 00	Sept. 16	Oct. 21	Nov. 11	Frank Swift.	415 Montgomery st
Lady Bryan M. Co.	Cal	4	15	Aug 29	Sept 29	Oct 13	A. D. Carpenter,	605 Clay st
Mint G. & S. M. Co.	Washoe		10	Aug 29	Sept 24	Oct 16	D. A. Jennings.	401 California st
McMahon S. M. Co	Nevada.	5	25	Sept. 4	Oct. 6	Oct. 27	Geo. R. Spinney.	320 California st
Overman S. M. Co.	Washoe.	27	2 50	Sept. 16	Oct. 21	Nov. 8	W. W. Stetson.	414 California st
Ophir S. M. Co.	Cal	27	5 00	Oct 8	Nov 11	Dec 2	Jos. Marks,	Merchants' Ex
Pioche S. M. Co.	Ely District	4	1 50	Aug 13	Sept 26	Oct 23	C. E. Elliott,	419 California st
Phenix Tunnel & M. Co.	Utah	2	20	Sept 29	Nov 1	Nov 20	Chas. S. Healy.	35 Merchants' Ex
Peavine S. M. Co.	Ely District	5	25	Aug 28	Oct 4	Oct 28	C. F. Balcom,	426 Montg'y st
Red Jacket M. Co.	Idaho	1	1 00	Oct 3	Nov 6	Dec 1	Wm Willis,	419 California st
Silver Peak M. Co.	Ely District.	3	51	Sept. 19	Oct. 27	Nov. 17	G. T. Grimes.	240 Montgomery st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A. Jennings,	401 California st
Union G. M. Co.	Cal	7	50	Aug 12	Sept 15	Oct 6	A. K. Durbrow,	Merchants' Ex
War Eagle M. Co.	Idaho	2	2 50	Aug 13	Sept 22	Oct 13	C. F. Balcom,	426 Montg'y st
Ward Beecher Cons. M. Co.	White Pine		1 00	Aug 14	Sept 22	Oct 14	D. A. Jennings,	401 California st
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 6	A. Noel,	419 California st

Other Companies (not on the Lists of the Boards.)

Adams Hill Con. M. Co.	Nevada.	4	10	Sept. 24	Oct. 28	Nov. 20	W. W. Traylor.	419 California st
Bunker Hill Quartz M. Co.		11	10 00	Sept. 10	Oct. 13	Nov. 5	Wales L. Palmer.	19 First st
City Gravity Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	O. E. Elliott,	419 California st
Cincinnati G. and S. M. Co.	Kelsey Dist		50	Sept 18	Oct 20	Nov 10	Wm. Small,	331 Kearny st
Europa M. Co.	Nevada	1	25	Sept 2	Oct 4	Oct 21	R. B. Noyes,	411½ California st
Gold Run M. Co.	Nevada Co. Cal.		25	Oct. 13	Oct. 20	Nov. 10	C. C. Palmer.	Or. Market & Spear sts
Homestead Farm Ass.	S. F.		7 00	Oct 6	Nov 6	Nov 27	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Cal	1	15	Sept 29	Nov 14	Dec 15	W. H. Knight,	Montg'y st
Homestead M. Co.	Lower Cal.		3 00	July 29	Sept 5	Oct 27	J. H. Applegate,	729 Montg'y st
Ida & Rhoda Lewis Con. M. Co.			10	Aug. 28	Sept. 30	Oct. 20	C. J. Eaton.	12 Express Building
Lemon M. & M. Co.	Eureka District		50	Sept 27	Nov 3	Nov 24	I. T. Millikon,	605 Merchant st
Lynn & Kuntz Carihoo M. Co.	British Col		1 00	Oct 3	Nov 6	Nov 28	B. B Minor,	411½ California st
Mendha S. M. Co.	Highland District	2	1 00	Aug 13	Sept 18	Oct 13	G. R. Spinney,	320 California st
Nichols n Pavement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
North Bloomfield Gravel M. Co.	Cal	27	1 00	Aug. 22	Sept 26	Oct 16	Thos. Derby.	329 Sansome st
Occidental G. & S. M. Co.	White Pine.	3	5	Sept. 14	Oct. 21	Nov. 15	J. A. McClelland.	414 Montg'y st
Pride of the Mountain M. Co.	Nevada		10	Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Red Branch G. & S. M. Co.	Cal	1	5	Aug 16	Sept 26	Oct 20	F. D. Cleary,	Merchants' Ex
Stanislaus River M. Co.	Cal	1	10	Sept 25	Oct 27	Nov 12	Wm. Stuart,	113 Doidesdorff st
Silver Wave M. Co.	White Pine		40	Sept 20	Oct 30	Nov 25	J. W. Clark	418 California st
Stevens Pacific S. & M. Co.	Cal		10	Sept 11	Oct 15	Nov 3	J. M. Knight,	320 Montg'y st
Southern Pacific Cons. C. M. Co.	Cal		10	Sept 11	Oct 25	Nov 25	C. A. Eaton,	12 Express Build g
Santa Cruz Coal M. Co.	Cal	3	5	Aug 19	Oct 22	Nov 10	L. Kaplan,	Merchants' Ex
State of Maine M. & M. Co.	Cal	4	5	Oct 1	Nov 4	Nov 24	H. B. Congdon,	406 Montg'y st
Sapphire S. M. Co.	Nevada.	2	20	Sept. 5	Oct. 10	Oct. 30	Joel F. Lightner.	438 California st
San Marcial S. M. Co.	Mexico		1 50	Aug 22	Sept 26	Oct 16	O. F. Schultze,	428 Montg'y st
Tecumseh G. S. & C. M. Co.	Cal		25	Sept 15	Oct 20	Nov 11	F. J. Hermann,	418 Kearny st
Wellington M. & S. Co.	Utah.	2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener.	414 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Amador Tunnel & M. Co.		L. Kaplan,	Merchants' Ex	Annual	Oct 17
Atlantic & Pacific Cons. M. Co.		A. Noel,	419 California st	Annual	Oct 11
Cons. Virginia M. Co.	Washoe.	Called by Trustees.	401 California st	Special	Oct. 18
Eureka Cons. M. Co.	Nevada	W. W. Traylor,	419 California st	Annual	Oct 13
Eureka G. M. Co.	Grass Valley	R. Wegener,	414 California st	Annual	Oct 16
Golden Chariot M. Co.	Idaho.	Called by Trustees.	Merchant's Ex.	Special	Oct 20
Hayden Hill M. Co.	Nevada	W. H. Knight,	311 Montg'y st	Annual	Oct 14
Julia G. & S. M. Co.	Nevada	A. Noel,	419 California st	Annual	Oct 13
Silver Lick Cons. M. Co.	Nevada	A. K. Dunbar,	Merchants' Ex	Annual	Oct 27
South Charlot M. Co.	Idaho	J. L. King,	411 California st	Annual	Oct 20
Virginia Consolidated M. Co.		T. B. Wingard,	318 California st	Special	Oct 13

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver.	316 California st.	50	July 17
Black Diamond Coal Co.	California.	A. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. O. Kibbe,	419 California st.	3 00	Oct 10
Crown Point G. & S. M. Co.	Washoe.	O. E. Elliot,	419 California St.	3 00	Oct 11
Cederberg G. M. Co.	California	D. M. Bokee.	420 Montgomery St.	50	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Diana M. Co.		N. C. Fasset.	220 Clay St	1 00	Jan. 20
Eureka Con.	Grass Valley, Cal.	R. Wegener,	414 California st	2 00	Oct 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan.	Merchants' Ex	3 00	Sept 10
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Sept 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	R. McFadden.	302 Montgmy, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 1
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	1½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r.,	M'gt. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	H. Picbolr.	Cor. Mont'g. & Wasb. sts	1½ per cent.	Sept 15
German Savings & Loan Society,	S. F.	Geo. Lette,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society	S. F.	A. Hartmann,	16 Geary st.	9 6-10, 8 & 4 per cent.	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No. 6 Post st	9.75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBruut, Ch'r.,	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April
Pioneer Land & Loan Association,	S. F.	H. Kofabe, Ch'r.,	405 California st.	1 per cent.	Sept 5
Pacific Oysto Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	C. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Ch'r.,	532 California st.	9 6-10 & 8 percent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	April

THE *London Times*, which hae beeu sued by Ruhery for £5,000 damages for libel, because that paper mentioned his uame in counection with the Arizona diamond swindles, has determined to fight it out and prove its assertions. A lawyer has been sent to this city and a commissiou appointed to take testimony for use at the trial in London. It is to he hoped that this investigation will amouut to something and that the names of the guilty parties will be exposed.

The exact number of railroads in the United State at the present time is 425; miles of railroads, 57,323; cost, $3,159,423,957; cost per miie, $54,116; gross receipts, $373,241,055; operating expenses, $307,486,982; net earnings, $165,754,373; dividends paid, $64,418,151.

OUR NEW MINT.— Coining machinery has already been shipped from Philadelphia for the new San Francisco mint, and the contract hae been awarded for the construction of engines, boilers and shafting. It is snpposed by the Directors of the Mint that operations will be commenced about the 30th of June next; in the meautime, coining will go on as heretofore, with the present facilities.

ABSOLUTELY pure iron is said to have heen produced by a Russian chemist by meaus of a galvanic battery. During the process a large quantity of hydrogen was disengaged from the ordinary irou used. The pure iron is a silver white metal, very malleahle and ductile, and so soft as to he readily cut with a pair of scissors. It ie very different from iron which has heretofore been supposed to be pure.

Our Weekly Stock Review.

THURSDAY EVE., Oct. 9th, 1873.

The stock market this week has not been very active, but it has shown some improvement over the previous week. Ophir, which has been finctuating considerably for some time past under the influence of conflicting reporte, has leviedan assessment of $5 per share, delinquent on the 11th of Nov. Many are eanguine that something will shortly turn up in Ophir, and others think the prospective developments are only a "put up job." As rich ore developments may be expected at any time on the Comstock, the public are always on the lookont for the miue which shows any chance of finding them.

The Consolidated Virginia Compauy have called a special meeting, to be held on the 18th inst., to take into consideration the propriety of increasing the capital stock from $7,080,000 in 23,600 shares to $10,800,000 in 108,000 of a par value of $100 per share. The Trustees of the mine are S. Heydeufeldt, B. F. Sherwood, Wm. S. O'Brien, J. C. Flood and Edward Barrou. If the stock is increased as expected, Consolidated Virginia will have more shares than any of the stocks on the list of the Board, Belcher now being the highest with 104,000 shares. The compauy have made extensive additions to ther mine, in the shape of hoisting works, ore houses, etc., and are well prepared for a systematic working of the mine. If they ever strike that ore body, as they hope to do soon, the miue will come on the dividend-paying list.

The Golden Chariot stockholders will hold a special meeting on the 20th about their capital stock. They propose to increase from $1,000,000 in 10,000 shares, to $3,000,000 in 30,000 shares. The Trustees are A. J. Bryant, H. Mayers, G. L. Bradley, A. H. Rutherford, W. J. Williams and J. M. Martin.

The decision of the surveyors who are to decide the dispute hetweeu the Belcher and Crown Point mines has not yet been given, although the surveys have been completed. It will be remembered that the Belcher is charged with having beeu taking out ore from a piece of ground seven feet wide which belonged to the Crown Point miue, and the surveyore are engaged in determining whether they have or not. The amount claimed is variously estimated at from $400,000 to $800,000. Both these mines are turning out hulliou as usual, though the low stage of the water in the Carson river retards the progress to some extent. For the year 1872, Belcher produced $4,794,659 in gold and silver, of which $3,087,948 were in gold. Those who are in the habit of classifying these big mines among the silver minee exclusively will be rather astonished to see a yield of only $1,706,710 in silver from Belcher, as against $3,087,948 in gold. The proportion of metals iu Crown Point for a year was: silver $3,587,189, gold $2,826,458, a majority in favor of silver of ahout $700,000. The production of Belcher for the first eight months of the present year is $7,260,328, with a cash surplns on hand September 1st of $300,000. From the 1st of May, for the four months succeeding, Crown Point produced $2,750,264, and had a surplus on hand September 1st of $500,000.

Raymoud & Ely has passed its dividend this month. Litigation is keeping this mine in the back ground badly. It is under honds of $1,000,000 now, and, as the bondsmen naturally want eome security, all the receipts and assets are retained and no dividends paid. The suit comes off on the 15th. The bullion shipped in September amounted to $168,998.

Belcher has announced a dividend of $3 for the month, aggregating $312,000, and carries over 400,000 to next mouth's accouut.

The Crown Poiut divideud for the month ie also $3 per share, and equals $300,000.

Eureka (Grass Valley) pays this month $2 per share, instead of $1, as usual, which equale $40,000. The last clean-up of two daye' run was 337 onnces of amalgam.

The Chollar mine yielded in Septemher $43,637.70. They have on haud at the mill 7,573 tons of ore waiting to be crushed.

The Minnesota sent down two bars on the 1st inst., valued at $6,125, and the Mahogany sent $2,152. The shipments from the latter in September aggregated $27,000.

A NEW PROCESS for the manufactnre of steel is reported as follows: A mixture of pig iron and powdered ore is cast in convenient moulds and heated in a special furnace at an active red heat. Ingots of crude steel are said to be thus formed which can be melted in crucihles or a furnace.

Mining Summary.

The following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

A Fine "Brick."—Alpine *Chronicle*, Sept. 27: We were shown at the Exchequer Mill, a "brick," of 977 fineness, weighing 302½ oz., and valued at $464.18—silver, $376.64; gold, $87.54. A result of three days' run on refuse ore.

Attached.—Sheriff Scott this week attached the Globe Mill, mine, hoisting works, etc., at Monitor, for $1,500 due Matthew Nettle.

AMADOR COUNTY.

Kennedy.—*Ledger*, Oct. 4: The recent discovery in the Kennedy, loses none of its importance as work progresses.

The Oneida.—This mine is giving flattering evidences of prosperity. It is upon the great "mother lode" and when the works, now under way, shall be completed, we can calculate upon seeing the Oneida rank among the most valuable paying mines of the county.

Sulphuret Works.—We paid a visit to the new Sulphuret works now in process of construction a short distance north of the Lincoln mine. The carpenters are busily engaged in roofing in the buildings, and the masonry of the furnaces is being completed as rapidly as circumstances will permit. The machinery is now at Galt, awaiting transportation.

The Lincoln.—Sutter Creek *Independent*, Oct. 4: Work is being pushed forward rapidly at the Lincoln mine, and the results are very satisfactory. A winze is being run from the 500 to the 300 ft. level, which will be the means of securing an excellent ventilation. The mill is at present working upon ore from the 300 ft. level, at which point there is a very large body paying $15 per ton. Some specimens would assay at least $500 per ton. Adjoining the main shaft on the south a new 6 ft. shaft is now approaching completion, in which, will be placed a bucket and pump. An additional engine is rendered necessary, which will soon be placed in position. It is expected that in about two months the new shaft, with its appliances, will be in working order. The reports from the Lincoln mine are of the most favorable character.

Amador Mine.—At a depth of 1,570 ft. the ore vein is wide and rich in quality, and it is now an undoubtable fact that the quality and quantity of the ore increases as a greater depth is reached. The deepest, and one of the richest gold mines in the world, the Amador has before it a brilliant prospect.

Mahoney.—The discovery in the Mahoney mine is said to be valuable, and, to all appearance, permanent.

Alpine.—From Plymouth comes encouraging news. This mine continues its flattering promise, and we are pleased to learn as work progresses the rock increases in quantity and richness.

State of Maine.—Work steadily progresses on the State of Maine mine, situated near the Butte mountain, with flattering prospects of final success.

River Mining on the bars of the Mokelumne River, is being carried on to a very considerable extent, and, in many instances, with profitable results, the water in that river being lower than at any period within the last twenty years.

CALAVERAS COUNTY.

Goon Rock.—Calaveras *Chronicle*, Oct. 4. Fifty tons of quartz, taken from the Haskins mine at West Point, lately yielded $2,800—an average of $56 per ton.

The Rising Star Claim.—Work on this claim progresses favorably, gold being visible in the dirt. The tunnel is being run up the center of the lead. The drifting being done on the side of the main tunnel is showing that the pay streak extends clear across the channel.

Spring Gulch.—Moser & Co. are making active preparations for the Winter campaign. As soon as the rains set in, operations will be commenced upon a most extensive scale. The gravel in the gulch has been immensely rich, and there is no doubt but that a very large sum of money will be taken from the claim the coming season.

Bartolo.—We learn that first grade ore is being taken from the Bartolo mine in large quantities. Since its consolidation with the Ohio, the Bartolo has been systematically worked, and the mine is making a splendid showing.

EL DORADO COUNTY.

Important Sale.—Mountain *Democrat*, Oct. 4: The South Fork Canal Co. have conveyed to the El Dorado Water and Deep Gravel Mining Co., all their canals, ditches, water rights &c. and also, the Excelsior mining claim, which belonged to the former company.

We also understand that Bishop & Kirk conveyed to the latter company all their ditches, water rights &c., so now that all conflicting titles heretofore existing are merged in the new company. The consideration to the South Fork Canal Co. is $60,000 for the canal, and $75,000 gold coin for the excelsior claim. A new and large canal is to be constructed; the lakes in the mountains which now serve as feeders for the canal are to be dammed up, and the water retailed for summer use.

FRESNO COUNTY.

Ne Plus Ultra.—Fresno *Expositor*, Oct. 1: This company is taking out some excellent ore. How extensive the deposit is has not been fully determined. If cheap transportation could be obtained, our copper-mining interests would flourish.

INYO COUNTY.

A Big Strike.—Inyo *Independent*, Sept. 27: Superintendent Wingard of the Silver Sprout is convinced now that he has a valuable mine. They struck on a superb body of ore, full 6 ft. thick, in the lowest workings of the Silver Sprout, the other day, and this, in connection with previous developments in that and adjoining ledges, is deemed amply sufficient to justify immediate and systematic working of the mines and reduction of the ores at the mill belonging to the Company at the foot of the cañon, or its removal to a more accessible location near the mines.

Bullion Shipment.—Sept. 24, from Lida Reduction Works, 18 bars fine bullion, valued at $2,422.

NEVADA COUNTY.

Omaha Mine.—Grass Valley *Union*, Oct. 5: The shaft of the Omaha is down 100 feet, and cannot go any deeper with the power now used there for hoisting and pumping. A level has been run from the bottom of the shaft a distance of 100 ft. toward the south. The ledge in the shaft and in the drift is something over a foot thick and shows well.

Repairing.—The Eureka mill will be stopped for a few days of this week. New pumping rods are being put into the mine and a new cylinder for the pumping engine is to be put in place. These necessary repairs are being hurried up.

PLACER COUNTY.

Auburn Mine.—Placer *Argus*, Oct. 4: From Dr. Manson, Superintendent of the Auburn mine located on Rock Creek, about four miles from Auburn, we learn that the company have commenced the erection of steam hoisting works, in place of the works destroyed by fire a short time since, which was run by water power. The main shaft is now down 240 ft., and a drift is being run at that depth, which is now in about 75 ft. The ledge in the lower drift is from three to five ft. thick, and is all good milling rock.

SHASTA COUNTY.

Iron Mines.—Shasta *Courier:* Mr. Potter, in behalf of the Iron Mining Co., has secured the extensive deposit of ore situated on the McCloud river. It is estimated that millions of tons of good paying iron ore can be taken from the surface of the ground claimed by the Company, and that the expense of taking it up from its original place of deposit will be very trifling. The Iron Company have done work enough on Iron Mountain above Shasta, to entitle them to hold the ground and apply for a patent for mineral land, and it is their intention to do so.

SIERRA COUNTY.

Lone Pine Mine.—Mountain *Messenger*, Sept. 28: This mine is situated above Downieville, in Sierra County. Mr. Adams, of this place, one of the twelve owners, informs us that it is paying very richly. Pans of dirt pay all the way from twenty-five cents to eight dollars. A number of specimens have been taken out, one worth $45, another $15, and three or four worth $7 each. The quartz is very near the surface, and they can strike it almost anywhere by sinking four or five feet. The ledge contains much free gold and many specimens. About 12 or 15 men are now employed, but the force will be increased as soon as developments warrant.

TRINITY COUNTY.

Rich Ore.—Trinity *Journal*, Oct. 4: Mr. George D. Craig lately received a number of specimens of the rock sent to his father's office in San Bernardino for assay. Among them are some samples from the ledge lately found by Joe Voshay, which assay as high as $612.50 to ton.

TULARE COUNTY.

More Mines.—Visalia *Times:* A new mining district, reported to be equal in richness to the Panamint discoveries in Inyo county, has been located on the South Fork of Kaweah river. By-laws and boundaries have been established, and there is considerable excitement at Porterville.

Nevada.

ELY DISTRICT.

Meadow Valley.—Pioche *Record*, Oct. 5: The incline shaft, No. 3, has reached a depth of 974 ft. the bottom being 98 ft. below the ninth station. The rock in the bottom is quite hard, but works well. The west drift the ninth station is in 123 ft. The face shows a strong vein of quartz, carrying a little metal. Work has been resumed in the east drift from the eighth station. The east drift on the seventh level is in 604 ft. No. 5 incline has reached a depth of 816 ft., the bottom being 66 ft. below the fourth station. Work has been resumed in No. 7, and the west drift on the eighth level has been continued to a distance of 400 ft. from the station.

American Flag.—The shaft has reached a depth of 300 ft., where the eight station is being run west to connect with a winze.

Newark.—The Amador mill is still running on Newark ore.

Washington and Creole.—Work continues in the west drift, which has now run 600 ft. on the ledge, exposing the continuance of a regular fissure vein throughout. Two winzes, one east and the other west on the ledge in this drift are being sunk. The winze going to the eastward 65 ft., and to the west 55 ft. The ledge in the drift is 2 ft. wide, and contains a streak of paying ore 9 inches in width.

Hunn & Hunt.—The fourth station has just been made, at a depth of 463 ft. The shaft is perpendicular. Drifting on the ledge in both directions will be commenced immediately. The vein at the point where the shaft is sunk is almost vertical, and for the last hundred feet has been partly in the shaft.

Pioche West.—The vertical shaft has now been sunk to a depth of over 600 ft.

Raymond & Ely.—About 200 men are at present employed in the mine. The amount of ore taken out daily is 125 tons, all of which is shipped to the mill, by rail.

Chief of the Hill.—In the west drift, a distance of 16 ft. further has been run. A progress of 9 ft. has been made in the shaft, making the bottom 351 ft. below the Burke tunnel, and 500 ft. below the surface.

Pioche.—The new shaft was yesterday morning 292 ft. deep, a progress of 20 ft. having been made during the week. It is excellently timbered the whole way down. Teams began hauling ore to the Amador mill on Friday.

Louise.—The drift at the 200-ft. level is in 90 ft. The ledge is 15 in. in width, with some good ore mixed through it. A vein of very good ore, 5 inches wide, appeared in the ledge during last week.

Silver Peak.—The incline is now 316 ft. deep. At the bottom the ledge is wider than at higher points, and some very fine ore is in sight. A body of excellent ore has been opened in the east drift.

Spring Mountain Tunnel.—The work of sinking goes on steadily. A progess of 10 ft. has been made in the tunnel.

Chapman.—From the 240 ft. level the men are sinking a winze, which is now down 15 ft.

Portland.—The sinking of the shaft is continued. A depth of 300 ft. will be reached on the 15th of this month.

Amador.—The shaft is still being sunk.

Alps.—The south drift is now 375 ft. in length.

Pioche Phenix.—Sinking the shaft at the rate of 75 ft. per month.

Page and Panaca.—At a point south of the shaft and distant from it 600 ft., on the 360-ft. level, a winze is being sunk. It is now down 180 ft.

Spring Mount.—The workmen are still sinking the shaft.

WASHOE DISTRICT.

Crown Point.—Gold Hill *News*, October 4: Daily yield 350 tons of ore. The ore hreaste on the 1100-ft. level are looking and yielding finely. There is no change in the daily average yield of the ore stopes on the 1200-ft. level. The north winze from the 1300 to the 1400-ft. level is down 55 ft. and shows considerable improvement. The main south drift on the 1500-ft. level is in 175 ft., at which point a strong flow of water was tapped, that made it necessary to secure the face of the drift and suspend work until the body of water is drained.

Belcher.—No ore is being extracted from the 1300-ft. level at the present time, as the supply for the mills can be kept perfectly good without trouble from the other levels. The main incline is down 105 ft. below the 1300-ft. level, the rock in the bottom continuing to blast quite hard. The winze from the 1300 to the 1400-ft. levels is down 102 ft. still in high grade ore. The main south drift on the 1300-ft. level is in 380 ft., the face still in good ore. The north drift from the main incline on this level is in 80 ft.

Mint.—The main east drift at the first station is in 225 ft., the last 50 ft. in the ledge, which shows finely at this point. The main drift at the second station is in 220 ft. The main shaft is being enlarged by the addition of another compartment, and soon as that is finished, sinking the shaft for a new level will be resumed.

Rock Island.—The old tunnel has been cleared out and repaired to the back side of the main ledge, which shows some streaks and spots of fine ore. Preparations are being made for sinking a shaft lower down the hill, and the erection of hoisting works.

Caledonia.—The work of enlarging the shaft for a third compartment and the erection of new steam boilers are making good progress. Preparation for the new pumping machinery and putting in new and improved hoisting reels are fast approaching completion. The yield of ore from the 500 ft. level is rather increased, if anything, and shows a decided improvement in the quality.

Consolidated Virginia.—Cutting out for the third compartment of the shaft is nearly completed. The new hoisting and pumping machinery is all in place ready to start up as soon as the shaft is completed. The Gould & Curry damp is kept full of high grade ore that will mill from $175 to $200 per ton.

Arizona, Utah and Globe.—In explanation of our heading, we will state that what has heretofore been known as the Arizona and Utah shaft is being sunk directly on the line between the Arizona & Utah and the Globe claims, being owned conjointly between the two claims, each company paying one-half the expense of the hoisting works and the sinking. The main west drift at the 400-ft. station is in 80 ft. making excellent headway, the rock in the face working quite soft. It is expected that this drift will tap the main ledge in about 50 ft. more. Sinking the incline is making good progress, the ore showing steady improvement as the work advances.

Justice.—The raise from the main north drift at the 300-ft. level of the old works, is up 80 ft., still in good ore. Cross-cuts to determine the width and extent of the body have been started. The prospects in this part of the mine are certainly very flattering. During the week connection was made between the main south drift on the 400-ft. level and the Silver Hill, giving a fine circulation of pure air. A winze has been started near the south line to prospect the level below.

Empire.—The east cross-cut from the main south drift on the 1,700-ft. level, is still driven ahead with no indications of yet having reached the east wall of the ledge. The upraise from the 1,600 to the 1,500-ft. level, is completed, giving a fine circulation of pure air in that part of the mine.

Silver Hill.—Daily yield 60 tons of ore. There is considerable improvement in the ore body near the Justice line, developed by the main north drift at the first station. The raise in the south drift, first station, continues to show improvement. Connection has been made between the north drift at the first station and the south drift from the Justice, affording fine ventilation for that part of the mine.

Baltimore Consolidated.—Work in all parts of the mine is progressing as usual, with no change to note, except a steady improvement in the quality of the ore, developed upon the upper levels, and more undoubted indications of its extent and richness as it is prospected downward toward the lower levels.

Sutro Tunnel.—During the past week the main header has been advanced 35 ft., making its total length 4,447 ft. During the week the drift east from the bottom of shaft No. 1 has been advanced 32 feet east and 37 feet west, making the total length of drift on the line of the tunnel made from the bottom of the shaft 467 ft., and leaving but 218 ft. to be excavated before the connection is made between the main header and shaft No. 1. Total length of the tunnel, 4,918 ft.

Knickerbocker.—No work is being done in the mine at present, on account of the inability of the hoisting machinery to keep down the water and do the other necessary hoisting. Grading for the erection of new and heavy hoisting and pumping machinery is making rapid progress.

Sierra Nevada.—Daily yield 65 tons of ore. The ore breasts are being gradually extended to the north and west, further into the hill, and still continue to improve in both the yield and quality of ore produced. The mill is kept steadily running, crushing ore from the mine.

Overman.—Sinking the main shaft is making steady progress. The ore discoveries on the 100 ft. level, made mention of in our report last week, continue quite favorable to the development of a valuable body, though little has been done towards its development for the past five days, owing to necessary repairs and retimbering of the main drift.

American Flat.—Prospecting the mine through the lower level of the Baltimore shaft continues with the most flattering prospects of rich developments soon.

Yellow Jacket.—The several prospecting drifts and crosscuts on the 1500-ft level are still pressed vigorously ahead without change of interest to note.

New York Con.—Sinking the shaft is making steady progress, although the flow of water from the bottom gives considerable trouble.

Kentuck.—Extracting some ore from the old upper workings. No change of interest to report.

Succor.—No change of interest to report. Work in the new shaft is going on as usual.

Julia.—The water in the shaft is being steadily lowered by the hoisting machinery. The main south west drift, at the 900-ft. station, is in 150 ft., making excellent headway, the rock in the face working finely.

Imperial.—The main incline is down 175 ft. below the 1700-ft station, good progress being made, although the rock blasts quite tough and hard.

Gould & Curry.—The several prospecting drifts and crosscuts on the 1500 and 1600-ft. levels are still driven steadily ahead without any change of interest since our last report. The erection of the new steam hoilers is about completed.

Hale & Norcross.—Sinking the incline is making steady progress, the rock in the bottom working and blasting quite tough and hard. Prospecting the lower levels continues without change of interest to report. Daily yield 50 tons of ore.

Utah.

BINGHAM CANYON.

Shipments.—Salt Lake *Tribune*, Sept. 30: Ship 200 tons of ore daily, although many of the mines are not worked to one-fourth their capacity.

Ores in Demand.—There has been, and still is, a great demand for Bingham ores with a heavy percentage in lead and good smelting qualities, and prices are paid for these ores which smelters could not afford, were it not for mixing rebellious ores with them, bought from other camps at low prices.

Discoveries this Season.—Among the mines discovered this year and producing a good quality of ore is the Confidence lode. This mine is situated in the foothills, about 12 miles from the Jordan river smelters. It has a shaft over a 100 ft. deep, showing a vein from 2 to 8 ft. wide of good carbonate ore. About 200 tons of ore are on the dump, to be shipped on the completion of the railroad.

The Samson Mine.—This mine is worthy of note, as it shows a good vein and the ore is of good quality. It is situated about 1,000 ft. westerly of the Confidence and on the same belt with the famous Yosemite mine.

Phillips's Scheme for Blowpipe Analysis.

In ths appsndix to the eecond edition of J. S. Phillips'e "Explorers', Miners' and Metallurgists' Companion," now in press, is a scheme of blowpipe analysis for the benefit of amatsurs. The tests have been devised and arranged hy Mr. Phillips for ordinary men, so that they may know wbat useful elements are present in minerals, without having to ponder over and puzzls themselves with all the irregular and complicated lists of re-actions in qualitativs analysis, which can only be fully comprehended after long years of arduous practice and study. Mr. Phillips eays:

"Bcfore entering on the following course of tests, it will be necessary that the practitioner should be acquainted with, and be able to effect the various manipulations described in Chapter IV, of Section 3; as, how to produce the oxidizing and reducing flames, page 140; the discrimination on charcoal, pages 142 and 143; smelting with fluxee on charcoal, pages 146 and 147; examination in forceps, page 148; discrimination hy fluxes in the platinum wire loop, pages 148, 149 and 150; the uses of open and close-ended glass tubes, over spirit lamp, at pages 151 and 152; and examinatiou by smelting and water washing, for small quantities of the metals, at pages 152 and 153.

The practically useful and profitable minerals worked by minere, are composed of the following elements:

Antimony, arsenic, hismuth, chlorine, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, sulphur, tellurium, tin and zinc; with the magnesian, aluminous, quartzose and lime rocks.

Before commenciug your tests, write these namee on a slate, or on paper, and then proceed as follows:

Thoroughly fuse some of the finely pulverized ore with carbonate of soda, within the small terminal eye or loop of platinum wire, in the oxidizing flame; and notice the color of the glass.

If the glass is *pale yellow?* *Chromic acid* is present, from some chromate ort.

If the glass is of a *bluish green?* It has heen produced by *manganese.*

If of a *copper red?* From *copper* reduced hy this flux.

If of a *tead colored enamel?* From reduced *lead.*

If not thus colored, erase chromium, and manganese from your list, and test for ths remainder.

Fuse in similar manner with horax.

If the glass is *blue?* The mineral is *cobalt.*

If light *bottle green?* *Iron.*

If *amethyst?* *Manganese.* (But this would not he present if the carhonate of soda failed to show it.)

If of a *reddish brown?* *Nickel.*

If neither color? Expunge cobalt, iron, and nickel from the list.

Place a emall piecs of ths mineral, of abont the size of a grain of wheat, upon unfluxed willow or pins charcoal, and subject it to the oxidizing flame of tbs hlowpipe, until an intense heat is produced, which continue for about one minute, (and when cold it may be applied to the magnetic needle), as a *colldteral test for iron.*

If no *white* or *yellow oxide* is dsposited on the coal, the specimen does not contain *antimony, arsenic, bismuth, lead, tin, tellurium* or *zinc,* and those may he also erased from the list.

If you wish to examine for ths rocks, do so now.

Quartz scratches glass befors and after strong ignitiou.

Lime would now *dissolve,* or slack in water.

Magnesia and *alunina,* when moistened with a drop of the "solution of cohalt," and again strongly heated, will respectively show their charncteristic *flesh* or *blue* colore.

If a *white oxide* deposits on the cbarcoal, at some *distance* from the test sample, it will he from *antimony, arsenic* or *tellurium.*

Antimony has a pleasant *flower-like* odor; *arsenic,* a disagresable *garlic stink;* and the oxide of *tellurium* will hurn off, with a *green flame,* before that from the blowpipe.

If the oxide on the charcoal is *white* and *close* to the test sample, it is produced from *tin.*

If the oxide is *yellow when hot,* and *white when cold,* it is that of *zinc.*

The oxide of *tin,* when moistened with "solution of cohalt," and re-heated before hlowpipe, becomes of a *greenish blue color;* while the *oxide of zinc,* when thus treated, changes to a *bright green.*

If the oxide on ths charcoal is *yellow,* it is either from *lead* or *bismuth.*

Smelt on charcoal with carbonate of soda and these miuerals will be thus reduced to metals. Bismuth is very brittle, and lead very ductile, nnder the hammer.

You have now thoroughly tested for all but chlorine, coppsr, mercury, and sulphur.

Copper was alluded to as coloring ths first bead of carhonate of soda, but it may he uow further tested and more effectually reduced on charcoal, when fluxed with, say, equal parts of carbonate of soda and sugar, to irregular nuggete of *red metal.*

It may bs also detected in very small quantities when it bas been first roasted in flame, theu moistened with hydro-chloric acid, and *re-flamed;* as it first gives the blue flame, from the chlorine of the acid, then finishes with the *beautiful green flame* of copper.

Chlorine. Fuse in the platinum wire a head of microcosmic salt, with as much oxide of copper (or any copper ore thus oxidized) as it will absorh, then add the liquid or solid, that is to be tested, and place it into or hefore the flame; if chlo·ine is present it will soon show its *characteristic blue.*

Sulphur. Lay the first head formed with *carbonate of soda,* or any other of the slags from the smeltings with that flux, on a moistened silver coin, and if the ore is a sulphuret, it will, by forming the soluble sulpbate of soda, stain the hright silver, from *brown* to *black,* according to the quantity of sulphur present, or time given for the discoloration.

Mercury. Place a small piece of the raw ore on a gold or copper coin, and impinge the flame from the blowpipe thereon, for a few seconds, so that the heated current, beyond the test sample, may pass close down upon the cold coin, when—if it he an ore of mercury—its fume will condense and *amalgamate the surface of the metal,* which can he more distinctly observed, after the coin has been rubhed with a wet finge·.

The coin may be again cleaned hy warmth.

Thus the qualitative analysis of the profitahle base minerals may he readily and thoroughly completed, by men knowing nothing of minerals at sight, and the particular metal or metals found, may be then assayed for correct quantity by either of the convenient modes.

The short abstract statement of operations for testing by the above mode, as given beneath, may be easily remembered.

1. Test with carbonate of soda in platinum loop, for *colored beads* of chromium, manganese, copper and lead.

2. Test in similar manner, with borax, for *colored beads* from iron and nickel, and also look for *collateral amethyst color,* of manganese.

3. Test ou charcoal, for iron, *by the magnetic needle;* for the oxides of antimony, arsenic, hismutb, lead, tin, tellurium and ziuc, by their *colors,* etc., etc.; and for the rocks, of quartz hy *hardness,* lime hy *its solubility,* and of magnesia and alumina hy the flesh and blue *colors produced* hy "nitrate of cohalt" solution.

4. Test for copper, hy *actual reduction* and *color of its flame* when dissolved in hydro-chloric acid; for chlorine, by a copper saturated bead of microcosmic salt, *by its blue flame;* for sulphur, by fusion with carhonate ot soda, and dissolving the mass on a silver coiu, *by its brown color;* and for mercury, hy bot blast to the sample when placed on a gold or copper coin, *by its amalgamation.*"

Quartz Mining in Calaveras County.

A review of the quartz mining iuterests of Calaveras, says the Calaveras *Chronicle,* evidences that that important hranch of industry is in a flourishing condition, aud that tbe progress made during the past ssason is both satisfactory and gratifying. Reports from the various mining districts are in the main favorable, and ths prospects for the future hright and encouraging. With ths single exceptiou of Amador, Calaveras stands first in the list of mining counties, and if we continus the present rapid rats of development our "little" neighbor will have to be vigorously energetic if we do not wrest her laurels from her. That we have as good l·dges as are found in Amador there is no question, while we possess the further advantage of having a much wider extent of mining territory. What has given Amador the precedence of Calaveras in mineral development is the fact that in the former county work bas been concentrated upon a single ledge, while here operations have not been confined to any particular locality. We have always been of the opiuion, and we see no reason for changing it now, that the mode of operations pnrsued in Amador for the development of her quartz mining iutereste is the proper one, and have repeatedly urged its adoption here. A few thoroughly developed paying mines are a better recommendatiou for a mining district than a thousand half-prospected, unrsmunerativs lsdges. Work and money enough have heen expended upon quartz ledges in this county, if they had been concentrated and systematically applied, to havs given us mines in every respect equal to the best Amador bonsts. While it is undoubtedly true that the great number and variety of gold-hearing ledges that traverse this county in every direction will ultimately make Calaveras the foremost quartz mining section of the State, that advautage does not so immediately induce the co-operation of capital as the sbipment of large amounts of bullion.

In noting the progress of mineral development throughout the county, attention is first naturally directed to the well-kuown Gwin mine, in Lower Rich Gulch. Notwithstanding ths preseut scarcity of water for milling purposes, the work of development is heing vigorously pushed, and the prospects of the mine were never more encouraging. Tbe ledge—a wide, well defined, rich vein—has been etruck in the 700-foot levele, and the work of "stopping" out the rock commenced. Water enough to run twenty-four etamps has recently been obtained, and a battery of that size will be kept constantly in motion. The main shaft is to he sunk a hundred feet deeper—eight hundred in all—as soon as possible, a contract for the work having already heen let. The pay chimney, which has been mined throngh the various levels from the surface dowu, increases in length and improves in quality of ore as greater depth is reached. The 600-foot level is already extended about three hundred feet south without reaching the terminus of the pay chute. How far the chimney extends to the north has not yet been ascertained. In the hottom of the shaft the ledge shows better than at any point above, and there is svery reason for believing that ths vein will continue good through the present and many future sinkings. That ths Gwin mine is a permanent and will prove a profitable one there is no question, and wsrs it ours to-day we would not exchange it for any other on the coast.

From ths upper country we have flattering intelligence. At West Point work is being pushed ahead upon all the notahle minee. The Zacetera, Ohio, Lone Star, Bartolo and others of lesser note are developing splendidly, the Zacetera, especially, showing eome of tbe finest ore ever placed ou a dnmp. West Point is one of the business camps in the county. In the vicinity of Railroad Flat several very promising ledges are being worked, the Wolverine and Sanderson being among ths most prominent. Ths shaft in the Wolverine is down 300 feet, and is to he sunk 200 deeper ae speedily as practicable. The Sanderson is showing a wide ledge of excellent rock at tbe depth of 180 feet. We shall he able to chronicle a large yield from that mine shortly. At Mosquito Gulch the mining interest is looking extremely favorable. The Good Hope, San Bruno, Dolly Varden and other mines are making handsome showings. A large mill is being put up and the camp wears a flourishing aspect. In the Sheep Ranch district the miners are all husy. The celehrated mine of Wallace & Ferguson continuee to pour forth its golden stream and many other ledgee are heing profitably worked.

At Angels the "hig mine" is being persistently worked, with what results we are not acquainted. A depth of 600 feet bas heen reached, and the ledge thoroughly prospected hetween that point and the surface. We are sorry to learn that labor has been suspended upon the Stickle mine in that place, hut only temporarily, we hope. Taking everything into consideration the quartz mining outlook is encouraging. Fair progress in the development of tbe mineral resources of the county is being made, and the prospects for the future are as promisiug as the most sangnius can deeire.

Who shall own the Irrrigating Canals?

The questions—Is summer or winter irrigation dssirable? Shall we Irrigate? are both settled in the affirmativs. We must turn the waters of our great mountain reservoirs, out of their present channels, upon the parched plsins, for thess waters will cause one hundred hlades of grass to grow, where only a single wesd grows now. The importancs of the subject, brought home to the minds of thousands by the recurrence of drouth, to a greater or less exteut, over their hroad acrss, during the last four years, has determined the matter to hs a necessity of the first importance.

All at oncs, or within three or four years, it is discovered that there is as mnch real money value in the waters, which annually run to wasts in the channels of our mountain streams, as in the lands which horder them; that thess watcrs can be made to quadruple ths valus of these lands has heen provsn in numerous instances. Systems of irrigation thsn, that shall use ths last drop of these waste waters, will bs sooner or latsr adopted.

It is of the firet importaucs then to the fai·mers of the districts to be watered, that they securs to themselves the control of the entire systsm of canals and their waters. No company of capitalists, should hs allowed to get possession and hold the water interests, of this or any other country, and our farmsrs should oppose, in aud out of the Legislature and Congress, and in every Farmers' Club and Grange, the granting of any exclusive watsr privilege for purposes of irrigation.

A railroad company takes offense at the action or inactiou of a city or village, through which their road passes, and as if to punish its citizens for their temerity, thsy withhold every possible convenience in thsir power, otherwise easily derivable from ths operations of the road. An irrigating company, holding the power to diepense its waters where and to whom it may please, may, after a certain district of country shall have bsen built up from a desert to one of fertility and beauty by their canal, suddenly for some mers imaginary cause, cease to dispense its waters except at a "ring" price, and the very commuuity for whose benefit the canal was made, suddenly finds itself at the mercy of a soulless corporation, to be wholly deprived of the fertilizing waters, or suffer the most onerous exactions.

Our mountain ressrvoirs and their out-flowing waters sbould belong to the State, aud the State only should control its irrigating cauals, as ths State of New York does its Erie canal, for transportation purposes; and no other party or power than that of the people, and they entirely apart from speculative capitalists, should ever be permitted a controling power, either in their construction or management; and wo here caution the farmers of the State against any and every attempt of the money power to gohble up this, now, infantile interest, but one which is destined to assume gigantie proportions and importance at no very distant day.

There are indications that application will he made to the next Congress asking exclusive rights and privileges for the prosecntion of vast schemes of irrigation in thie State, with the right to all the water and water-way, and as much of the land as their utmost cupidity will warrant. These schemee should he met hy resolute and determined opposition. The peopls should stand up and inch by inch dispute the progress of the power that would crush or enslave ns or make us subservient to their avaricious grasp. Better let ns have our irrigating canals hy slow degrees in the right hands, than that a stupendous monopoly ehould construct them all in a year, and then hold them ae a terror over us.

In all the great irrigated districts of Europs, Asia and Africa, the canals and means of irrigation are everywhere the property of, and regulated by, the State, and uo such franchise as will he asked of our Congress ought ever to be in the hands of an individual moneyed monopoly in California.

As there is no political phase presented in tbis thing, we can see no good reason why the hosts that now constitute the Patrons of Husbandry in this State, may not be marshalled in solid phalaux in defence of the people and their water rights; and so far as Congress is concerned, Eastern Patrons will bs with us in the fight.

Jute Manufacture.

The Farmere' Jute Manufacturing Company was incorporated on the 10th of September, 1873. The objects of the corporation are tn manufacture all descriptions of juts goods, more especially burlaps, grain bags aud wool sacks.

The demand for grain sacks and hurlaps has increased to such an enormous sxtent within this last few years that as an articls of commercial importance the manufacture of jute has hecome ons of the great commercial staples of hoth thie country and Europe—ranking second ouly to the grain itself, and heading the list in all our commercial records. Tbis fact is eo thoroughly estahlished, so patent to everyhody, and so well understood hy those familiar with the suhject, and has heen discussed and advocated eo frequently and at euch great length by the leading newspapers of the country within the last few months, that it would almost ssem superfluous to urge the consideration of such an sntsrpriss for encouragemeut at ths hands of the public; yet the puhlic, and particularly the farmers, are invited to lend their co-operation to ths enterprise, as ons promising ths fnllest success, not only in supplying an indispensable requisite, but promising to be highly remunerative to stockholdere as an investment. Tbe company have issued a prospectus, setting forth the advantages claimed for the enterprise, and it is an intsresting exhihit, which we would recommend to ths perusal of evsry farmer in California.

THE ENGLISH LANGUAGE.—The words of the English language are a compound of several languages. The langnage may be looked upon as a complication, both in words and expressions, of various dialects. Their origin is from the Saxon language. Our law term sare derived from the Norman our military terms from the French, our scientific terms from the Greek, and our stock of nouns from the Latin, throngh the medium of the French. Nearly all English verbs are taken from the German, and nearly every noun or adjective is taken from other dialects. The English language is composed of 15,733 words—of which 6,732 are from the Latin, 3,312 from the French, 1,665 from the Saxon, 1,669 from the Greek, 691 from the Dutch, 211 from Italian, 106 from the German, (not including verbs,) 90 from the Welsh, 75 from Danish, 56 from the Spanish, 50 from the Icelandic, 31 from the Swedish, 31 from tho Gothic, 16 from the Hehrew, 15 from the Teutonic, and the remainder from the Arabic, Syriac, Turkish, Portuguese, Irish, Scotch and other languages.

GROWTH OF MANUFACTURES.—Advance sheets of the second volume of the census show an extraordinary growth of manufactures in the United States since 1860, the product of the same being $4,232,325,000 in 1870 against $,885,801,000 in 1860, not including those of mining, quarrying and fishing, which are included in totals of 1850 and 1860. The hands employed in 1850 were 957,059; in 1860, 1,311,246; and in 1870, 2,053,996; capital invested in 1850, $533,245,351; in 1860, $1,009,885,715; in 1870 $2,118,288,750; amount of wages in 1850, $236,755,464; in 1860, $378,878,966; in 1870, $775,584,343; value of materials in 1850, $555,123,822; in 1860, $1,031,695,092; in 1870, $4,88,227,242. Massachussttts has increased her mannfactures from $157,000,000 in 1850 to $553,000,000 in 1870.

Useful Information.

How to Use a Spade.—The man who can handle a spade properly does not find it very hard or laborious work. He first let the spade fall of its own weight, says *Forney's Press*, down to the spot where the spadeful is to be taken up, taking care that the breadth on the surface ground is not more than four inches; then he draws back the spade a little, which takes off much of the friction of the descending blade. One good thrust of the spade with the foot then sends the blade down its full depth. A backward pressure makes a lever of the handle and heel of the spade, and a dexterous turn of the wrist sends the spadeful upside down just where it is wanted. There is no raking or "sputtering" needed to make the ground level. A slight tap with the corner of the spade makes the work as regular and plane as if laid off with an instrument.

Waterproof Glue.—Red chromate of potash has the attribute of rendering certain organic matters insoluble, such as gum, glycerine, and gelatine, especially with the aid of light. If a sheet of paper, coated with gum mixed with the red chromate is exposed to the light, the coating becomes perfectly insoluble, even in boiling water. This property is applied in photography in the so-called carbon process. Strong glue becomes insoluble more rapidly than gum, the action going on slowly even in the dark. A concentrated solution of the red chromate is prepared and kept in a dark place, when required, a little of it is added to some dissolved glue. Articles glued with this preparation may, after the lapse of some time, be washed without inconvenience either in cold or boiling water. Paper prepared with this glue becomes a kind of parchment, and serves for the covers of the pea-sausages (Erbswurst) used in the Germany army.

Rubber Cement.—As rubber plates and rings are now-a-days used almost exclusively for making connections between steam and other pipes and apparatus, much annoyance is often experienced by the impossibility or imperfection of an air-tight connection. This is obviated entirely by employing a cement which fastens alike well to the rubber and to the metal or wood. Such cement is prepared by a solution of shellac in ammonia. This is best made by soaking pulverized gum shellac in ten times its weight of strong ammonia, when a slimy mass is obtained, which in three to four weeks will become liquid without the use of hot water. This softens the rubber and becomes, after volatilization of the ammonia, hard and impregnable to gases and fluids.—*Jour. of Applied Chemistry.*

Glass from Granite.—The Baltic *Journal* reports that there exists near several cities of Finland a kind of granite, called there Copakivi, of which the composition is this: Silica, 74 per cent.; feldspar, 12; oxide of iron, 3; lime, 1; alkaliss, with traces of magnesia, 9. This being evidently a good compound to make glass, the first experiment was consequently made by melting 500 parts granite and 200 limestone, and a white glass was obtained. The second experiment was made with 500 granite, 150 lime, and 75 of soda. This glass was more fusible, and at the same time harder. Both kinds were blown without difficulty, at a bright red heat, while a dark glass was made by the addition of 70 parts of sulphate of lime or potash, and 7 parts of carbon.

A Superior Glue.—Dissolve 3 parts of india rubber in 34 parts of naphtha. Heat and agitation will be required to readily effect the solution. When the rubber is completely dissolved, add 64 parts of finely powdered shellac, which must be heated in the mixture until all is dissolved. This mixture may be obtained in sheets like glue, by pouring it, when hot, upon plates of metal, where it will harden. When required for use, it may be simply heated in a pot till soft. Two pieces of wood or leather joined together with this glue can scarcely be sundered without a fraction or tearing of the parts.

Carriage Varnishing.—A good surface may be produced on unpainted wood by the following treatment: Glass-paper the wood thoroughly as for French polishing, size it, and lay on a coat of varnish, very thin, with a piece of sponge or wadding covered with a piece of linen rag. When dry, rub down with pumice dust, and apply a second coat of varnish. Three or four coats should produce a surface almost equal to French polish, if the varnish is good and the pumice dust be well applied between each coat. The use of a sponge or wadding instead of a brush, aids in preventing the streaky appearance usually caused by a brush in the hands of an unskilled person.—*Artizan.*

Manure for Horticultural Use.—Nitrate of ammonia, 400 parts; biphosphate of ammonia, 200; nitrate of potassa, 250; chloride of ammonium, 50; sulphate of lime, 60; sulphate of iron, 40. These ingredients are pulverized, well mixed, and kept in well-closed dry bottles. Sixty-five grains of this mixture are dissolved in one quart of water, and to each plant (in pots or in open ground) is given weekly a dose of from 400 to 1,200 grains; it is best to pour the liquid in the saucers in which the pots are placed. This is highly recommended by Jeannel, the French horticulturist.

Chinese Waterproof Varnish from Blood.—Dr. Scherzer, an eminent Australian naturalist, during a recent visit to China, learned the mode preparing a waterproof varnish very extensively used in that country for coating boxes and other packages which it is desirous to protect against moisture. For this purpose four parts of blood fresh drawn are mixed in four parts of powdered slaked lime and a small quantity of alom. One two, or three coats of this mass, which is slightly viscid, will make a solid coating.

To Restore Color to Fabrics.—When color on a fabric has been accidentally or otherwise destroyed by acid, ammonia is applied to neutralize the same, after which an application of chloroform will, in almost all cases, restore the original color. The application of ammonia is common, but that of chloroform is little known. Chloroform will also remove paint from a garment or elsewhere, when benzole or bisulphide of carbon fail.—*Artisan.*

To Color Alpaca Black.—Take logwood chips, one pound for one dress. Have the goods clean. Put them in and let stand thirty minutes, then rinse and wash in soap-suds. This will do for anything that has once been black.

To Prevent Mold in Books, Ink, Paste and Leather.—One drop of lavender will keep a pint of ink from molding, and, applied to books or leather, will prevent this pest entirely.

To Take Out Fruit Spots. — Moisten the stain and hold the stained part at a safe distance over a lighted brimstone match. The sulphurus acid gas will bleach it out.

To Take Out Mildew.—Rub soft soap on the mildewed part, scrape chalk on it, and lay in the sun. If one application does not remove it, try another.

Good Health.

Sanitary Value of Light.

Professor W. A. Hammond, in *The Sanitarian*, argues strongly in favor of a freer admission of light to dwellings and schoolrooms. After mentioning numerous illustrations of the effect of this agent upon normal and abnormal conditions of the body, he says:

"As has already been intimated, the management of the light in the sick-chamber is rarely a subject of intelligent and scientific action. In anæmia, chlorosis, phthisis, and in general all diseases characterized by deficiency of vital power, light should not be debarred. In convalescence from almost all diseases it acts, unless too intense or too long continued, as a most healthful stimulant, both to the mental and physical systems. The evil effects of keeping such patients in obscurity are frequently very decidedly shown, and cannot be too carefully guarded against by physicians. The delirium and weakness which are by no means seldom met with in convalescents kept in darkness, disappear like magic when the rays of the sun are allowed to enter the chamber. I think I have noticed that wounds heal with greater rapidity when the solar rays are occasionally allowed to reach them, and when they are as far as possible exposed to diffused daylight, than when they are kept continually covered.

"In this country, it is rarely the case that disease or injury is induced by excessive light. Occasionally, however, we meet with eye affections due to excessive light, either coming directly from the sun, or reflected from water, snow or sand, or resulting from the intense light of a flash of electricity passing near the individual. Bright artificial light may also cause derangement of the visual organs. A child of my acquaintance was rendered permanently amaurotic by looking intently at a bright object while her photograph was being taken.

"The practical application of these imperfect remarks is this, that care should be taken both in health and disease to insure a sufficient amount of light to the inmates of houses, and that it is impossible to rear well-formed, strong, and robust children unless attention is paid to this requirement. Sun-baths or apartments in which the solar rays can fall upon the naked body, are doubtless highly advantageous to health, and rooms for this purpose could probably easily be constructed in or on most of our city houses. At present a chief object of city families seems to be to devise means for keeping the sunlight out of their houses. That this is contrary to nature needs no argument. The world is said to be under fed; it is certainly underlit as we manage it. Let us, then, to use the dying words of Humboldt, have '*Mehr Licht.*'"

Fish as a Diet.—Dr. Merryweather says: "A fish diet is a great humanizer of the tempers of mankind. Its consumption tends wonderfully to render them more kindly to one another, and consequently tames the passionate disposition to crime. As carniverons animals are always the most fierce and violent, so become human beings who have carnivorous stomachs. Could such stomachs have an occasional respite by the consumption of fish, the world would be all the better for it. I speak as a medical man and firmly assert that many maladies would be mitigated, and perhaps annihilated by such a process."

Excessive Use of Water.—In the manufactories of all kinds, water (very often iced) is placed within easy reach of every person, male or female, and the effect of this constant invitation is seen in the drinking of what physicians must regard as unreasonable amounts. The food is thereby diluted, the stomach is oftentimes chilled below the temperature of the blood, and by repeated drafts may be kept in this condition. The process of digestion is in this way interfered with. A certain amount (70 to 100 ounces) of water is required daily for the nutrition of an average adult; but of this total requirement, 20 to 30 ounces are contained in the so-called solid food, leaving about sixty ounces to be supplied in some form of liquid, as tea, coffee and water. If this amount is greatly exceeded, it forces additional and needless work on the organs of excretion.

Typhoid Fever when once established in a family generally takes nearly all the members, hence many believe it to be contagious. It is not contagious, however, but like cholera and other kindred diseases, is infectious. The sweepings from an old sewer, leakage from privy vaults, water from wood-lined springs, stench arising from decaying vegetables are all favorable conditions to the acquiring and spread of this disease. An instance is on record where a whole neighborhood passed through a siege of this disease, engendered by using milk from cows that habitually drank from water standing over decaying timber. The preventive is to keep the premises clean, drink pure water, and when unpleasant smells arise, trace them out, remove the cause and apply disinfectants. The person should be washed thoroughly at least once a week.

French medical journals publish the result of experiments to determine how minute a dose of poison will produce decided medicinal effects. The blood of an ox which had been dead ten days was used in the test. Having inoculated a rabbit with blood poison, the doctor took the blood of the rabbit, and so on to the twenty-fifth generation that had died. The result proved that the one-trillionth part of a drop of decayed blood injected subdermally, sufficed to poison a rabbit. From this proving, dissecting surgeons are cautioned that, though the dissecting knife may be clean to the eye, it may yet hold an invisible atom of death poison, sufficient to infect the circulation if the operator should by accident prick his finger. A French savant says that such results ought to open our eyes to the possible effects of minute doses of homeopathy.

Hygienic Use of Tea.—Dr. Adam Smith, in a paper read before the London Society of Arts, recommends the use of tea in the following cases: after a full meal, when the system is oppressed; for the corpolent and the old; for hot climates, and especially for those who, living there, eat freely, or drink milk or alcohol; in cases of suspended animation; for soldiers who, in time of peace, take too much food in relation to the waste proceeding in the body; for soldiers and others marching in hot climates, for then by promoting evaporation and cooling the body, it prevents in a degree the effects of too much food, as of too great heat.

Occupation.—What a glorious thing for the human heart! Those who work hard seldom yield to fancied sorrow. When grief sits down, folds its hands, and mournfully feeds upon its own fears, weaving the dim shadow, that a little exertion might sweep away, into a funeral pall, the strong spirit is shorn of its strength, and sorrow becomes our master. When trouble flows upon you, dark and heavy, toil not with the waves, and wrestle not with the torrent; rather seek by occupation to divert the dark waters that threaten to overwhelm, with a thousand channels, which the duties of life always present. Before you dream of it, those waters will fertilize the present, and give birth to fresh flowers, that will become holy in the sunshine which penetrates to the path of duty, in spite of every obstacle. Grief after all, is but a selfish feeling; and most selfish is the man who yields himself in the indulgence of any passion which brings no good to his fellow-man.

Scientific Education for Farmers' Children.—Talking of the faults of the present system of education, a correspondent of the *Rural Sun* makes the following sensible remarks:

"One of the prime objects of *scientific* education is to train the pupil first to keep his eyes open and collect facts; second, to systematize his facts, to extract their meaning and discover the principle underlying them. The education of the old schools does not do this. It deals altogether with abstractions; does not develop the faculty of observation, and ignores the existence of everyday facts. In short, the old school fails to meet the wants of the times. The new school does meet the demands of the day, and it behooves the farmers to see that it is substituted for the old. Science must be introduced into the primary schools and carried on up through all grades to the very highest."

Domestic Economy.

Boiled Lettuce.—This is a delicious vegetable, resembling asparagus or sea kale, and yet not quite like either. Lettuce may be simply boiled and eaten as other greens, but they can be boiled and served as *entremets* in a variety of ways. Have ready some neatly-cut pieces of toast, of a pale brown color; lay them on a dish, a hot one; let each piece be of a size to hold the lettuce and one poached egg; pour over the toast a little of the water and some gravy. If the latter be not handy, a little fresh butter should be spread on the toast, previous to pouring the water from the lettuce; place on each piece of toast enough of the boiled lettuce to form a flat layer; neatly trim the edges of the vegetable, and place a poached egg on the top. Or prepare some toast as above, and spread over each piece a thin layer of anchovy or bloater paste, on which lay the lettuce; then season to taste. To prepare the lettuce for boiling, they should be well cleansed, and the top of the leaves, if they have the slightest appearance of fading, should be cut off; leave as much of the stalk as possible, cutting off the strong outer skin. When boiled, the stalk is the most delicious part. The large Cos lettuce makes the handsomest dish, but we prefer the flavor of the Drumhead.—*The Garden.*

Caramel Ice-Cream.—Put on to boil three quarts of new milk, beat up the yolks of fifteen eggs very light, adding three-quarters of a pound of sugar. When the milk boils, pour in gradually into the beaten sugar and eggs, return to the fire, letting it remain for about five minutes, stirring rapidly all the time. Meanwhile, in a small iron skillet, place over the fire a half pound of brown sugar, which must melt and be burnt until of a dark brown color; when properly browned, pour into the skillet, a little at a time, boiling custard from the kettle, not minding the sputtering consequent therefrom. When the skillet is full, mix altogether in a bowl, and set in some cool place until ready to freeze. If not sweet enough, add a little more sugar. If the sugar is too burnt, so as to impart a bitter flavor, add cream until the fault is rectified.

To Clean Preserve Jars.—Sweetmeat jars or bottles may be cleaned without scraping them, by pouring in the jars hot water and a teaspoonful or two of pearlash. The contents which remain sticking to the sides and bottom of the jar will be disengaged by the pearlash and float loose in the water. Wash kettles the same way, or other vessels which you wish to purify or clear from grease. Strong lye poured off clear from good hickory ashes will answer nearly as well for the same purpose and for kegs, buckets and other large cooking utensils, lye from good ashes may always be used.—*Ohio Farmer.*

Apple Souffle.—Always stew the apples nicely, then adding a little grated lemon peel and juice, and omitting butter, line the sides and bottom of a baking-dish with them. Make a boiled custard with one pint of milk and two eggs, flavoring with lemon and sweetening it to taste. Let it cool, and then pour into the center of the dish. Beat the whites of two eggs to a stiff froth (they can be left out of the custard), spread them over the top; sprinkle white sugar over them, and brown in the oven. The stewed apples should be about half an inch thick on the bottom and sides of the pudding-dish.

Salt in Cooking.—A writer says: I apprehend that housekeepers generally do not appreciate the use of salt in cooking vegetables. I use it constantly. It will be found to add greatly to their tenderness and flavor. Indeed, there is no comparison between vegetables cooked in fresh water and that somewhat salted. The salt prevents the evaporation of the flavor of the vegetable, which is soluble and would otherwise pass off. Try it. The amount of salt to any given quantity of water, each one must judge for herself, though as a rule it should not be so large as too perceptibly to affect the vegetable.

Rice Waffles.—Take a teacup and a half of rice that has been well boiled, and warm it in a pint of rich milk, stirring it till smooth and thoroughly mixed. Then remove it from the fire and stir in a pint of cold milk and a teaspoonful of salt. Beat four eggs very light and stir them into the mixture, in turn, with sufficient rice flour to make a thick batter. Bake in a waffle-iron. Send them to the table hot; butter them, and eat them with powdered sugar and cinnamon, prepared in a small bowl for the purpose.

Point, or any kind of fine lace, may be cleaned easily by soaking in a preparation of saponine and warm water. If this is not procurable, ammonia may be used with almost equal effect. Let it soak till fit to rinse in pure warm water; then lay it on the ironing board over clean linen, and iron lightly on the wrong side with a cool iron. Afterward pin the lace on the linen covered board, inserting pin in every open loop to keep the pattern clear.

Cheese Sandwitches.—Take two-thirds of good cheese, grated, and one-third of butter; add a little cream; pound all together in a mortar; then spread it on slices of brown bread; lay another slice over each; press them gently together, and cut them in small, square pieces.

MINING AND SCIENTIFIC PRESS

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TABLE OF CONTENTS.

GENERAL EDITORIALS.—California Animals, Insects, etc., for Europe; Hammond's Cam and Tappet; The Largest Gold Bar; Salmon Breeding on the McCloud River; Our Patent System, 225. Who Shall own the Irrigating Canals; Jute Manufacture, 230. The Graphic Balloon; The Iron Mines and Coal Fields of Utah; The San Juan Mines; A Californian's Gift to Science, 232. California Academy of Sciences; The California Harrow; Patents and Inventions, 233.

ILLUSTRATIONS.—Hammond's Cam and Tappet, 225. The California Harrow, 233.

CORRESPONDENCE.—Notes of Travel in Utah; Quicksilver Extraction; The Proposed Bear River Tunnel, 226.

MECHANICAL PROGRESS.—Submarine Blasting; Fabrication of the Paper for Greenbacks; Sheathing Iron Ships; A Time Recording Clock; Material for Gas; Suppression of Sewage Gas, 227.

SCIENTIFIC PROGRESS.—The Nebular Hypothesis; Purification of Animal Charcoal; Iron in Snow; Assay of Lead; Gold; Sulphozone, 227.

MINING STOCK MARKET.—Tabls of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 228.

MINING SUMMARY from various counties in California, Nevada and Utah, 229.

USEFUL INFORMATION.—How to Use a Spade; Waterproof Glue; Rubber Cement; Glass from Granite; A Superior Glue; Carriage Varnishing; Manure for Horticultural Uses; Chinese Waterproof Varnish from Blood; To Restore Color to Fabrics; To Color Alpaca Black; To Prevent Mold in Books, Ink, Paste and Leather; To Take Out Fruit Spots; To Take Out Mildew, 231.

GOOD HEALTH.—Sanitary Value of Light; Fish as a Diet; Excessive Use of Water; Typhoid Fever; Hygienic Use of Tea, 231.

DOMESTIC ECONOMY.—Boiled Lettuce; Caramel Ice-Cream; To Clean Preserve Jars; Apple Souffle; Salt in Cooking; Rice Waffles; Cheese Sandwitches, 231.

MISCELLANEOUS.—Troy District; Silver Coinage, 226. Phillips's Scheme for Blowpipe Analysis; Quartz Mining in Calaveras County; The English Language; Growth of Manufactures, 230. Cedar and Trout Creek Mines; Ancient Egyptian Mines; One of the Lost Arts; Hard on the Stomach; Gold and Silver; Poisoning of the Atmosphere by Arsenic in Wall Papers; A Wrong Impression; Postal Cards, 234.

THE GRAPHIC BALLOON.—The much talked of balloon expedition across the Atlantic, came to an untimely end, without, however, any loss of life. It started off on the morning of the 6th inst. in charge of Profeseor Donaldson, with Messre Ford and Lunt as assistants. It reached Cannan, in the north east corner of Connecticut at 2:30 P. M., where it was caught in a violent storm. For a few minutes before that, it had been near the earth and Donaldson and Ford jumped out. Lunt was canght in some trees but succeeded in reaching the ground unhurt. The balloon escaped, and had not been heard from at last accounts. Whether Professor Wiee will succeed in getting a balloon to try the experiment of crossing the Atlantic, and whether he will go if he doee, remains to be seen.

MEXICAN MINES.—A correspondent writes that Euglishmen and Americans commence now to look favorably upon Mexican mines, where the titlee are at least indisputable. An American company has lately bought the Sierra Rica, near Paso del Norte, for $55,000 and the new mine of Rio de las Conchas for $12,000. The same company is aleo going to work the famous copper mine of Santa Rita, now situated on American soil, through the Gadeden purchaee. The ore of thie mine ie known as red oxide with blue carbonate, yielding a bright and flexible metal, easily worked, and the metal was used tbirty years ago by Santa Ana to deluge the country with copper coin.

SUSIOULTURE ie the scientific word now adopted for hog-ranching—from *Sus*, Latin for hog, and *cultura*, cultivation. If we want to sustain the dignity of labor, we must follow the fashion, in giving Latin names to our avocations.

The Iron Mines and Coal Fields of Utah.

In the vast number of communicatione written upon the mines and mineral resources of Utah we occasionally find an allusion and only a simple allusion to the immense beds of coal and iron which have been discovered in various parte of the Territory. A person not acquainted with the country would presume that these mineral deposits were of so little value as to be scarcely worthy of mention, while the fact is, they are not inferior in real worth to the rich mines of silver bearing ores and other precious metals that have lately sprung into so much notoriety. There can be no doubt but these mines are very rich, and will ultimately prove a great success, but a large amount of capital is needed to develop them properly and render their wealth available, and it seems as if the miners in Utah deliberately choose the most expensive manner of developing their properties. It is a matter of great wonderment to those who know these vast beds of coal and iron, why Utah capitalists spend so much money in developing prospects that are uncertain, and which sometimes do not yield as much silver as the owners put into them; while such quantities of valuable material lies useless in the ground at their very feet, which might be utilized to large and sure profit, for various local purposes, as well as for the development of other mines. Does it not seem a misapplication of capital to send to Wyoming Territory for large quantities of hematite ores for fluxing, when a superior is found in many districts in Utah in far greater abundance, and which could be obtained at a far less cost than the imported ores, if the mine were advantageously worked. In Rush Valley the native ores have been used with decided success, but in other districts the flux is imported from Wyoming, because it is cheaper than mining it under present circumstances. This system already sends hundreds of thousands of dollars out of the Territory, which ought to be kept at home, besides all the manufactured iron that is imported, and of course, it will continually increase as furnaces become more numerous, and the march of improvement goes on. The demand for this metal in every stage of its existence must increase every year, and we should think that the people of Utah themselves would be alive to this fact, and govern themselves accordingly.

Years ago, when the existence of silver mines was only suspected, the iron mines were well known to the inhabitants and the few strangers who traveled through those mountain valleys predicted that Utah would yet prove the richest iron-bearing country in the world. It is found in the south in immense deposits, and of a superior quality; and it exists in almost every county throughout the Territory, in more or less quantities. In Iron County, on the slopes of the Iron Mountains, the deposits are particularly rich and abundant, and consist of both magnetic and hematite ores. Solid ore is exposed in veins of from five to thirty-five feet in width, for hundreds of feet in length and many of the mountains are covered with fragments of ore, varying in weight from a few pounds to several tons, in which iron for smelting may be obtained without the cost of mining for many years to come. But the difficulty at present is, that until rail communication is perfected the cost of transportation to localities where it is employed is more than the expense of imported material.

In all mining localities good mineral fuel is indispensable, and, of course, if it is not native, it is necessary to import it, and also for domestic, as well as mining purposes. But what shall we say regarding the economy and enterprise of a people who import an article in large quantities, when an abundance is to be found at home. Utah Territory consumes monthly, more than one hundred tons of Pennsylvania made coke, costing $35 per ton, while it has been said by experts that there is not a country in the world can rival Utah in the extent of its coal beds. It exists in the Wahsatch Mountains, the Iron Mountains and in all valleys of the southern rivers. In San Pete county it is said to be of a superior quality, cokes readily, and altogether is equal to the anthracite coals of Pennsylvania. That found in the northern part of the Territory is of a different quality, still it is very well adapted for all general purposes.

But it was not our intention to enter into a minute description of the different qualities, or the location of either the iron mines or the coal beds, as one wishing to become interested in either can easily ascertain all particulars for himself. We simply wish to state that in this Territory is a field for operation in these minerals unsurpassed anywhere on this continent, the development of which would be of great advantage to the other Western States as well as to Utah. In the year 1872 the United States imported nearly two million tons of manufactured iron, a fair proportion of which was used in the States and Territories on the Pacific Slope. This fact alone would indicate the necessity of encouraging home manufactures, especially as the raw material exists at our doors in such superabundance. It is estimated that these States use nearly 100,000 tons of iron annually, at a cost of about $9,000,000, and as a great deal of this comes from foreign countries, it is obvious what an immense saving it would be if it could be manufactured where good ores and suitable fuel are found close together, and in such inexhaustible quantities.

Of course, considerable capital would be needed to conduct this enterprise, furnaces would have to be erected and railroad transportation perfected. But capital is necessary for almost any business undertaking, and in this we see a field for speculation and enterprise that can scarcely fail to produce brilliant results. Useful and necessary commodities can never fail of obtaining a good market, especially if they can be produced cheaper than foreign articles.

There are in Utah a few enterprising capitalists who appreciate the importance of developing these mines, and who have taken some initiatory steps in the matter. Railroad companies have been organized, and one projected route has already been surveyed, and this is one of the most important considerations. Let railroad transportation at reasonable rates be once established, and then perhaps the people will see the necessity and advantage of inaugurating and continuing a manufacture, which will be so valuable to the country, and also profitable to the railroad companies.

The San Juan Mines.

Reports from Denver, Colorado, state that Thomas K. Cree, Secretary of the Board of Indian Affairs, arrived there on the 27th ult. bringing with him a copy of the Brunot Right Treaty, signed by the Indians, in company with six Indian Chiefs. Mr. Cree spent a week in exploring the Brunot purchases. They visited the San Juan mining region, and report it immensely rich in gold, silver, copper, lead, iron and coal. Five hundred valuable leads have been located, and one mine, the only one fully tested, is yielding, with poor machinery, $1,000 in gold per day. This mine, the Little Giant, sold without legal title to a Chicago company for $500,000, and, since the treaty, is valued at $1,000,000. It is expected with the improved machinery now en route, that it will yield $25,000 gold per week. A mine with better indications, on the same lead, is being negotiated for at $450,000. The ore from this lead yields from $2,000 to $5,000 per ton. Another gold lead, undeveloped, yields $8,000 per ton. The country is equally rich in silver ore. There are numerous veins of copper cropping out on the surface, none of which are taken up. Iron and coal lie in close proximity, the latter of superior quality for smelting purposes.

Fifty town lots were located on the news of the treaty being signed. The country is immensely rich, and, with capital to develop, is good for $100,000,000 of precious metals.

The party report the country the grandest in the world for mountain scenery. The mining district is said to be surrounded by as good a chain of mountains as there is in the country. The country acquired, contains four millions of acres of valuable mineral land. The proceedings were in the shape of an article of agreement and do not come under the head of a treaty. This San Juan country has excited the cupidity of mining men for a long time and probably there will now be a great influx of miners and prospectors, who will quickly prove whether the county is as rich as represented or not. Values of gold or silver mines without shafts or tunnels are extremely chimerical, as any miner of experience knows very well. We have heard before of ore from certain leads yielding from $2,000 to $5,000 per ton, and the reports from Denver even say an *undeveloped* gold lead yields $8,000 per ton, so of course they must mean assays, not yields, which is a totally different thing. The writer, during the White Pine excitement, made assays of ore running from $5,000 to $25,000 per ton, but how much of the ore ever worked like that? Averaged through, if it paid $25 per ton it did well. The man who gave the information published above must have been considerably excited and used his multiplication table too freely when giving the figures.

It is always the case, however, when any new section is discovered or opened up, that the reports are fearfully exaggerated. This has done more to bring the business of mining into bad repute than, perhaps, anything else. But we on this coast know when people talk about $8,000 per ton, or even $1,000 per ton for any ore in paying quantities, that they must be either very green or want to talk some one in. Good paying mines never show any such figures. Exceptional cases are frequent, of course, and very often a rich chimney is struck, where a few hundred pounds, or a few tons of very rich ore come out. If a man has got a gold mine of any size, which yields $25 or $30 per ton right along, he will do very well without running after any $8,000 rock.

A Californian's Gift to Science.

We have several times mentioned the handsome gift of a valuable piece of land by James Lick, of this city, to the California Academy of Sciences. The conditions under which this gift was to be accepted were, however, so onerous that the Academy had a sort of "White Elephant" on its hands. The building specified in the deed would have cost $250,000, and the sum necessary to maintain it according to the conditions would have been as much more. This large sum the Academy thought it impossible to raise. The trustees, therefore, drew up a paper and gave it to Mr. Lick, stating the difficulties in their way, and asking him for some satisfactory solution to the problem. One objectionable feature was that in case any one of the conditions, under which the deed was given, was not fulfilled, the property reverted to the donor. With this in the way, the trustees were unable to succeed in getting any money, as those to whom they applied said that in case the Academy failed in any way to comply with the minute conditions, the building and all improvements would revert to James Lick or his heirs, and they did want to enrich him or them.

These difficulties have prevented any advancement in the matter, but the trustees have been busy striving to surmount them, and at the last meeting of the Academy, the President, Professor George Davidson, made a highly gratifying report of the result of negotiations with James Lick, for the modification of the conditions originally attached to his donation of a building site to the Academy. He stated that in connection with Mr. Staples, of the Society of Pioneers, several interviews were had with Mr. Lick, relative to the deeds of land and the inability of the Society to carry out the plans as proposed. Legal talent was employed to draw up new deeds, and to see that there were no flaws in the instrument. At first Mr. Lick objected to some of the liberal conditions made in the modified deed, but on Saturday last he consented to give new deeds for a lot 80 feet on Market street, by 275 deep. The conditions of the new deed are that the property shall not be encumbered or allowed to be sold for taxes; that it shall not be alienated during the life time of the existing members; that no part of the edifice shall ever be leased for religious or political purposes, and may only be rented for literary and scientific purposes; that the Academy shall erect the necessary edifice within a reasonable time (ten years); that the edifice shall be a substantial brick building, three stories high, with marble or free-stone front, of classic design; that it shall always be kept for the purposes of the incorporation, and erected as soon as the funds are obtained, written notice to be given to Mr. Lick, or his executors, thirty days previous to commencing the work. If the society fails to carry out the work, the property shall revert to the State of California, in the hope that the law-making power will devote the property to objects of science. The Academy has several years in which to raise the money, and if it fails the property goes to the State, and does not revert to Mr. Lick as was the case in the original deed.

The first gift was a lot 80x275 feet. Then Mr. Lick added 40 feet more, making a lot 120x275 feet. The last deed calls for a lot 80x275; but this is abundantly large for all the needs of the society. This deed is as liberal a one as could be made without giving an absolute title. Under the new deed the halls or rooms may be rented for literary or scientific purposes, and the Academy is not restricted as to the style of building. Before, a granite front was specified, which would have been very expensive, as it had to be adorned with appropriate scientific emblems. Mr. Lick's generosity in this matter is commendable, and it is to be hoped that his example will be followed by some others of the many wealthy gentlemen of California. Other cities put us to shame in this respect. Judge Hastings called the attention of the Academy to what had been done in Chicago. This Academy building, which cost $1,000,000, was destroyed by the great fire, and it has been rebuilt already. If such a thing as that could be done there, we in California ought surely to do something of the kind. The collection belonging to the California Academy is a credit to the State and city; but as there is no place to exhibit it, and it is almost all packed away in boxes, no one can see it. For the credit of the State it is to be hoped that Mr. Lick's generous donation will be followed by others, in order that the California Academy may stand on an equal footing with similar societies in the East.

Academy of Sciences.

The regular meeting of the California Academy of Sciences was held on Monday evening last, President Davidson in the chair. William Kohl was elected a life member, and Dr. J. D. B. Stillman and Geo. S. Ladd, resident members. There were upwards of 40 members present and a number of visitors, including several ladies. The donations to the museum were plentiful. Among them was the carapace of a

Tortoise Shell Turtle,

From the Gulf of California, presented by Capt. Wm. Metzgar, of the steamer "Newbern." In connection with this shell Mr. Stearns said: "The family *chelonioidæ* includes the turtle whose general form is somewhat heart-shaped and flattened on one side, and furnished in front with a pair of large, flat wing-like scaly flippers and behind with a pair of scaly rudders. The genus *chelonia* contains the green turtles so highly prized for food. The genus *eretmochelys* (*caretta*), to which this carapace belongs, includes the so-called tortoise shell or hawk-bill turtles, the large scales or plates of this group furnishing the highly prized tortoise shell, used in the arts. The best tortoise shell comes from the Indo-Pacific region, and Singapore is the principal market for it. The plates are prepared for manufacture by being washed, boiled and steamed, and while warm and damp are flattened out by pressure. It is stated that on some of the coasts, where these turtles are caught, the natives remove the plates without killing the animal and return it to the sea, so as to obtain a second set of plates. The flesh is not so highly esteemed for food as is that of the green turtle, previously mentioned. The family *chelonioidæ* also includes the genus *thallasochelys* which embraces the largest of all the turtles, the *sphargis*, which belong to another family, known as *sphargidæ*. In this family the species have a more elevated shell than the *chelonioidæ*, and instead of a hard shell, the body is covered with a thick coriaceous skin. *Sphargis coriacea*, Gray, is the largest of all turtles, sometimes weighing from a thousand to two thousand pounds, and attaining a length of eight feet. This latter species is found in the Atlantic Ocean and Mediterranean Sea."

Dr. Blake exhibited a

Fossil Tooth

Of a species of shark. It was found near Martinez, probably in the cretaceous rocks. When entire, the tooth would measure about five inches in length on the edges and three and a half inches broad. It is of a triangular form. The anterior surface is flat; the posterior, convex. It undoubtedly is the tooth of a species of *carchorodon*, a genus containing the largest of the sharks, the animal to which the tooth belonged, being, probably, upwards of 60 feet long. Dr. Blake was unable to determine the species, but inclined to the opinion that it is the tooth of *carchorodon subauricularis*, as the ridge at the base of the enamel is decidedly more curved than in the *C. megalodon*. This curving of the basal ridge would indicate that the sides of the tooth were prolonged downwards, a characteristic of the *carchorodon subauricularis*.

Other Donations to the Museum.

From J. S. Lawson, of the U. S. Coast Survey, a large collection of shells was received and two very large star fish.

Professor Davidson presented a collection of shells from San Pedro bay.

Henry Edwards donated a piece of petrified Mezquite, from Arizona, and a double headed snake from Tuolumne Co., California.

E. W. Harral sent a tarantula's nest, containing a live tarantula, from Chinese Camp.

The skull of a Flathead Indian, from Kilisut Harbor, was presented.

Collections of Pacific Coast fishes were donated by different members.

Professor Davidson said that he had obtained the fossil bone found near Lake Merced, and would bring it to the rooms of the Academy. Capt. Scammon has recognized it as the back portion of the head of a hump-backed whale. It weighs 850 pounds. The first discoverer of these bones supposed them to be those of a mastodon.

Communications.

A paper of Henry Edwards was read, entitled "Pacific Coast Lepidoptera, No. 2,—on the Transformation of the Diurnal Lepidoptera of California and the adjacent districts." In the hope of calling the attention of observers to the earlier stages of our butterflies, Mr. Edwards has compiled from his own researches and from the best published material at his disposal, descriptions of all the larvæ and chrysalids with which entomologists are at present acquainted. He said it was to be regretted that the list was so small, and that so little attention has hitherto been given to this interesting branch of study. Out of two hundred species of diurnal *lepidoptera* inhabiting this Coast, only about twenty are known in the larval condition, and these are, for the most part, imperfectly described. The importance of these earlier conditions of closely allied species cannot be over-estimated, and it will be seen from the poverty of our present knowledge how large a field of interesting observation is open to the entomological student.

A paper entitled "Note on *Alexia Setifer* and its allies," by Dr. J. G. Cooper, was read.

A communication was read from W. A. Goodyear on the hight of Mount Whitney, and the method by which the observations were taken from which the altitude was computed.

Miscellaneous.

Professor Davidson exhibited his improved leveling rod, and described the method of operating it. We gave a detailed description of this rod in our issue of Sept. 6th.

The President called attention to a new apparatus for bringing up portions of the bottom when sounding, invented by Commodore Belknap, of the U. S. Steamer "Tuscarora." By the method employed a large quantity of the bottom mud can be brought up, and a compartment is arranged with appropriate valves, so that water from great depths can also be raised. This has heretofore been very difficult, if not impossible. This invention is by far the best of all the forms of deep sea dredging apparatus on board the Tuscarora. The best practical proof of its value is that it brings up portions of the bottom every time.

A peculiar hen's egg was exhibited to the members, upon which was a sort of pattern like lace. Some of the members thought it was artificial, while others thought that the curious appearance might have been produced by a diseased condition of the membranes of the fowl.

Judge Hastings wanted to hear from Dr. Gibbons, on the subject of meteorology, particularly in reference to the coming winter. Doctor Gibbons did not think there was any means of foretelling.

A communication was read from a gentleman in England, who wished to become a corresponding member. It was laid on the table.

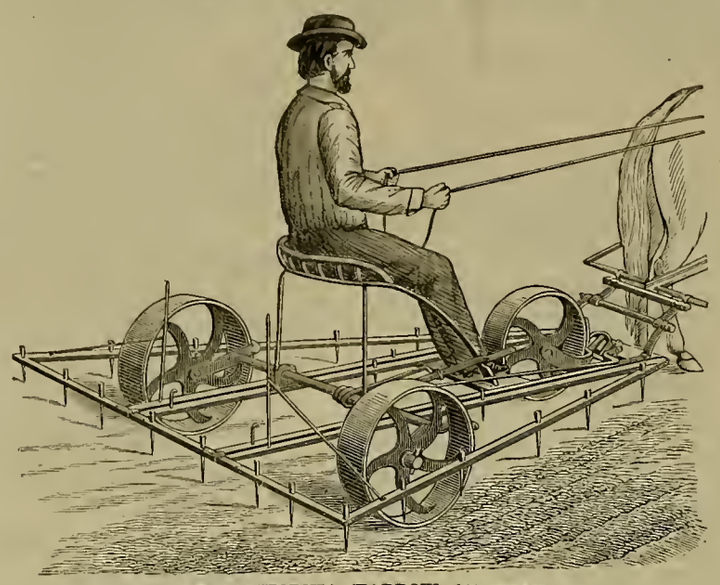
A communication was received from his honor the Mayor, enclosing a letter from the Acclimatization Society of France, and a new deed from James Lick was received, both of which are elsewhere referred to in this issue.

It is said that many kinds of our cotton goods are successfully competing with English goods in different parts of the world; and in the East Indies and South America there is said to be shown a decided preference for our make of goods.

The California Harrow.

We present to our readers this week an illustration of an improved harrow, manufactured by the Kimball Manufacturing Company of this city. To a farmer or anyone who performs the actual farm labor, it has many apparent advantages for easy and quick dispatch of work over other inventions of its character. It is plain and simple in management and strong and durable in construction; possessing many points which to the farmer who works the rough or smooth lands of California are easily appreciated.

The method of operation can be seen by reference to the cuts. The frame of the harrow rests on three wheels. The front is a castor wheel and will admit of as short a turn as will at any time be found necessary. By means of a lever the driver regulates the depth of the teeth in the soil with as much ease as he would manage a mowing machine in a meadow. In moving from place to place, he can in the same way, raise the frame of the harrow from the ground, drive off any distance, dispensing with help and the labor and time of loading and unloading in a wagon every time it is desired to change locations. By means of the lever the wings can be turned up with little delay and the teeth cleaned of all clogs without the driver moving from his position.



THE CALIFORNIA HARROW AT WORK.

THE CALIFORNIA HARROW ON THE ROAD.

The easy seat for the driver is a long needed and wished for improvement over the old fashioned way of following on behind the drag all day, stumbling about and doing a hard day's work in keeping up with the team. The driver in his seat can handle his four or six-horse team with all the skill and management of an "old stager," doing away with all aid or help. The implement is put together in two sections; the harrow can be enlarged to six, nine and twelve feet wide. The construction of this harrow is very simple and there is no intricate mechanism to get out of order. While examining one of these implements at the Kimball factory on Fourth Street recently, we gained the following information as to prices. Two horse harrow No. 1. six feet—$55: Four horse harrow, No. 2. nine feet—$60: Six horse harrow, No. 3. twelve feet—$65. Parties desiring further information in relation to this subject can address the Kimball Car and Carriage Manufacturing Co. in this city. The patentee, B. W. Taylor of Roseville, Placer County, Cal., is also authorized to take orders and give any required information.

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents.]

By Special Dispatch, Dated Washington, D. C., October 4th, 1873.

For Week Ending September 23d, 1873.*

Box Former.—Geo. W. Swan, S. F., Cal.

Saddle for Wire Ways.—Thomas M. Martin, S. F., Cal.

Windmill.—Jonathan Hoag, San Raymon Valley, Cal.

Needle Threader for Sewing Machines.—Thomas Schofield, Grass Valley, Cal.

Flexible Vertically Extensible Attachment for Boats.—John R. Adams, Oakland, Cal.

Machine for Cleaning Streets of Snow.—William E. Musgrove, Fair Play, Colorado Territory.

Trade Mark.—Newton Bros. & Co., S. F., Cal.

———*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

New Beds.—The *Record* notices a new invention, exhibited at the State Fair, for which a patent has been applied for through this office, as follows:

A. T. Sherwood & Co., of Sacramento, exhibit Sherwood's elastic bed. This bed consists of three rows of spiral springs, rising from a light wooden frame. The springs support broad thin wooden elastic strips, which, at either end, are held by a cross-bar in which the slats have about an inch and a half of play. From the cross-bars, on either side, run two longitudinal wooden bars to the opposite ends of the wooden foundation frame, where they are secured by screws. These form additional springs. The pressure of the bed on the strips, as may be easily conceived, is proportioned and equalized, and the springs are held constantly in an upright position. When the bed gives, the weight is graduated to the whole surface, and the body descends in a line. The strips are close to each other, and form a smooth and indestructive surface for the mattresses. The whole weight does not exceed 35 pounds. There is no net work of springs, no inclosed frame, no ropes or cords, etc., to accumulate dust and dirt. The beds are warranted for five years. Their elasticity and simplicity are worth attention.

Sherwood & Co. exhibit a newly invented camp bed or cot, being a canvas bottom swung between bars, which fold with four joints. The legs are two X's, which joint by peculiar sockets into the bars. A cross bar binds the legs, and is fastened by self screws by a single turn of the hand. The upper joints of the bars for a headrest are raised and held by straps, and thus a complete bed is formed, put up and made ready in a moment. In thirty seconds it is down, folded, rolled into a package not larger than an umbrella, and ready for transportation, at a weight of about 12 pounds. Sherwood & Co. exhibit one more of their inventions demanding notice. It is one of their elastic beds pivoted in a bedstead, upon the head-board of which is a pulley with a spring paul working in a rachet. From this one cord descends to the pivoted frame, and another to the invalid's hand. The sick person pulls a tasseled cord which lifts the paul from the rachet, and a slight effort upon the pulley, made by the weakest, raises or lowers the bede to any desired angle. By a simple motion the end of the bed is secured, and as it raises it breaks into a sort of chair, bringing the body to a sitting posture. The invention is a Sacramento one and worthy examination by every one.

The Eureka Mine Case.—The Secretary of the Interior has not yet decided the case of the Jenny Lind and other mining companies vs the Eureka Mining Company, of Nevada. The law officer of the Department, Assistant Attorney-General Smith, has submitted his opinion recommending Secretary Delano to reverse the decision of the General Land Office, which was in favor of the Eureka Company. The Secretary, however, states that he will carefully examine the question for himself.

Cedar and Trout Creek Mines.

The following description of tbe mines on Cedar Creek and Trout Creek, Montana, we take from the Deer Lodge *Independent:*

Messrs. J. A. Robinson & Co., carry the United States mail and the express from Missoula to Cedar, tri-weekly, leaving Missoula Mondays, Wednesdays and Fridays. They run a stage as far as Mrs. McCahe's Station, 31 miles from which point, saddle animals are used to Forest and back. Fare from Missoula through is $15. At the mouth of Cedar we found two ferries, tbe old one kept by Mr. Jos. Booth and a new one by Mr. Wm. Berry. The competition has resulted in a reduction of one-half on fares, and the traveling public are pleased.

Eight miles above the mouth of Cedar we came to the dump of Miller, Powers & Co's bed-rock flume, and following it up one and a half miles came to the head of it, where some 8 or 10 men were engaged in ground-sluicing, and shoveling in some three feet of gravel, which they think is paying well. Their last clean-up amounted to $1,400 and they expect to make another next week much larger than tbe first. They hope to reach the rock with the flume before the season closes, when they will he able to work much more advantageously.

The next company above, John Keneeley & Co., are running a hydraulic on the bar, right hand side of the creek, and had just cleaned up $860 from a cut 45x24 feet. James Osborne & Co., are working in the bed of the creek opposite Lincoln, and C. L. McKay & Co., and two or three other companies working on the bare, represent all the mining operations carried on below Lonisville. Some four or five companies are working between Louisville and Forest. Sam. H. Stuart and Peter Giroux & Co., one mile above Louisville, have the largest claims and are doing well.

At Forest, Messrs. Croker, Thompson & Co., bave completed a bed-rock flume and are sluicing off the old bar, some of which has been drifted out, but their prospects for making money are good. From Forest up to some distance above Mayville the creek is wide and from 67 up to 79 the flat is full of sbafts, and work is going on night and day. Just bow much the claims are paying we did not learn, but the number of men employed satisfied us that the ground was holding out good as last year. Further up Cedar several parties are engaged completing drains, and one and a half miles above Mayville, Messrs. Pearson, Hardy & Co., have struck favorable prospects, after more than a year's work. Should they realize their reasonable expectations, a dozen more claims will he speedily opened on the upper end of the creek; at

Snow Shoe,

Messrs. Shea, Merill & Co. have a large amount of ground, out of which they have taken $10,000 this year. They recently paid Stuart & Co. the sum of $2,000 for their claim, next below them, already worked out, for the privilege of using it as a dump, and expect to take out from $40,000 to $50,000 next year. As many of the residents of Cedar were over at the new mines on

Trout Creek,

We took the old Sunrise trail, eight miles over the mountains, and camped on 12 above Discovery on Trout, Wednesday evening, the 10th, and as Trout creek is attracting much attention, a few items in reference to tbe new mines will he of interest. Some time in the latter part of August, Messrs. Morse, Fox & Gibbons, while prospecting in the vicinity of Trout, discovered pay in a bar about nine miles above the mouth, and immediately prepared for work by setting their sluices and dumping their pay-dirt down the bluff some 18 feet through a chute. They have been making from two to five ounces per day, regularly, since they commenced washing, with only from three to four men. The course of the creek through the mountains is almost straight for 20 miles, and the bar on which tbe mines were found seems to bave forced the creek out of a straight course for a little distance, and is washed on three sides by the water. The opinion seems to prevail among tbe miners that tbe bar was once the bed of the stream, and as the gradual wearing down of ages took place, the water found an easier path around tbe head rock which forms the bed of the bar, leaving enough of ite treasures easy of access, to encourage the adventurous miner to seek for heavier deposits in its present bed.

With this view the creek was surveyed off in claims of 200 feet each, extending from summit to summit, and on Thursday, the 11th inst., 123 claims had been taken and four large companies had commenced work with a view of thoroughly prospecting the bed of the stream. The laws of the creek require one day's work a week on each claim or the payment of $5 per week into any one of the prospecting companies. This provision of the law enables miners to hold their ground until the creek is tested at a small expense, and the amount paid in by those not working will enable the prospectors to proceed with the work of development without involving themselves in debt. On No. 12 above Discovery, eighteen men are at work; they have a drain race ten feet deep and intend sinking with pump and wheel a large cut, and are confident that they can reach a depth of 25 feet within three weeks. They find a little gold in the gravel taken out of the drain and the gravel bears a close resemblance to that found on the Bar where pay is found.

Three other companies have commenced sinking below Discovery, the lower one on No. 72. This company has a favorable looking location and will thoroughly test it at once. The discoveries on Trout have caused but little excitement, owing to the fact that nothing is yet positively known as to whether the creek contains pay or not. But those who have engaged in the work of proving it have strong faith that it will pay. Some gold has been found in almost every one of its tributaries, and up some 25 miles from the mouth, on Freeze out. A company is now engaged putting in a bed-rock flume, and considers the enterprise a paying one, as the gulch has paid well in the past; two men have taken out as high as $700 in three days, shoveling into sluices. There are at the present time, about 1,500 inches of water in Trout, and the creek is over thirty miles in length. Should it prove good it would furnish employment for from one to two thousand men. While we would not advise a rush to Trout Creek, we would not he surprised to find it prove to be one of the richest and most extensive mining camps in the Territory.

Ancient Egyptian Mines.

Some of the iron mines anciently worked by the Egyptians have recently been discovered anew by English explorers, and search is to he instituted for other ancient mines of silver, gold and iron. As the processes followed in ancient times for the reduction of ores were very defective, it is expected that, in the *debris* accumulated in the neighborhood of the mines, an amount of the useful and precious metals will be found sufficient to make the working it over again profitable. At a recent meeting of the British Society of Antiquaries, mention was made of the discovery, in the neighborhood of Mount Sinai, of the turquoise mines of the ancient Egyptians. The discoverer, an Englishman, observed in water courses of that region which in summer are dry, peculiar blue stones which he soon ascertained to be turquoises. This circumstance led to further research. We are now informed that, "aided by the friendly tribes he has taken into his pay, he has discovered the turquoise mines of the ancient Egyptians, the rocks that they worked for the stones, the very tools they used, and their polishing and grinding places." The fortunate discoverer has already sent to England some of the finest turquoises ever seen.

While searching for tbe turquoise mines, the same explorer discovered the ancient lines of fortifications surrounding the works, and came upon the remaine of vast iron works, which must have employed many thousands of hands. Slag taken from the refuse-heaps around these works contains as much as 53 per cent. of iron. The whole surrounding district is well worthy of being thoroughly explored by the antiquary, as it contains many hieroglyphic inscriptions which would doubtless throw much light upon tbe early history of metallurgy.

One of the Lost Arts.—The new discoveries in Egypt will add plausibility to Wendell Phillips' lecture on "The Lost Arts." It now appears that the smelting of iron was carried on in Egypt from the very earliest period. Mr. Charles Vincent, in an English scientific journal, sets forth some new facts in reference to this subject: "In the sepulchres of Thebes may be found delineations of butchers sharpening their knives on round bars of iron attached to their aprons. The blades of the knives are painted blue, which fact proves that they were of steel, for in the tomb of Rameses III this color is used to indicate steel, bronze being represented by red.

An English gentleman has recently discovered near the wells of Moses, by the Red Sea, the remains of iron works so vast that they must have employed thousands of workmen. Near the works are to be found the ruins of a temple and a barrack for the soldies, protecting or keeping in order the workmen. The works are supposed to he at least 2,000 years old."

Harn on the Stomach.—Some time since the following method of destroying rats was reported to be in use in Germany. A mixture of plaster dust and dry wheat is mixed with oil of aniseed, and put in an earthenware saucer; and near by plenty of water is placed. The rats eagerly devour the mixture, and are straightway seized with tormenting thirst; they then, of course, greedily swallow the water. Upon this the plaster "sets," and becomes solid in their insides, and thus, more or less speedily, the poor creatures die in agony. The method described certainly has the merit of startling originality. There seems no reason why it should not prove a success, but it is to be feared that the rats will hardly appreciate the nice scientific points involved in the solidification hydrated calcic sulphate

A Substance which exudes from the earth in small quantities, at the head of the Coorong river, in South Australia, contains about seventy gallons of kerosene, thirty of lubricating oil, and seven of asphaltum per ton. The substance resembles asphalte. Tests show that the kerosene will not burn, except through a wick, until heated to 152 deg.—*Am. Artizan.*

Gold and Silver.

In the reign of Darius gold was thirteen times more valuable, weight for weight, than silver. In the time of Plato it was twelve times more valuable. In the time of Julius Cæsar gold was only nine times more valuable, owing, perhaps, to the enormous quantity of gold seized by him in the wars. It is a natural question to ask, what becomes of all the gold and silver? A paper read before the Polytechnic Association by Dr. Stephens is calulated meet this inquiry. Dr. Stephens says of our annual gold product, fully fifteen per cent. is melted down for manufacturing; thirty-five per cent. goes to Europe; twenty-five per cent. to Cuba; fifteen per cent. to Brazil; five per cent. directly to Japan, China and the Indies; leaving but five per cent. for circulation in this country.

Of the gold which goes to Cuba, the West Indies and Brazil, fully fifty per cent. finds its way to Europe, where after deducting a large percentage used in manufacturing, four fifths of the remainder is exported to India.

Here the transit of the precious metal is at an end. Here the supply is absorbed and never returns to the civilized world. The Orientals consume but little, while their productions have ever been in demand among the western nations. As mere recipients these nations have acquired the desire and habits of accumulating and hoarding—a habit common alike to all classes among the Egyptians, Chinese and Persians. A French economist says, in his opinion the former nation alone can hide away about $20,000,000 of gold and silver annually, and the present Emperor of Morocco is so addicted to this avaricious mania that he has filled seventeen large chambers with the precious metal. The passion of princes, it is not surprising that the same spirit is shared by their subjects, and it is in the predilection that we discover the solution of the problem as the ultimate disposition of the precious metals.

The absorption by the Eastern nations has been uninterruptedly going on since the most remote historical period. According to Pliny, as much as $100,000,000 in gold was, in his day, annually exported to the East. The balance of trade in favor of those nations is now given as $80,000,000.

Poisoning of the Atmosphere by Arsenic in Wall Papers.—The poisonous effects upon the air of rooms of arsenical pigments on wall paper have been generally ascribed to the inhalation of the dust, which was found to contain arsenic and copper, but cases of arsenical poisoning of this kind have occurred in which, on account of the moisture still present in the wall and the effectual fixing of the colors, this explanation will not answer. Upon these a recent series of experiments by Fleck throws some light. Air in glass receivers was subjected to the action of Schweinfurth green and arsenious acid by simply placing these substances beneath some bodies in a moist condition, and by applying them as a coating to others, with and without paper, potato and wheat starch being employed as pastes. After from eight daye to three weeks, in different cases, the presence of arseniureted hydrogen in the air was unmistakeably revealed by tests, and left no doubt that cases of chronic arsenical poisoning must he attributed not only to the mechanical mixture of arsenical compounds with the air of rooms in the form of dust, but also to the presence of this gas, resulting from the decomposition of free arsenious acid in Schweinfurth green. It was also found that the development of the gas is favored by moisture in the air and the presence of organic matter, especially that in the paste. Mold appeared on the paper in some cases, showing that arsenic is not a preventive of its formation, as often stated.

A Wrong Impression.—We have heard it said that there is an impression in Utah that more men are wanted in the Pioche mines. It is said that our want of miners is advertised there. The impression that we want more men is entirely wrong, as there are many good miners here now, and there have been many for some time past, unable to obtain work of any kind. If there are any advertisements in Utah, or any other place, to the effect that more men are wanted here, they are published by unprincipled men, who utter nothing but falsehood. We can hardly believe, however, that anybody does really try to induce working men to come here now; for we can see no object in it. When miners are wanted here, the fact will, we trust, he sufficiently advertised in the *Record.—Pioche Record.*

Postal Cards.—The British Post Office Department refuses to enter into any arrangement for the exchange of postal cards with the United States. They argue that "the use of postal cards is not popular among the English people; that even the lower classes are not induced to use them, although they are the cheapest, being jealous of any device by which their correspondence is open to public inspection. The British Post Office, therefore, prefers that the present rates of ocean postage should be maintained, and if postal cards are transmitted, they should be charged the usual letter postage rates."

Thirty Thousand medals were awarded to exhibitors at the Vienna Exposition, only 400 of which were to America. The quantity of goods and specimens which will be returned home from the American department is very small.

The Mining and Scientific Press Marching Onward!

Our careful system of compiling, judiciously condensing, and conveniently arranging into regular departments, has been heartily endorsed. It renders the paper worth more to readers, who can find handily that which interests them most.

The weekly issues of the Press will contain reliable

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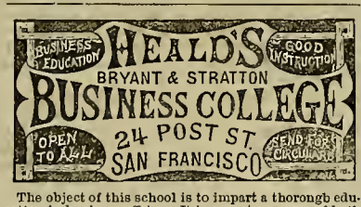

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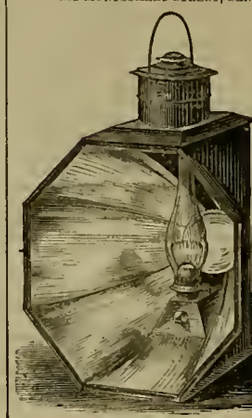

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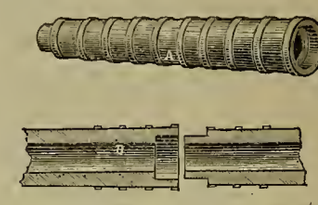

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Home Inventions and Manufactures.

We condense the following from reports of the Sacramento dailies—*Union* and *Record:*

E. L. Brooks, Petaluma, patent gate—These gates were invented in Sonoma county in 1872. They are opened and closed by two handles or levers, one on either side. The gates open each in a different way, and can he opened and closed by the driver while seated in a buggy or in a two, four, six or eight-horse wagon. They are constructed in such a manner that they will stand all kinds of weather and never become affected by the shrinking or expanding of the woodwork. They are a complete guarantee against cattle and stock of all kinds, as they can be opened only by the handle or lever.

Laufkotter Bros. & Churchman, Sacramento—Horse power said to supply more water than four or five windmills even with the strongest wind.

Collin & Hill, Stockton—Portable fence which lasts ae long again as the ordinary plank fence, as there are no posts to rot off, there is no racking off of nails, as occnrs in the decaying state of the plank fence, and the more pressure you bring against it the firmer it becomes. It cannot he thrown down by wind or affected by breachy stock.

Heater and Cheese Vat.—J. S. Woolsey, of Gilroy, exhibits Woolsey's Portable Heater. This apparatus consists of a cylindrical heater, or boiler, which is alleged to be entirely free from danger from explosion, which supplies heat for cooking food for hotels or reetanrants or feed for cattle on farms. Fnel is economized and convenience secured by the inventor. Connected with the heater is a patent cheese vat, which is found to posses many special advantages.

Mammoth Milk Pan.—E. C. Smith, agent for the Pacific Coast, exbibits two mammoth milk pans, each of which is constructed in the form of a table about four feet wide and seven feet long. Beneath the pan is a chamher wbich is supplied with water for the purpose of cooling the milk which is poured into the mammoth pan. It is claimed that by the eubstitnte of this for the ordinary small milk pan, a much greater quantity of hutter is made, and that it is of altogether superior quality. Tbe work of taking care of milk and cream is diminished and the profits of the business increased.

Orchard's Post and Well Auger, Sacramento—Patented December, 1870, and improved and patented April, 1871. Claimed by the inventor that it will bore hardpan, gravel or any other soil, and the worst adobe as readily as any of them. For boring wells the anger is the same, except that for fastening together the different lengths of stems necessary to be added in deep boriug. When qnicksand is struck there is a portahle valve in connection with the anger that can be used and removed at pleasure. The cutters are made of the bost cast steel and will last the farmer several years in any common soil. The auger completes its work without the aid of a mud-pnnch.

R. L. Beamer, Yolo.— Cording's double horizontal hay press, patented in November, 1871. It is claimed to he a very important invention, as it combines all the qnalities for neat and substantial bailing with simplicity of arrangenent and unlimited power, applied by a lever working horizontally and pressing any given amounts of hay into bales of nniform dimensions. It is also claimed for this press that it will press nearly twice tbe amount of hay in the same time allowed any other press; that it is equally well done; that it is less cumbersome, being easily transported from place to place without loading or unloading as with upright presses, and does away with all high pitching and tramping. The trucks upon which these presses are mounted are similar in size to those commonly nsed under grain separators. No hard wood is needed in the construction of these presses.

Beet Sugar.—The Sacramento Valley Beet Sugar Company exhibits several barrels and half barrels of sugar, two grades of granulated, one of extra fine, one of crushed, and one of fine crushed. This establishment, whicb is located about three miles from the city, was started abont three years ago. The company has labored under tbe usnal difficulties which impede the progress of new enterprises, bnt perseverance has overcome all difficulties. This year the company has mannfactursd about two hundred thousand dollars' worth of sugar and has found a ready sale for its product. The field is open for many more beet sugar refineries in the State.

The Sweepstake Plow Co., of San Leandro, exhibited for the first time their patent "flexible" harrow, made in four parts to accommodate itself readily to the surface of the ground. Also, an iron frame single plow, carrying a vertical roller directly in rear of the coulter. Mr. Hill of tbis Co., also exhibited his well known Eureka gang plow.

Mattison & Williamson, of Stockton, displayed good specimens of their American Chief Gang Plows, wbich are not wanting in reputation where used. Their new style of hay fork seems unrivalled. They are a working and progressive firm who are constantly addding substantial improvements in their line of machinery.

E. W. Walton, Vallejo—Two plows, one for upland and one for tule. A tule horse-shoe made of iron so broad that tbe animal is enabled, without difficulty, to travel over swampy land. The size of the shoe is eight by ten inches and its weight about three pounds. There is also a sharpener for tule plows.

G. W. Haines, Binghamton, Solano connty—One gang plow, calculated for doing work of all kinde on level ground or otherwise. Its adjustments are so perfect that the driver, without leaving his seat, can go around hills and have hie sheare cnt an even depth, and that too without etopping his team. The plow possesses other advantages.

Treadwell & Co. exhibit a ten-foot single grain-header, manufactnred hy J. I. Case of Wisconsin, on parts of which California patents are held. Also, gang plows and other implements.

Baker & Hamilton made a very large display of agricultural implements.

M. C. Hawley & Co., exhibited various agricultural implements, including a new hay and straw cutter, the merits of which were shown by Mr. J. Kindleberger, a lively and pleasant agent.

Grinder for Harvest Knives.—Alexander Porter, of Woodland, Yolo Co., operated Connel & Sturgeon's grinding machine for reaper and mower sections. By a simple set of hinged gears movahle in various directions by hand, a small and ewift revolving emery wheel is made to rapidly grind the edge and point of the knives. It was simple, ingenious and very attractive to visitors.

Hucks & Lambert's Axle Grease was appropriately exhibited in large quantitiee. It is one of our earliest manufactnred articles in S. F., and one which has maintained its reputation to a significant degree. Mr. Hucks is an intelligent manufacturer and has invented improvements on which he might have made fortunes if he had patented them in season.

D. Lewie, of Los Angeles, exhibits one bale of hops weighing 200 ponnds. He raised this year 100 bales, of 200 pounds each. He has been engaged twelve years in raising hops, during which period the price has varied from 7 to 70 cents per pound. For eeveral years past the price of the crop has been remunerative.

J. Putnam, of the Mokelumne River, and R. J. Merkley, of Sacramento, also exhibit one bale of hops each.

Wax Work—The samples of wax work, by Madame Anna Getz Lucas, of S. F., seemed eqnal in quality to her display last year—which was the beet ever made in the State, if we are are not mistaken.

A large standard basket, containing thirty-five varieties of fruit, modeled from specimens exhibited here during last year'e Fair, may perhaps be considered her *piece de resistance.* Around this are clustered cherriee, plums, oranges, lemons, figs, apricots, apples and peaches, in rich and luscious profnsion. Tbese minor groups are studies from nature, being faithful copies of specimens furnished the artist by Messrs. Lewellyng, Runyon, Bird, Lnsk and Caesidy, all well known horticulturists of our State. The wax from Harbisons' Apiary, Sacramento, is used by the Madame in her fruit pieces.

Ryder's American Fruit Dryer, exbibited by Keeler, Hine & Thomae of this city, is worthy of thorough attention by fruit growers in California. It is intended to prodnce a qnality of dessicated fruit superior in eome respects to that dried by the Alden patent process. The machine is about five feet high, three in width and ten in lengtb. The sieves on which the fruit is placed are moved np an incline through the heated air and dried quickly. We should like to illustrate thie machine for the benefit of our readers. It deserves more attention, we believe, than it receives.

Finger Bar for Harvester.—We were told this is an excellent improvement by a farmer who used it through this season. The inventor, C. A. Smith, Dixon, Solano connty, says, among other advantages, "they can be attached to any barvester. By being inclined from front to rear all the short heads are saved by falling down, a clear distance of half an inch, over the knife, (which is placed directly on top of the bar instead of being rabbited in, as is the case with other bars) thereby eaving from 100 to 150 pounds per acre, which amount in a day will more than pay for the cost of the bar. From the back of the knife to the draper the bar inclines an inch, making an inch and a half of incline from the draper to the top of the knife. If the inventor will send ns his engravings we will illustrate them in tbe Press, for we believe he has an article which will help our grain cultivators.

A Tule Sod Cutter, invented and patented by J. Poole, a practical farmer, near Rio Vista, Solano Co., elicited favorable comments. It has been improved hy himself and is now said by Mr. Poole to be a desirable and successful implement. A series of circular knives some 8 inches apart is followed by another series cutting the sod midway between the first, making the cuts some 4 inches apart. The frame of the 2d series is hinged to the carrying frame of the first. Passing over the ground twice at right angles the sod is cut up into small sections of from 3 to 4 inches in size, rendering the subsequent work of the plow decidedly easy.

A Polishing and fluting iron for family use was exhibited by Weister & Co. S. F. It is of Eastern make, partly of brass and well finished. Visitors examiued it with interest, as a novel and useful combination implement.

A Vibrator Thresher was exhibited by M. C. Hawley & Co. We should be pleased to hear from farmers, who have used this new machine sufficiently to test its merits, as to its adaptability in California, etc. If some farmers well versed in the different agricultural machinery sold on this coast would write for the Rural unprejudiced articles, comparing the merits of different implements, they would do their brother farmers a great benefit.

Artificial Marble.—The Manhattan Marble Company exhibite a fine collection of artificial marble, embracing five mantel-piecea, four table-tops, and other articlee of emaller size. Thie company is located in Oakland, and commenced operations some five or six months ago. The marble is mannfactured of the best English cement and other ingredients. The material appears to be as hard and strong as natural marble, and is eusceptible of an equally fine polish. The mantels exhibited are of variegated color, and imitatione of Irish black, Lisban, Tennessee and French marble. As all the work is cast in molds, it can be furnished at lower rates than correeponding work wrought with the chisel. This is the first exhibition made by the company on the Pacific Coast. Among other articles in the collection are a number of white and black tile, which present to the eye the appearance of genuine marble.

Angora Robes and Mats. — Joseph Eberhardt, of the Santa Clara Tannery, engaged some three years ago in the manufacture of buggy robes, parlor mats, etc., from Angora goat skins. He now exhibits over 100 specimens of his handiwork. Some are prepared in the natural color, pure white, others are beautifully colored red, yellow, blue, purple or other shades. They are elegant articlee for the purposes for which they are designed, and especially those which are made from the finer fleeces. This is, we believe, the first time that these articles have been exhibited at any State Fair.

Portable Carriage Top.—Among the curiosities of the lower hall is Sargent's improved portable carriage top. This is an ingenious contrivance, constructed on the umbrella model, which may be taken down and folded up at the will of the driver. The entire apparatns weighs but eighteen or twenty pounds, and is constructed at a much less cost than an ordinary buggy top. It is easily attached to buggy, wagon or sleigh. The invention is of recent date, the inventor having just arrived with it from the East.

Glass Works.—Tbe San Francisco Glass Works exhibited an admirable collection of glaeeware, embracing demijohns, wine bottles, preserve jars, pickle jars, fruit jare. Bottles or glassware for special purposes are monlded with the name on each bottle or jar of the firm for whose use they are designed.

C. V. B. Reeder, San José exhibits Reeder'e patent suspension vibrating spring bed bottom. Thie is a bed consisting of a seriee of epiral springs as in the ordinary spring mattress, held together and in place by wire couplers, those on tbe sides being hooked into screw-eyes on a wooden frame. The springs rest on no frame work, but are upheld solely by the tensile power of the conplers. Thue all the springs are literally suspended in mid-air and the whole bed vibrates and gives at once. The advantagee claimed for this bed bottom are that presnre on one spring becomes equalized among all, the whole bottom yielding to the pressure. A stroke upon one spring vibrates to the most distant one. If a heavy person sleeps on one side and a light one on the other, the heavy one will not depress his side alone but the entire surface, and the light one will not be rolled down upon him. The bed ie open and hence cleanly. There are no cords to break, no wooden slats to warp, no single spring to grow week. By a simple nnhooking of the conplers a single spring may be removed instantly without the position of any other spring being affected. These and other advantagee are claimed for this bed. Reeder & Haller now are the proprietors, and manufacture at San José.

Cook's Water Filter, invented and patented by Matthew Cook, of Sacramento, ie on exhibition and in nse in the Upper Hall. Hnndreds of visitors have partaken of water from it, which is as clear and pure as water from any natnral spring. The filter is constructed with two wooden tanks. The lower one is partially filled with sand and the upper one with alternate layers of gravel and pulverized charcoal. The water is introdnced in the hottom of the lower tank and forced to the top and passee by a pipe to the top of the npper tank. From tbis it is drawn throngb the charcoal and gravel. The smaller sized or family filter clarifies 150 gallons per day. A number of them are already in nee. The work aimed at is certainly most successfully accomplished, and the inventor claimed tbat the apparatns is kept in order more easily than any other of its class.

Kew Liquid Measure.—J. H. Corliss of Reno, Nevada, has on exhibition a vessel for measuring and drawing off liquide of an inflammable nature. The lower part of the inside is so constrncted that jnst the amonnt required can be drawn off and no more. This is effected by tbe moving of a lever to or from the required amount, and it can be operated in the dark as well as in daylight. There is no waste by overrnnning or slopping over, and there is no loss from evaporation. It is made of galvanized iron. Several measures can be filled at once.

The California Powder Works show several samples of sporting and blasting powder, made at their works in Santa Cruz county.

Waterhouse & Lester have a fine assortment of carriage hardware, wheels, hube, spokes, seate, etc. Aleo a portable bnggy or wagon shade, in the shape of a large umbrella, which can be adjusted at will. It is useful and cheap.

The Sluthour Pump, exhibited by Capt. Keeler, of 727 Market st. S. F., attracted much attention. It was exhibited last year ae the Eureka pump, and has been described in the Press.

Patent Pan and Milk Cooler.—Exhibited by E. C. Smith, cor J. and 9th streete, Sacramento, seems worthy of the attention of dairymen. There are four in a set, setting the entire milking of the dairy in one pan. They are so constructed that there is a chamber between two bottoms, throngh which a body of water ie kept constantly runniug, thereby keeping the milk at an even temperatnre throngh all eeasons, and at the same time supplying a warm, dry room, with all needful moisture. After the cream is taken off, by drawing a cork from the bottom of the pan, the milk is discharged through a pipe to a vat outside, and the pan cleansed without moving from the room. The pans are thoroughly japanned in their watercourses, so that they will neither corrode nor rust.

J. S. Woolsey, Gilroy, besides hie portable heater for dairymen, exhibited a patent cheese vat. We believe both articles are desirable ones.

The Kifider Tire Regulator.—W. W. Bolton, agent, exhibits the Kifider tire regulator. For tbe purpose of tightening the felloes in an ordiuary wagon or carriage wheel an iron fixture is eet in the felloes in two places in each wheel, which ie easily tightened by a screw. When the tire becomes loose the necessity of resetting it is obviated by the use of this apparatus, as the felloes are tigbtened and expanded to the requisite degree. An iron washer is alse used for the end of the epokes when required. The invention is simple in its operatione, and appears to be one of great utility.

H. N. Miner of Sacramento city exhibits a patent conical tin pipe or flue, which is eet in any wash-boiler. The steam is conveyed to the top and discharged by six or eight tubes among the clothing. The action of water and steam washee the clothing without rubbing.

J. H. Corliss, of Reno, Nevada, exhibits an ingenious invention for measuring and drawing liquor. A tin cylinder or tank is so arranged as to fill several chambers at the bottom with a pint, a quart, a gallon, etc., respectively. By a simple motion of a lever on the top the supply of liquor is shut off. The vender may with safety set one or several regular measures under the proper faucet and leave them without danger of lose of liquor. Each measure is filled and the flow ceases. For drawing syrup, which runs slowly, this invention would he especially useful. The apparatus can be used as safely in the dark as in the light.

J. Brazee, of Alvarado, exhibits an automaton clothes line reel. It consists of an upright wooden chamber, with a weight in the lower end. The clothes line is drawn from the opening at the upper end and extended wherever it is needed for use. When out of use and lowered, he winds up the line without any effort on the part of the person nsing it. This fixture is stationed at any convenient point in the yard, and the line is kept sheltered from sun, wind and rain, except when in use.

Oliver Hyde, of Oakland, exhibits the rotary cutters used in his steam plow, of which we shall have mnch more to say hereafter.

Miscellaneous.

The California Silk Manufacturing Co. of S. F., throngh Brown & Peabody, agents, exhibit a splendid collection of spool and machine twist silk, tram and organzine. They have four cases of spools, containing nearly 100 shades of colors, and two small cases of button-hole silk. The colors are exceedingly beautiful and the thread is of superior quality. This company commenced operations nearly three years ago at South S. F. For a time great difficulty wae experienced on account of scarcity of funds and the difficulty of obtaining skillful and reliable artizans. These difficultiee have all been overcome and the business of the Company is now in a proeperous condition. Their prodnctions have earned a high repntations in the markete of the Pacific coast, and another new branch of indnetry is permanently established in the State. The bnlk of the raw silk used comes from China, as the State has so far failed to produce any considerable quantity of that material.

Joseph Green, of Oakland, exhibits a fine collection of silk ribbon of his own manufacture. Having had long experience in the silk business, he left the State eight months ago for Enrope for the pnrpose of bringing out looms, etc., to establish the business in this State. Abont five months ago his looms were set in motion. He exhibits a large number of ribbons of a dozen different colors and varying from one to eeven inches in width. They present a very beautiful appearauce, and for strength and durability excel those of Eastern manufacture generally in use. This enterprise has not been so well encouraged by San Francisco dealers as it should he, for the very reason that the goods are too substantially made to be sold as low as lighter and cheaper goods. They can be furnished as low as goode of eqnal quality from the East, but althongh all admire them, cheaper goods are too often preferred. The enterprise appears to be well worthy of the eupport of the public.

Fruit Drying Machines.—D. Titcomb, of Oaklaud, exhibits one of Moffatt's fruit drying machines. Thie ie the same dryer described in our report of the Oakland Farming Clnb. It is a cheap and simple machine. No. 1 will dry about 1,000 pounds of fruit in twelve honrs; No. 2 will dry about one ton, and No. 3 abont one and a half tons in the eame space of time.

Bartholemew Essto shows a California invention. It ie a vegetable slicer, consisting of

a revolving bottom to a small vessel which carries a knife. The vegetable is held against projective, and pressed upon the bottom. The other hand turns a crank, which revolves the bottom. The same power turns a small grindstone for knives, and a coffee mill attachment. It is a really useful machine for the kitchen. He also shows a new joint for uniting timbers, and a new style of extension compass. He exhibits, also, a new style of lifting power, which consists of a heavy perpendicular shaft, attached to a circular plate, the under face of which has two circular inclined planes. A plate corresponding to this rests on a cross-bar beneath. A pivoted bar has wheels above and below between these plates, and running on the inclined planes; when, by levers, the pivoted bar is turned, the wheels run up the inclines, and the shaft is forced upward. When the incline hight is accomplished, the shaft is wedged up by side notches and a key, and the lower plate and bar elevated and held by catches in an upright frame, till the wheels again apply and a new lift is made.

NASH, MILLER & Co., of Sacramento, exhibited three of the Cutts & Miller grain cleaners of different sizes. These fans have been extensively used for the past few years. They clean from 40 bushels to 250 bushels of grain per hour, according to size and motive power. There are 900 of them in use.

M. S. BOWDISH, of S. F., exhibits one feed mill, designed for the use of farmers. It is driven by wind, water or horse power, and is designed for grinding grain for feed or for the manufacture of cornmeal or graham flour. The grain is ground by two plates of hard steel. A pair of these will grind as much grain as a pair of burr stones with one dressing. The plates are replaced at less cost than is required for dressing the stones. Mr. B. also exhibits a simple and portable apparatus for forcing water for sprinkling plants, washing windows, buggies, etc.

Asiatic Cholera in China.

ALMOST EVERY CASE CURED WITH

PAIN-KILLER!

DEAR SIRS: During a residence of some ten years in Siam and China, as a missionary, I found your Pain-Killer a most valuable remedy for that fearful scourge, the Cholera.

In administering the medicine, I found it most effectual to give a teaspoonful of Pain-Killer in a gill of hot water sweetened with sugar; then, after about fifteen minutes, begin to give about a tablespoonful of the same mixture every few minutes until relief was obtained. Apply hot applications to the extremities. Bathe the stomach with the Pain-Killer, clear, and rub the limbs briskly. Of those who had the Cholera, and took the medicine faithfully, in the way stated above, eight out of ten recovered.

REV. R. TELFORD, Missionary in China.

DEAR SIRS: During a long residence in China I have used your valuable Pain-Killer, both in my own family and among the Chinese, and have found it a most excellent medicine. In the summers of 1862 and 1863, while residing in Shanghai, I found it an almost certain cure for cholera, if used in time. Indeed, using it in a great many instances, I do not remember failing in a single case. For three years I have been residing in this place, more than fifty miles from a physician, and have been obliged often to fall upon my own resources in cases of sickness. The Chinese come to us in great numbers for medicine and advice. Though without medical knowledge ourselves, the few simple remedies we can command are so much in advance even of their physicians, that we have almost daily applications. We allow them to come, because it brings us in contact with them and opens a door of usefulness. In diarrhea, colic, vomiting, cholera, coughs, etc., your Pain-Killer has been my chief medicine. Yours, very truly,

REV. T. P. CRAWFORD, Tungchow, China.

Those using Pain-Killer should strictly observe the following directions:

At the commencement of the disease, take a teaspoonful of Pain-Killer, in sugar and water, and then bathe freely across the stomach and bowels with the Pain-Killer clear. Should the diarrhea and cramp continue, repeat the dose every fifteen minutes. In this way the dreadful scourge may be checked and the patient relieved in the course of a few hours.

N. B.—Be sure and get the genuine article; and it is recommended by those who have used the Pain-Killer for the cholera, that in extreme cases the patient take two (or more) teaspoonfuls instead of one.

The PAIN-KILLER is sold by all the Druggists and Dealers in Family Medicines.

☞ Price, 25 and 50 cents and $1.

PERRY DAVIS & SON,

Manufacturers and Proprietors, 135 High street,
oc11 Providence, R. I.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

L. P. MCCARTY—General Agent.
A. O. KNOX, City Soliciting and Collecting Agent.
W. H. RATTENBERRY—Onlifornia.
F. G. SAOKET—Northern California.
FRANK CHAPIN—Oregon and Washington Territory.
L. M. HOLT—Sonoma Co., Cal.

RAPID CONSUMPTION IS OFTEN the penalty of trifling with a severe cough, but no such a catastrophe can occur if *Hale's Honey of Horehound and Tar* is taken before the disorganization of the lungs has commenced. Take time by the forelock and you are safe. Crittenden's, 7 5th Avenue. Sold by all Druggists.

Pike's Toothache Drops cure in 1 minute. *

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B Roberts, 315 California Street, San Francisco, is general agent for this Coast. Send to him for circulars and information of this reliable, first-class company.

A LARGE SHIPMENT.—Three car loads of the Guild, Church & Co. pianos arrived for the agent, M. Gray. The fact of their being sold by Mr. Gray is alone sufficient guarantee of their superiority. *

CONTINENTAL LIFE INSURANCE Co., No. 302 Montgomery street, corner of Pine, San Francisco. *

AGENTS WANTED to canvass every town on the Pacific Coast for the MINING AND SCIENTIFIC PRESS, PACIFIC RURAL PRESS, and the ILLUSTRATED PRESS. Experienced canvassers preferred. Good men can make large wages, besides learning much and improving their talents.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Bunker Hill Quartz Mining Company.---

Office, No. 19 First street, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 10th day of September, 1873, an assessment (No. 10) of ten dollars ($10) per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 19 First street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on Monday, the thirteenth day of October 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the fifth day of November, 1873, to pay delinquent assessment, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.
Office, No. 19 First street, San Francisco, California.

SPECIAL NOTICE.

At a meeting of the Board of Trustees of the Bunker Hill Quartz Mining Company, held this day, the assessment No. 10, levied June 5th, 1873, for ($10) ten dollars per share was rescinded.

Any stock upon which said assessment has been paid shall have the amount so paid, credited upon Assessment No. 11.

WALES L. PALMER Secretary.

Buena Vista Petroleum Company.---Location of principal place of business, San Francisco, State of California. Location of works: Buena Vista, Kern county, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 26th day of September, 1873, an assessment (No. 17) of one dollar per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 430 Jackson street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 7th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

L. AGUAYO, Secretary.
Office, No. 430 Jackson street, up stairs, San Francisco, California. se27

Cincinnati Gold and Silver Mining Company—Principal place of business, San Francisco, California. Location of works, Kelsey Mining District, El Dorado county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 18th day of September, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 331 Kearny street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

WILLIAM SMALL, Secretary.
Office, Room 14, No. 331 Kearny street, San Francisco, California. se20

California Silk Manufacturing Company---

Location of principal place of business, San Francisco, Cal. Location of works, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 6) levied on the 29th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J H Blumenburg	15	1	$5 00
J H Blumenburg	17	1	5 00
J H Blumenburg	18	1	5 00
J H Blumenburg	19	1	5 00
J H Blumenburg	20	1	5 00
J H Blumenburg	21	1	5 00
Jas Dale Johnston	111	1	5 00
Jas Dale Johnston	115	1	5 00
Jas Dale Johnston	117	1	5 00
Jas Dale Johnston	118	1	5 00
Jas Dale Johnston	119	1	5 00
Jas Dale Johnston	120	1	5 00
Jne Dale Johnston	121	1	5 00
Jas Dale Johnston	127	1	5 00
Jas Dale Johnston	128	1	5 00
Jas Dale Johnston	129	1	5 00
Jas Dale Johnston	131	1	5 00
Hensch & Berton	28	2	10 00
H H Bancroft & Co	46	10	50 00
Jonathan Kittredge	53	10	50 00
Marsh, Pilsbury & Co	55	2	10 00
P Douglas	57	1	5 00
P Douglas	58	1	5 00
P Douglas	202	1	6 00
P Douglas	205	1	5 00
C W Smith	59	5	25 00
C W Smith	175	5	25 00
M M Cook & Son	60	2	10 00
B F Ellis	64	1	5 00
Albert H Jordan	74	2	10 00
Albert H Jordan	97	2	10 00
Robert P Smith	79	½	1 25
Britton & Ray	85	5	30 00
Strant, White & Co	93	2	10 00
H Rosekrans	94	2	10 00
H Rosekrans	232	1	5 00
H Rosekrans	233	1	5 00
G Wempe	100	5	25 00
A Hollub & Co	107	2	10 00
John Hall & Son	136	3	15 00
J M Ward & Co	137	1	5 00
Wm Englander	168	5	25 00
Jas Leigh	185	1	5 00
Redington, Hostetter & Co	107	10	50 00
F B Wilde	201	1	5 00
J W Hodgkin	187	1	5 00
George Doherty	70	1	5 00
Robert Christy	200	1	5 00
Miss Minnie Neeley	203	1	5 00
Lewis Schumacher	158	2	10 00
A F Hinchman	150	4	20 00
E Carr	176	5	25 00
J W Egan	204	1	5 00
Bartlett & Pratt	188	1	5 00
Mrs Jane Sheridan	230	2	10 00
Edmund C Burr	234	16	80 00
Edmund C Burr	258½	30	160 00
Edmund C Burr	251	23	115 00
P A Eakins, Trustee	241	8	40 00
A P Brayton, Trustee	244	10	50 00
A P Brayton, Trustee	253	20	100 00
C M Hitchcock	248	6	30 00
W G Doolittle	250	1	5 00
Frank S Sutton	258	1	5 00
Robert Morrison	259	10	50 00
D M Bokee	260	1	5 00
Wm E Prall	262	25	125 00
F Weisenborn, Trustee	263	40	200 00
O Crandall	264	21	105 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 569 Market street, San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 2 o'clock P. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.
Office—569 Market street, San Francisco, California. oc4

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the seventh day of October, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the tenth day of November, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S HEALY, Secretary.
Office—No. 35 New Merchants' Exchange, San Francisco, California. oc11

Eureka Mining and Smelting Company—

Location of works, Eureka County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment, No. 2, levied on the 21st day of August, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T P Beach, Trustee	9	10	$2 00
T P Beach, Trustee	10	20	4 00
T P Beach, Trustee	11	10	2 00
T P Beach, Trustee	12	20	4 00
T P Beach, Trustee	13	25	5 00
T P Beach, Trustee	14	25	5 00
T P Beach, Trustee	15	60	10 00
T P Beach, Trustee	16	50	10 00
T P Beach, Trustee	17	50	10 00
T P Beach, Trustee	28	2000	400 00
T P Beach, Trustee	29	2000	400 00
T P Beach, Trustee	30	1000	200 00
T P Beach, Trustee	55	300	60 00
T P Beach, Trustee	64	600	120 00
T P Beach, Trustee	68	1000	200 00
T P Beach, Trustee	73	500	100 00
T P Beach, Trustee	80	1555	313 00
T P Beach, Trustee	81	1565	313 00
T P Beach, Trustee	82	1628	305 60
S L M Barlow	67	4000	800 00
S F Butterworth	87	2000	400 00
Oliver Eldridge	78	1555	313 00
J B Haggin	52	10	2 00
F A Hyde, Trustee	86	7910	1582 00
A Juncoby	63	1250	250 00
B B Minor, Trustee	53	1240	248 00
B B Minor, Trustee	54	750	150 00
B B Minor, Trustee	77	1655	313 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of August, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 217 Sansome street, San Francisco, California, on Monday, the 13th day of October, 1873, at the hour of 12 o'clock M. of said day, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. P. BEACH, Secretary.
Office, No. 217 Sansome street, San Francisco, California. se23

Gold Run Mining Company—Principal

place of business, San Francisco, Cal. Location of works, Nevada county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, corner of Market and Spear streets, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. C. PALMER, Secretary.
Office, corner of Market and Spear streets, San Francisco, Cal. se16-s&d

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held the 29th day of July, A. D. 1873, an assessment (No. 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 5th day of September, A. D., 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.
Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the 4th day of October, 1873, and the day of sale of delinquent stock is hereby postponed until Monday, the 27th day of November, 1873. By order of the Board of Directors. HENRY PICHOIR, Secretary pro tem.
Office, No. 603 Washington street, San Francisco, Cal.
San Francisco, Sept. 1, 1873.

REMOVAL.—Office of Homiguera Mining Company is removed to office of L. L. Robinson, No. 603 Washington street, corner Montgomery, San Francisco, Cal.
HENRY PICHOIR, Secretary pro tem.

Hayden Hill Mining Company—Location

of works, Hayden Hill, Lassen County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 1) of fifteen cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 331 Montgomery street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 14th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 19th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. H. KNIGHT, Secretary.
Office, No. 331 Montgomery street, San Francisco, Cal.

Ida and Rhoda Lewis Consolidated Mining Company—Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1), levied on the 28th day of August, A. D. 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Claresy, Trustee	57	1000	$100 00
John Claresy, Trustee	68	500	50 00
John Claresy, Trustee	69	500	50 00
John Claresy, Trustee	76	200	20 00
John Claresy, Trustee	77	200	20 00
John Claresy, Trustee	78	100	10 00
John Claresy, Trustee	79	100	10 00
John Claresy, Trustee	81	100	10 00
John Claresy, Trustee	90	50	5 00
John Claresy, Trustee	96	25	2 50
John Claresy, Trustee	98	20	2 00
John Claresy, Trustee	100	20	2 00
John Claresy, Trustee	101	20	2 00
John Claresy, Trustee	102	10	1 00
John Claresy, Trustee	255	100	10 00
John Claresy, Trustee	257	100	10 00
John Claresy, Trustee	85	50	5 00
John Claresy, Trustee	86	50	5 00
John Claresy, Trustee	258	50	5 00
John Claresy, Trustee	259	50	5 00
John Claresy, Trustee	260	25	2 50
John Cody, Trustee	142	100	10 00
John Cody, Trustee	143	100	10 00
John Cody, Trustee	144	100	10 00
John Cody, Trustee	146	50	5 00
John Cody, Trustee	147	50	5 00
John Cody, Trustee	148	50	5 00
John Cody, Trustee	149	50	5 00
John Cody, Trustee	150	25	2 50
John Cody, Trustee	151	25	2 50
G P Martinoni, Trustee	262	100	10 00
G P Martinoni, Trustee	264	25	2 50
G P Martinoni, Trustee	265	25	2 50
G P Martinoni, Trustee	266	25	2 50
G P Martinoni, Trustee	2?3	25	2 50
A E Davis	267	300	30 00
Wm Cory	133	113	11 30
Wm Cory	271	100	10 00
Wm Cory	273	100	10 00
F R Lewis, Trustee	153	1000	100 00
F R Lewis, Trustee	154	1000	100 00
F R Lewis, Trustee	155	1000	100 00
F R Lewis, Trustee	156	168	66 80
F R Lewis, Trustee	157	100	10 00
F R Lewis, Trustee	159	100	10 00
F R Lewis, Trustee	160	100	10 00
F R Lewis, Trustee	163	50	5 00
F R Lewis, Trustee	164	50	5 00
F R Lewis, Trustee	165	50	5 00
F R Lewis, Trustee	166	50	5 00
F R Lewis, Trustee	167	25	2 50
F R Lewis, Trustee	168	25	2 50
F R Lewis, Trustee	169	25	2 50
F R Lewis, Trustee	170	25	2 50
F R Lewis, Trustee	171	25	2 50
F R Lewis, Trustee	172	25	2 50
F R Lewis, Trustee	173	20	2 00
F R Lewis, Trustee	174	20	2 00
F R Lewis, Trustee	175	20	2 00
F R Lewis, Trustee	176	20	2 00
F R Lewis, Trustee	177	20	2 00
F R Lewis, Trustee	199	50	5 00
F R Lewis, Trustee	297	200	20 00
John P Lawson	30	50	5 00
J de Sta Marina, Trustee	31	500	50 00
J de Sta Marina, Trustee	32	500	50 00
J de Sta Marina, Trustee	33	500	50 00
J de Sta Marina, Trustee	34	500	50 00
J de Sta Merina, Trustee	36	330	33 00
J de Sta Marina, Trustee	38	100	10 00
J de Sta Merina, Trustee	40	100	10 00
J de Sta Marina, Trustee	41	100	10 00
J de Sta Merina, Trustee	43	100	10 00
J de Sta Merina, Trustee	44	100	10 00
J de Sta Merina, Trustee	45	100	10 00
J de Sta Merina, Trustee	46	100	10 00
J de Sta Merina, Trustee	54	50	5 00
J de Sta Merina, Trustee	55	50	5 00
J de Sta Merina, Trustee	206	20	2 00
J de Sta Merina, Trustee	210	20	2 00
J de Sta Merina, Trustee	214	50	5 00
J de Sta Merina, Trustee	218	100	10 00
J de Sta Marina, Trustee	219	100	10 00
J de Sta Merina, Trustee	220	100	10 00
J de Sta Merina, Trustee	221	1000	100 00
J de Sta Merina, Trustee	222	600	60 00
J de Sta Merina, Trustee	225	234	23 40
A C Morse, Trustee	179	10	1 00
A C Morse, Trustee	180	10	1 00
A C Morse, Trustee	182	10	1 00
A O Morse, Trustee	183	20	2 00
A O Morso, Trustee	184	20	2 00
A C Morse, Trustee	189	50	5 00
A C Morse, Trustee	191	50	5 00
A C Morse, Trustee	193	100	10 00
A C Morse, Trustee	226	2434	243 40
A C Morse, Trustee	198	500	50 00
F R Lewis	248	1000	100 00
F R Lewis	249	1000	100 00
F R Lewis	250	1000	100 00
F R Lewis	251	1000	100 00
F R Lewis	252	500	50 00
F R Lewie	253	466	45 60
Charles Spencer	227	100	10 00
Charles Spencer	228	100	10 00
Charles Spencer	229	100	10 00
Charles Spencer	230	100	10 00
Charles Spencer	231	100	10 00
Charles Spencer	235	100	10 00
Charles Spencer	235	100	10 00
Charles Spencer	241	500	50 00
Charles Spencer	242	500	50 00
Charles Spencer	243	500	50 00
Charles Spencer	244	500	50 00
Charles Spencer	245	500	50 00
Charles Spencer	245	334	33 40
W H Sharp	13	1000	100 00
W H Sharp	16	1000	100 00
W H Sharp	247	1000	100 00
Ambrose Sorba	104	400	40 00
Ambrose Sorbs	114	100	10 00
Ambrose Sorba	116	100	10 00
Ambrose Sorba	118	50	5 00
Ambrose Sorba	126	25	2 50
Ambrose Sorba	129	25	2 50
M J McDonald	268	200	20 00
L A Johnson	269	187	18 70
L A Johnson, Trustee	132	100	10 00
L A Johnson, Trustee	133	100	10 00
L A Johnson, Trustee	134	100	10 00
L A Johnson, Trustee	136	50	5 00
L A Johnson, Trustee	137	50	5 00
L A Johnson, Trustee	138	50	5 00
L A Johnson, Trustee	139	50	5 00
L A Johnson, Trustee	140	50	5 00
L A Johnson, Trustee	152	100	10 00
L A Johnson, Trustee	276	25	2 50
L A Johnson, Trustee	277	25	2 55
L A Johnson, Trustee	278	25	2 50
L A Johnson, Trustee	279	25	2 50
L A Johnson, Trustee	280	25	2 50
L A Johnson, Trustee	281	25	2 50
L A Johnson, Trustee	282	25	2 50
L A Johnson, Trustee	283	25	2 50
L A Johnson, Trustee	284	50	5 00
L A Johnson, Trustee	285	50	5 00
L A Johnson, Trustee	286	50	5 00
L A Johnson, Trustee	287	50	5 00
L A Johnson, Trustee	288	50	5 00
L A Johnson, Trustee	289	50	5 00
L A Johnson, Trustee	290	50	5 00
L A Johnson, Trustee	291	50	5 00
J A Luskin, Trustee	295	100	10 00
W H Smith, Trustee	296	100	10 00
B F Scott	298	250	25 00
B F Scott	299	250	25 00
B F Scott	300	200	20 00
B F Scott	301	300	30 00
George Scott	302	1000	100 00

And in accordance with law, and an order of the Board of Directors, made on the 28th day of August, A. D. 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the Company's office, Room No. 12, Express Building, San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 12 M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.
Office—Room No. 12, Express Building, San Francisco, California. oc4

(Continued on page 240.)

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,

GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Particular attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

---

THE RISDON

Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore,	Jesse Holladay,	O. E. McLane,
Wm. Norris,	Wm. H. Taylor,	J. B. Haggin,
	James D. Walker.	

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

GROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC

Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

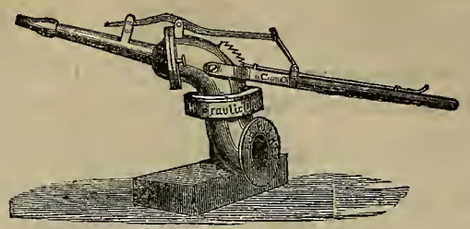
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S **KNUCKLE JOINT** AND **NOZZLE** IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

CAMERON'S

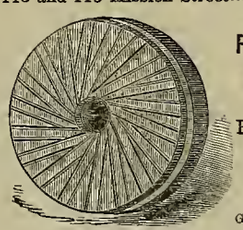
MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

JOS. WAGNER,

113 and 115 Mission Street.....SAN FRANCISCO.



MANUFACTURER OF

FRENCH BURR MILL-STONES

—AND—

Portable Mills.

—ALSO—

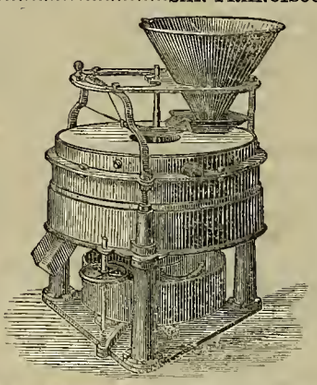
MILLS

Especially adapted for GRINDING QUARTZ.

AGENT FOR DUFOUR & CO.'S CELEBRATED

Dutch Anchor Bolting Cloths.

BOLTING CLOTHS MADE UP.



Eureka Smut Machines, Bran Dusters, Mill Irons, Spindles, Bails, Drivers, Steps, Regulating Screws, Silent Feeders, Pulleys, Proof Staffs, Hoisting Screws, Bails and Pins, Conveyor Flights, Plaster and Leather Belting.

Mill Picks, Mill Picks Dressed, Mill Stones Repaired and Rebuilt.

Mill Stones Balanced with FELLENBAUM'S PATENT BALANCE, of which I am sole proprietor for California, Oregon, and Washington Territory. 15v26tf-Jam

---

SACRAMENTO FOUNDRY,

N. E. corner N and Front streets.....SACRAMENTO,

Steam Engines—all Kinds of Mining Machinery.

SHIP, AGRICULTURAL, STOVE, RANGE AND HOUSE CASTINGS.

Iron Railings and Ornamental Work of every description

At the Lowest Rates.

13v27-1y WM. GUTENBERGER.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the **Hepburn Rolling Pan** and **Callahan Grate Bars**, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

---

Foundry Facings of the Best Quality

FOR SALE AT

THE WHELPLEY & STORER MILL.

☞ These are WARRANTED equal to the BEST.

5v57-3m

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Mission,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

Machinery.

Parshall's Lubricator for Steam Engines.

These Lubricators are suited to all steam Engines, delivering the lubricant, whether tallow or oil to every kind equally well. They are subject to be placed in the steam pipe, steam chest cover or the cylinder head, as is desirable. They admit the steam freely to the lubricant, which is constantly saturated with it and kept thereby in a free liquid state. When condensation of the steam begins, the water settles below and raises the oil to the top. The oil is fed from the top of the cup, through a tube which passes down through its center. All sediment in the oil settles to the bottom of the cup, and the oil, on going to feed the engine, is always pure. By simply turning a screw in the top of the cup, the flow of oil is regulated to suit the requirements.

We have numerous testimonials from Railroad Engineers and others, speaking in the highest terms of their superiority. The first one put in use on this coast is at the Pacific Saw Manufactory in this city. Parties desiring further information will please send for descriptive circular and price list, or call at our office.

WIESTER & CO.,
General Agents for the Pacific Coast,
17 New Montgomery street,
Grand Hotel Block, San Francisco.

STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

10v27tf No. 32 FREMONT STREET.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

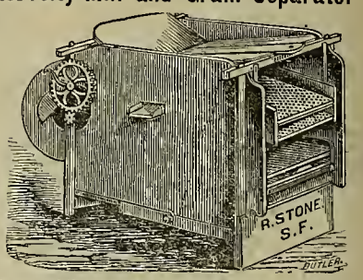
For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

THE PATENT

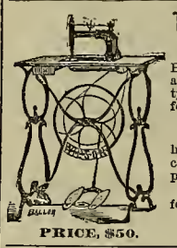
Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to

R. STONE,
3v6-3m-eowbp 422 Battery street, San Francisco.



The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast.
337 Kearny St., S. F.

PRICE, $50. 22v27eow-bp-1y

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

---

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

AVERILL'S

CHEMICAL PAINT

Of any desired Shade or Color,

Mixed ready for application, and sold by the gallon

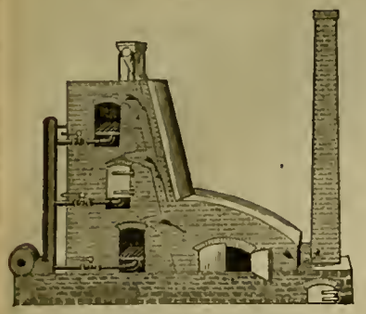
It is Cheaper Handsomer, more Durable and Elastic than the best of any other Paint.

Office, corner Fourth and Townsend streets, San Francisco. Send for sample card and price list.

15v23-3meowbp HEALY & JEWELL, Agents.

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom,

SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks

Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. GEO. D. WYMAN,
5v27-3m Superintendent.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottome, as desired.

This Amalgamator Operates as Follows.

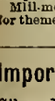
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and settlers for themselves, at the office, 229 Fremont Street, San Francisco.

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.



Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work re-plated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
555 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,

San Francisco.

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,
Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers, Chemists, Mining Companies, Milling Companies, Prospectors, etc., to our large and well adapted stock of

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Nevada Metallurgical Works,

21 First street.....San Francisco.

Ores worked by any process,
Ores sampled.
Assaying in all its branches.
Analysis of Ores, Minerals, Waters, etc.
Plans furnished for the most suitable process for Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

E. N. RIOTTE,
C. A. LUCKHARDT,
Mining Engineers and Metallurgists.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention PAID TO

CONSIGNMENTS OF GOODS.

4v16-3m

KROM'S DRY ORE CONCENTRATOR

Separates the METALLIC ore from the BARREN gangue by means of AIR instead of WATER. Cost nominal; concentration perfect. Every miner and business man interested in this invention which renders the working of low grade and "rebellious" ores PROFITABLE. The machine is in operation daily between 10 and 1, at 105 First street.

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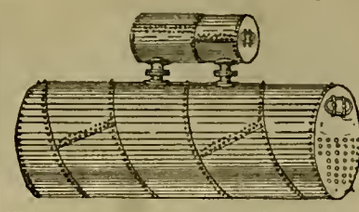

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16v20-3m JOHN F. LOHSE, Secretary.

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Air Compressors.

The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Sinking, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

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ECONOMY, CONVENIENCE AND SAFETY COMBINED.

JUST THINK OF IT—No Wood, no Coal, no Coal Gas, no Stove Pipe, no Chimney, no Smoke, no Ashes, no Dirt, no Wood Boxes, no Coal Scuttles, no Kindling Wood, but a Friction Match, and the

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Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment. And the house unheated!

It has no rival in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it; a little Child can operate it, and

All Recommend It.

Prices from $5 to $25, according to size. Manufactured and sold by WM. FRIEL,
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N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will be sent as sample. 22v25-2am1y

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Screen Punching of all kinds and qualities for

QUARTZ AND FLOUR MILLS,

AT EASTERN RATES.

I would call special attention to my slot cut and slot punched screens, which are attracting much attention and giving universal satisfaction. I was the first manufacturer who introduced these Screens to the Millmen on this Coast. This is the only establishment on the Coast devoted entirely to the manufacture of Screens.

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MILL SAW FILES A SPECIALTY.

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(Continued from page 237.)

Lemon Mill and Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors held on the 27th day of September, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 608 Merchant street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the third day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal. oc4

Lady Esten Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors held on the 7th day of October, 1873, an assessment (No. 5) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the first day of September, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. oc11

Land Purchasers Association—Office, No.

425 Kearny street (up stairs), San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (Installment No. 37) levied on the 26th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J K Basford.....	63, 64, 65, 87	4	$40 00
John Bays.....	28	1	10 00
J E Boyce.....	9	1	10 00
W G Burke.....	30	1	10 00
John A Callison..	31	1	10 00
V Chevallier.....	93	1	10 00
J D Hooker.....	100, 101, 171	3	30 00
S W Hoyt.....	138	1	10 00
L Kilgour.....	21, 22	2	20 00
Mrs N McCarty...	113	1	10 00
H G Robinson....	150	1	10 00

And in accordance with law and an order of the Board of Directors, made on the 26th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 425 Kearny street (up stairs), San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. S. WRIGHT, Secretary.

Office, 425 Kearny street (up stairs), San Francisco, California. oc4

Manhattan Marble Company of California

—Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T M Antisell.....	159	50	$50 00
Francis Blake.....	108	119	119 00
Jas L Barker.....	129	119	119 00
John Currey.....	49	20	20 00
John Currey.....	50	20	20 00
John Currey.....	51	20	20 00
John Currey.....	52	10	10 00
John Currey.....	53	10	10 00
John Currey.....	54	10	10 00
John Currey.....	55	10	10 00
John Currey.....	56	10	10 00
John Currey.....	57	9	9 00
Jno W Coleman.....	90	100	100 00
Jno W Coleman.....	91	19	19 00
Irad Cochran.....	125	119	119 00
F Cunningham, Trustee...	155	7	7 00
F Cunningham, Trustee.	156	22	22 00
J P Dyer.....	47	60	60 00
Edwd P Flint.....	24	60	60 00
Edwd P Flint.....	25	59	59 00
Chas Webb Howard.....	126	119	119 00
T K Hopkins.....	not issued	119	119 00
J M Lord.....	13	50	50 00
J M Lord.....	16	50	50 00
J M Lord.....	92	19	19 00
Geo C Potter.....	64	10	10 00
Geo C Potter.....	65	10	10 00
Geo C Potter.....	66	10	10 00
Geo C Potter.....	67	10	10 00
Geo C Potter.....	68	10	10 00
Geo C Potter.....	132	10	10 00
Geo C Potter.....	157	30	30 00
Geo C Potter.....	158	30	30 00
E Tripp, Trustee.....	42	119	119 00
George Tait.....	134	50	50 00
George Tait.....	135	50	50 00
George Tait.....	136	19	19 00
H P Wakelee.....	151	119	119 00

And in accordance with law, and an order of the Board of Directors, made on the 21st day of August, 1873, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 319 Pine street, San Francisco, Cal., on the 13th day of October, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office, No. 319 Pine street, San Francisco, Cal. s27

McMahon Silver Mining Company—Location of works, Schell Creek District. White Pine County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Brush, R G, Trustee.....	148	100	25 00
Brush, R G, Trustee.....	149	100	25 00
King, Jos L, Trustee.....	151	100	25 00
Richardson, E A, Trustee..	103	200	50 00

And in accordance with law, and an order of the Board of Directors, made on the fourth day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the salesroom of John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on the twenty-seventh day of October, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEORGE R. SPINNEY, Secretary.

Office—No. 320 California street, Room 5, San Francisco, California.

Phenix Tunnel and Mining Company----

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 2) of 20 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the first day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Thursday, the 20th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc4

Silver Wave Mining Company—Principal

place of business, San Francisco, California. Location of works, White Pine Mining District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment of Forty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of said Company. Any stock upon which this assessment shall remain unpaid on Thursday, the 30th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 25th day of November, 1873, at the hour of 2 o'clock P. M., at the office of the Company, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. W. CLARK, Secretary.

Office, No. 418 California st., San Francisco, Cal.

State of Maine Mill and Mining Company—Principal

place of business, San Francisco, California. Location of works, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of October, 1873, an assessment (No. 4) of Five Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 4th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office—306 Montgomery street, San Francisco, Cal. oc4

San Francisco Co-operative Land and

Building Association. Office and principal place of business, 306 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co-operative Land and Building Association, up to, and including those for the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale. By order of the Board of Directors.

H. B. CONGDON, Secretary.

San Francisco, September 20, 1873. se20-1m

Southern Pacific Consolidated Gold Mining Company. Principal place of business, San Francisco, California. Location of works, Kern County, California.

Notice is hereby given that at a meeting of the Board of Directors of the above named company, held on the 11th day of September, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the twenty-fifth (25th) day of October, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Tuesday, the twenty-fifth (25th) day of November, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

O. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California. sep13

Stevens Pacific Smelting and Mining Company—Principal place of business, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Board of Directors held on the 11th day of September, 1873, an assessment of ten cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at 320 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 15th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the third day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. M. KNIGHT, Secretary.

Office, 320 Montgomery street, San Francisco, California.

Sapphire Silver Mining Company.—Location of principal place of business, No. 438 California street, San Francisco, California. Location of works, Gold Hill Mining District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 5th day of September, 1873, an assessment (No. 2) of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the company, No. 438 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 30th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

JOEL F. LIGHTNER, Secretary.

Office, No. 438 California street, San Francisco, Cal.

A NEW BOOK ON MINING.

The Explorers', Miners' and Metallurgist's Companion; Comprising a Practical Exposition of the Various Departments of Exploration, Mining, Engineering, Assaying, and Metallurgy. The Most Practical and Comprehensive Work on Mining Subjects Extant. Comprising 640 Pages, and 81 Engravings. By J. S. Phillips, M. E. Price, bound in cloth, $10 (in coin); in leather, $12. Forwarded by mail, in cloth, $11.40, currency; in leather, $13.75. Issued and for sale by DEWEY & Co., Patent Agents and Publishers Mining and Scientific Press, S. F.

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SAVES 25 PER CENT. OF FUEL.—An item worth looking after. Also, Steam Governors, Tube Scrapers, Steam Pumps, Self-Oilers, Cylinder Cups, Steam Gauges, Belting, Lacing, Hose, Fuse, Packing, etc., including all kinds Miners', Engineers' and Millmen's supplies. TREADWELL & CO., old stand, Market St., head of Front, San Francisco. 8v26-eow

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HALLIDIE'S Patent Endless Wire Ropeway.

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IMPORTANT TO

Mining Companies, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mills, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 944.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

Wire of all kinds and descriptions, furnished at lowest ratee. A. S. HALLIDIE 113 and 115 Pine St.

MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, OCTOBER 18, 1873.

VOLUME XXVII. Number 16.

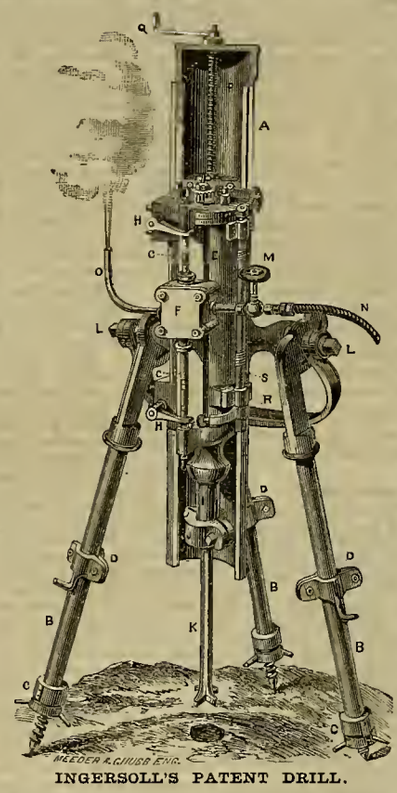
Ingersoll's Patent Rock Drill.

No single instrument in the business of quartz mining economizes labor to a greater extent than a good drill. It is the one article that miners have for years regarded as a desideratum, the key that has unlocked more treasure in a shorter time and with less expense, than any of the other numerous contrivances, which from time to time have been introduced to facilitate the laborious process of quartz mining. Many are the patents and multiform the patterns of drills that have been invented. Very few of them have outlived a year of service. Those that have stood the test of experiment have generally been too cumbersome or too expensive for common use. The objection of weight and complications have been overcome by a drill recently invented by Mr. Ingersoll, and now on exhibition in this city. The accompanying cut is a representation of the machine. Its chief merits are its compactness, strength, simplicity and lightness. It is convenient, easily handled, capable of great execution and not liable to get out of order. It is worked equally well by steam or compressed air. One only of the number now in use has had any repairs put upon it and that only after six months steady work.

The main elements of the drill are the frame, the cylinder and the piston. The frame is merely a trough with ways on either side, in which the cylinder by means of a feed screw and an automatic feed lever, is moved forward as the drill cuts the rock. The piston moves back and forth in the cylinder in the same manner as the piston of an ordinary engine. The drill point is attached to the end of the piston, which is a solid bar of steel. The piston is rotated, as it moves back and forth, by ingenious and simple mechanism. The forward motion of the cylinder in the trough is regulated by an automatic feed as the rock is cut away; the advance being more or less rapid according to the nature of the rock. By this means the drill point and solid steel piston alone receive the shock of the blow. When the cylinder has been fed forward the entire length of the feed screw, it may be run back and a larger drill point inserted. By referring to the cut, the details will be apparent. *A*, is the cylinder works; *B*, *B*, *B*, the legs of the tripod; *C*, *C*, the screw for adjusting length of legs to uneven surface of ground; *D*, *D*, *D*, are hooks clasped on each leg upon which weights hang when in use; *E*, is the cylinder; *F*, steam chest; *G*, *G*, valve stems; *H*, *H*, tappet arms moved by action of piston on cams in cylinder; *I*, is the piston; *J*, the clamp for connecting drill point to pistou; *K*, the drill point; *L*, trunnions which support the frame on the tripod; *M*, valve to regulate feed of steam; *N*, feed pipe; *O*, exhanst; *P*, feed screw; *Q*, crank on feed screws, for raising cylinder or frame; *R*, feeding tappet, working the arm of rod, *S*, which feeds cylinder arm by means of the pawl and ratchet wheel on top of the cylinder, working in *P*.

In several tests during the past few months, this drill has been used with great success upon the hard metamorphic sandstone, at French Corral, Nevada county, in this State. Under a pressure of 30 pounds, it is said to sink a 1¼ inch hole, to the depth of 12 inches in 10 minutes. The bits will average five inches, without sharpening. The strokes of the drill under this pressure, are 190 to the minute. By an ingenious peculiarity in the form of the cutting edge of the drill point, perfectly round holes are insured, thus giving a greater area to the hole and a larger percentage of powder at the bottom. The regular rotation of the drill insures the delivery of each blow at the point of greatest efficacy, each wing of the drill-point striking at a point just far enough in advance of the cut of the preceeding blow to chip away the rock lying between. With a pressure of 10 pounds, the blows of the drill would be equal to those struck by a 200 pound sledge in the hands of a man wielding it. Forty-six and eighty pounds pressure may be used with corresponding results. A great advantage possessed by this drill is its portability. It weighs but 140 to 490 pounds, according to size of cylinder and length of stroke, and is easily managed by two men. One of these may be seen in operation at Booth's Foundry. The general agent for the Coast, Mr. Wm. S. Pinney, 418 Montgomery street, will supply further information if desired.

The capabilities of this implement in boring the hard rock of the upper portion of New York city, are thus spoken of by a local paper. "During the short time that we spent at the works, we saw a large 3¼ inch hole carried down at the rate of 2½ inches per minute, and in boring an inch and a quarter hole in a hard mass of rock, the drill penetrated with as great rapidity as would an inch and a quarter auger in hard wood in the hands of a skillful carpenter. There was no hesitation, no getting out of order, no breaking down. The drill was placed in position in less than five minutes, steam was turned on, and the hole commenced with as much ease and regularity as attends any, even the simplest, mechanical operation.



INGERSOLL'S PATENT DRILL.

Discount on Silver.—The following Associated Press dispatch is dated New York, Oct. 11th. The effects of the general stringency the currency market have placed silver at a discount when sold for currency. The exact cause of this decline is not easily comprehended. Before the panic, silver was rated at a premium of 5¼ per cent., but the crash has had such a perceptible effect upon it that during the days of the crisis individuals offered it to dealers in large and small quantities for par, and in some instances at a fraction less discount for currency. Yesterday a Wall street firm doing a large business in the purchase and sale of gold and silver coin, absolutely refused to buy a lot of $10,000 worth offered them at par; currency was preferable for them to hold, and the time wasted in counting silver coin could be more advantageously used. A dealer said yesterday there was only about $10,000 worth of silver coin in New York. About this period of the year a certain portion of the quantity of silver in the home market is bought by silversmiths and jewelers for manufacturing purposes; but as their trade is dull, owing to the financial troubles, this portion of silver remains in the market.

The contributions among the miners for the benefit of the families of the men killed by the late explosion in the Yellow Jacket mine, reached quite a handsome amount.

A large lot of new machinery has been ordered for the Crown Point mine.

Indiana Gold Mines.

Every now and then we hear of gold finds in some of the Eastern States, but we hear of them only once or twice, when an ominous silence ensues, which, if occurring under similar circumstances in our "Land of Gold," would be a very strong indication that expectations were not realized. Indiana is the last locality heard from in this connection, and Mr. William Macy, of Mooresville, Morgan county, writes us that there are fair prospects for a rich gold field being developed in that section. About five miles from the town referred to begins a range of hills, extending southwest along White river to the southern part of the State, in which there are several places where minerals have been found. About six miles from Mooresville, southwest of the place, is a small creek in which gold has been found in considerable quantities, according to our correspondent. He says he has seen from twenty-five to two hundred colors washed from a pan of dirt or gravel; and it seems to be scattered in greater or less quantities for several miles up and down this creek, which is a tributary to White river.

Some prospectors have lately been at work on this creek and have met with pretty good success; but the scarcity of water prevents any extensive work. Mr. Macy says he has examined the field two or three times and has washed out quite a number of colors. He thinks hydraulic mining machinery would have to be used to make the mines pay. The hills are in some places covered with gravel and sand which could be easily washed down. In some of the ravines lumps of gold have been found, containing several dollars, and at the mouth of almost any of the gulches colors can be found. The richest land yet found is, however, about twenty-five miles southwest of Indianapolis. Some preparations are being made to wash out the gravel by parties there. They have built a dam, and intend washing on a small scale in what they call a "plaster mine," as soon as they can get water. Mr. Macy expresses his inclination to answer any questions concerning the locality which people interested may wish to propound.

Morey District.—We find the following item clipped from an exchange, which we are unable to name: Mr. L. A. Dochez, of the Morey Mill Company, arrived here yesterday from Morey, Nye county. He reports that the mines in that locality are turning out very rich ore, and that the mill which is being put up will be ready to run by the 15th of October. Several new ledges of which the croppings assayed into the hundreds, have been located by Mr. D., which joined to the 18 mines already developed by the Morey Mining Company, will keep the mill in lively operation.

Quicksilver.—During the past nine months $227,800 worth of quicksilver has been exported in steamers and sailing vessels from this port, besides what has been sent by rail.

The Eureka Mines.

We see by the *Sentinel* that the total bullion shipment from Eureka for September was 3,065,643 pounds, an increase of 633,051 pounds over the preceding month. Of this the Richmond shipped 1,860,000 pounds; the K. K. Consolidated, 475,000 pounds; Eureka Consolidated, 429,218; Ruby Consolidated, 237,323; and the Hoosac, 63,511 pounds. The result of the working of the Richmond Company's mine and furnaces during the month is said to be the greatest ever attained in the district, if not in that portion of the State. During this time the Ruby Consolidated was shut down after about the middle of the month and the Eureka Consolidated had but one furnace in operation. It is said the owners had more difficulty in finding teams to haul the bullion to the railroad than they had in getting the bullion. An increased yield is expected this month.

In this connection the following condensed statement from the annual report of the Secretary of the Eureka Consolidated mine will be of interest. The meeting was held in this city on the 13th inst., and the following Trustees were elected: Thomas Bell, James Findla, G. W. Kidd, W. H. Osgood and John W. Shaw. The financial exhibit of the Secretary was as follows:

RECEIPTS.

1,981 tons ore, product 1872	$653,656
2,339 tons ore, product 1873	878,788
Sale of Lookout mine	85,000
Miscellaneous	4,287
Total receipts	$1,631,731
Cash in hands Superintendent, Oct. 1, 1873	1,714
Overdraft Bank California, Oct. 1, 1873	3,558
Overdraft on bullion shipments	171,311
Total	$1,808,314

DISBURSEMENTS.

Construction and improvements	$ 9,953
Mine account	291,794
Smelting account	344,920
General expenses	25,214
Expenses at San Francisco	8,534
Interest on overdrafts and notes	28,494
Transportation and refining charges on bullion	289,511
Legal expenses	67,163
Dividends	200,000
Miscellaneous	43,944
Total disbursement	$1,308,637
Balance overdraft Bank California, Oct. 1, 1872,	169,328
Balance overdraft bullion shipments	328,589
Cash in hands Superintendent, Oct. 1, 1873	1,760
Total	$1,808,314

RESOURCES.

Cash	$ 1,760
Supplies at Eureka	14,607
Charcoal	9,908
888 tons base bullion, product 1873	288,625
	$314,899

LIABILITIES.

Overdraft Bank California	$ 3,558
Overdraft bullion shipments	171,311
Superintendent drafts, not presented	15,613
Bank accounts, not due	1,463
Bills payable	50,000
Total	$241,945
Surplus over liabilities	72,954

The cost of extracting and hauling 25,692 tons ore was $387,450, or $11.18 per ton, and the cost of smelting 26,155 tons ore was $480,-527, or $18.37 per ton. The reduction of 26,155 tons ore produced 3,227 tons base bullion, or 8.04 tons ore to 1 ton base bullion, the cost of producing the latter averaging $237.66, while the transportation and refining charges are about $78 more.

The death is announced of Miss Elizabeth Carne, a Cornish celebrity. She was for years a frequent writer in the London *Quarterly Review*. She was thoroughly versed in geology and mineralogy, and classified and arranged every specimen in the mineralogical museum of the Royal Geographical Society. A mineralogical museum of her own at Penzance is now nearly finished. In addition to her rare attainments, she was noted for great benevolence.

CORRESPONDENCE.

Quicksilver Metallurgy.

EDITOR PRESS:—Yours of Oct. 4th, 1873, contains an extremely funny article, written on a subject of which the writer is evidently entirely ignorant, or upon which he is *non compos*. It is of course the article on Quicksilver to which I refer. Such delicious nonsense has not even ever been ventilated by our native born "scientific cusses." One would think that the young man who wrote the article had really been engaged in quicksilver metallurgy, and that it had had its usual effect. But no, quite the reverse, he is still seeking the honor of making his first pound of quicksilver, and proposes to do it by means of a drawing some hundred feet in length. If drawing could do it, or rapid writing, no doubt Mr. Bankert—Hubert Bankert M. E—just installed Superinteudent Napa Q. M. Co. (bankrupt) would do it. But whether he will be able to "bring science to bear upon this subject" is so gloriously improbable, that "Quicksilver Metallurgy" need not be afraid of the burden. It is hardly worth while to pick the article to pieces; probably few will read it through and all will laugh that do. But just for fun, let us go at it.

"The present wasteful and unsatisfactory method of treating cinuabar demands an entire change." What general stuff in the face of experience! No such change is demanded; quicksilver is worked cheaper and to as high a percentage as most metals. "More than half the mercury in the ore is lost to commerce and every pound so lost is at least a dollar out of the pockets of the owners."

Sweet innocence! What refreshing coolness of one just hatched, and of one not so much as introduced into the business of making quicksilver! Poor fellow, half or more is lost? You have nearly guessed aright; you are only out 30 or 50 per cent. You must learn than the the world of mercury is not composed of old and new Almaden, whose figures you are using. Because Comstock ores only yield 65 per cent. of their value, you cannot say that silver is only extracted to that percentage.

But how the poor owners of mines are ont a dollar for "every pound" lost, is not so clear. No doubt the young man forgot that it might cost something to produce that pound. However, that was immaterial!

In regard to the percentage produced, the truth of the matter as demonstrated by competent authority—say by such men as Knox, Luckhardt, Osborne and Lockhart, is, that as high as 90 per cent. can be and is saved of the appreciable mercury in the ore. This holds good, especially on low grade ores, say from 0.5 to two per cent. And this, in what our facetious friend is pleased to term "open vertical furnaces." Not so, however, in the old retort furnaces. Here, the loss is so irregular and difficult to arrive at that "guesses" are better than tests, and are universally adopted, just as Mr. "Hubert Bankert M. E." does so persistently throughout his article.

We will have to skip over the following lines in the wonderful production, (20 of them, read them reader, but remember you were warned beforehand) they are too jumbled, not to say senseless. Although from an M. E., there certainly is no sense in them whatever, leaving it to the readers to decide themselves.

And now dear reader, prepare for a stunner: for it is a stunner sure! Friend Hubert Bankert, M. E., actually writes the following. You can find it in the number of this journal above given; page 210, line 26, *et seq:*

"The heat employed to reach the center of the lumps is in every case I have witnessed far too great; indeed, I have seen it as high as 2,000° instead of being under 700°, and a large portion of the mercury so liherated is destroyed for any practical uso before it enters the condensers."

Tell us, bright and brilliant star from the East—aye, "far East"—say somewhere from the tangled mountain sides and quicksilver mines in London; tell us, what is an element? He who can "destroy" an element, possibly can also change, transmute or make one. Perhaps our little joker "M. E." can make gold. Deal with him gently!

The following fifteen lines, commencing with "Again" etc., contain the sweetest mingling of two perfectly different subjects, that one can imagine. Poor boy! Go and ask Mr. Knox how many bricks he would have to work, to get enough quicksilver to salivate a grasshopper. Go and ask McQuaide, at Oakland, how many *furnaces* he would have to pound up and extract the quicksilver, to get enough money, to pay for the paper upon which your drawings are shown! "Hitherto the prevailing idea has been that space was the great desideratum for its condeneation; this is an error; no matter how small the chamber, indeed, the smaller the better, provided it is kept perfectly cold." Now for heaven's sake, who told you so? Tell him he is "a liar, a horse-thief," nobody that knows anything or is not an idiot, said, or has thought so.

But, Mr. Editor, as I am running into length; I'll skip another dozen lines, as too immense. But let us pick this gem!

"If furnaces are properly erected, there is no need of artificial draught; it would probably be more necessary to regulate the draught by dampers."

Of course! To be sure! Who would have thought it? Great God, what idiots our quicksilver people have been!

But now listen! Now for figures! "In our works alone, out of 1,600 tons worked in this way, only an average of 8¼ pounds per ton was obtained, where the ore treated contained by repeated assays from 20 to 80 pounds per ton. The loss was simply enormous." This is what Mr. Hubert Bankert, Mining Eogineer, by the grace of God, (certainly by an inscrutable Providence,) Superintendent of the company says. Young man, you have just come here; you may not know a thing about it, as you may have been deceived, but you certainly do not tell the truth by a long shot. Let me offer a little more correct version.

You are correct in some things; 1,600 tons is good; 8¼ pounds, per ton is scant; 20 to 80 pounds per ton is a downright constructive—well say—mistake. You should have said from 5 to 15 pounds; 80 pound assays may have been made, but they were few and far between. Angels' visits might even have relieved the tedium of the intervals!

Aha! Here we came to the "little joker;" he was hidden under a terribly thick hat! "My Plans" etc. For this then, everything being done, is "erroneous" "wrong" and "without science."

Gentlemen, you can find these "Plans" at the rooms of Mr. H. B—.,M. E., at the Cosmopolitan Hotel. To enable him to exhibit them, he has temporarily leased the hall also.

Young man, first go and learn, then go and learn again, then go and work, and learn and do what others know and do practically, and then experiment. By and by, make some plans.

Do not, as you love science, reverse the order. Don't help still further to damn "scientific cusses."

E. N. RIOTTE.

Oakland.

Notes of Travel in Nye County, Nevada.

(By Our Traveling Correspondent.)

Belmont,

The principal town in this county, is the county-seat; it contains about 250 inhabitants, some 3 lodging-houses, as many restaurants, and some 8 mercantile firms. It is located 85 miles south by east of Austin, and about 175 south of Battle Mountain, Nov., the point of divergence from the C. P. R. R.

The total distance from San Francisco, is 697 miles, and the fare $64.25. From Battle Mountain the travel is via O. Tuller & Co.'s stage line; there are fine four-horse coaches to Austin, and from Austin to Belmont there is Tuller & Cluggage's line of stages. The time occupied in transit between Battle Mountain and Belmont is 32 hours; fare, $30. Since I passed over this route, one year ago, the road has been shortened some 3 miles, and otherwise improved; so that there is less dust, shorter stations. The restaurants along the road are very fair, but they still adhere to '49 prices, one dollar per meal. The town of Belmont is located near the center what is known as

Philadelphia Mining District,

Comprising nearly all the mineral land of Nye county, which is one of the largest counties in the State. The proprietors of mines and mining operators, together with the business men of this district, feel hurt at the course of the press of this coast in general, from the fact that they ignore the Philadelphia Mining District, and always quote the news of all mines in, and around Belmont, as from Reese River District; the latter is a fine district of itself, and therefore should accord to the former its just due. The following shipments of bullion, for the first eight months of this year, will show that the mines are of some account; through the politeness of Mr. Geo. W. Emerson, Agent of W., F. & Co's. Express, I am able to give your readers the

Bullion Shipments from Belmont, Nev., for 1873.

1873.	No. of Bars.	Weight (lbs.)	Value.
January	34	5,229	$58,816,96
February	17	1,534	27,508.54
March	67	6,111	113,612.79
April	47	4,580	76,224.42
May	74	6,954	79,486.44
June	30	3,438	69,213.83
July	56	5,631	70,428.99
August	30	2,907	42,644.45
	355	34,334	$537,936.42

The mines of this district are as follows:

El Dorado South Cons. M. Co.

This incorporation's mines and mill are located one and a half miles east of the town of Belmont, in Nye Co., Nevada, and consist of the El Dorado South and Arizona mines, containing jointly 1,600 feet of location, running nearly north and south. On my visit last year the main incline shaft on the El Dorado South mine was down 440 feet on an incline of the ledge, which averaged about 30° to the eastward, with about 450 feet of drifts north and south from the different levels. Now the main incline is down 490 feet, at which point a drift is started both north and south on the course of the vein. Ore of a low grade is found at this point, but it is expected that when these lower levels are run to the point under which rich ore chambers did exist, that the same will be found again. The upper levels are still being worked, yielding some ore, the bulk of which, however, was extracted last year. It is very probable, indeed, that the ore body in this mine at greater depth will prove even richer than above.

A new boiler, 16 feet long by 52 inches in diameter, is just being put in position, to take the place of the old ones, now nearly useless. When in place, they will have an engine of 120 horse-power, and be able with this power to develop the mine to a depth of from 800 to 1,000 feet. This company is extracting about 25 tons of ore daily, of all grades, and working 70 men in all positions in and about the mine. They are now more particularly engaged in improving, tearing down, remodeling etc. Within a short time, however, they will be in position to take out more ore than double the capacity of their 20-stamp mill, which is located about one-half mile east of their hoisting works, on the El Dorado South mine. This mill has, as above stated, 20 stamps, six pans and three settlers, also a Stetefeldt furnace of the largest size. The capacity of their mill is about 22 tons daily (24 hours), employing 16 men. Their ore averages about $40 per ton in silver—that is, the free milling or second-class ore. The ore that is roasted will average probably $100 per ton, and runs as high as $120. Mr. John White, late of Grass Valley, is the general superintendent, and William Alperson, mining foreman. Under the present management things are receiving a general overhauling, and look rather lively.

Belmont S. M. Co.

The mines of this corporation consist of the Mouitor and Independence, containing jointly 1,400 feet of location, running nearly north and south, and located about 1¼ miles southeast of the town of Belmont. The country rock in this company's locations is slate, with an occasional put in of porphyry on the foot-wall. The ore body pitches to the east, at an ang'e of about 40°, running from 4 to 8 feet thick. This mine has two tunnels run in to intersect the ledge. No. 1 is in 280 feet, and cross-cut about 125 feet; No. 2 tunnel is in 527 feet, intersecting the ledge at a point 240 feet below the workings in tunnel No. 1. In this lower tunnel (No. 2) they have run a drift north 300 feet on the ledge and south 60 feet, showing plenty of ore of a low grade, which will mill from $40 upward. At a point 174 feet south of tunnel No. 2 they are engaged in sinking a vertical shaft, now down 94 feet, that will tap the water level at a depth of 200 feet; from there a drift run to the westward will bring them to the ledge at a distance of 184 feet. The principal object of this shaft is for deeper development, and to have less distance to elevate the water in the mine, which is in quantity in all the mines on this hill, at a certain depth. This shaft is 9 by 4 feet in the clear. There are are about 600 tons of ore on their dumps that will mill about $40 per ton. This company own a twenty-stamp mill, known as the

Monitor-Belmont Mill,

Located about three-quarters of a mile southwest of Belmont; which has a capacity to reduce, and is now reducing, 22 tons of ore daily (24 hours). This mill is dry crushing; has 7 pans and 5 settlers. Ores are being worked at this mill by the Rowe process, netting 90 per cent. of the assay value. The last 1,000 tons worked averaged $41 per ton in silver. The capacity of the two engines at this mill is about 45-horse power. One engine drives the battery, the other the pans. They work regularly 18 men. A fine Stetefeldt furnace is attached to this mill, but is not now used. The mill and mines of this company are superintended by Mr. Samuel McMasters, formerly of Bullionville, Nev., and the mill foreman and assayer is Mr. R. D. Millet. The management of this mill have invented something new for getting rid of the dust at a dry crushing mill, and turn the dust to a valuable account. It consists of a pipe 12 inches in diameter, extending from the Stetefeldt furnace to each of the batteries; the result is a strong current of air (that is naturally created by the hight of the furnace chimney) which attracts the dust from each of the batteries; and the greater part of it is carried from the batteries to the furnace. Every few days this pipe is cleared out by hand, requiring but a few moments. This simple contrivance saves this company about 8 tons of this dust monthly, which used to go to waste, into the machinery and the lungs of the workmen. This pays them as much per ton as the rock they crush—say $40, or an aggregate of $320 per month. An additional saving made by this contrivance in the consumption of oil alone, is ten cases per month. It was introduced here some eight months since. I noticed no more dust around the batteries of this mill than any wet-crushing mill I ever visited. I pronounce it a success.

Belmont Mining Company.

This Company's mines are located about half a mile to the east of the Monitor and parallel to it. The three locations are called the Highbridge, Transylvania, No. 1, and the Canfield and Transylvania, No. 1, containing, in the aggregate, 4,600 feet of locations. Mr. J. F. Cassell is Superintendent, and Joseph Pottbast is the mining foreman. Since my visit to this place last year, the hoisting works were completed on the Highbridge; but their hoisting apparatus, consisting of a bucket to hoist the water with, has proven to be of too small a size. At this writing, Sept. 17th, they are idle at this shaft, awaiting the arrival of a steam pump.

The incline shaft of the Canfield, that was down one year ago 300 feet, is now down 100 feet deeper, and they are now drifting on the ore-body from this point. There are

Other Prominent Mines,

Not now being worked, extending north from the above locations. This lode, known as the Highbridge, is traceable for from five to six miles, and some few years back some 15 or 20 locations were developed to from 20 to 100 feet deep each. Of the owners—some have died on the frontier unknown, others made fortunes elsewhere and will never return; and still others are too poor ever to get back. The mining laws of this camp will not admit of a relocation, unless an abandonment can be proven, which is a pretty hard job to do. So an immense amount of fine locations, (which in reality belong to nobody) are lying idle and cannot be worked by anyone, as there is no protection for the second parties. These prospects that were considered poor property ten years ago, because they would not net $300 or $400 per ton, when ores had to be hauled some 100 miles or over for reduction, are now valuable at any point above $35 per ton, as there are plenty of mills in the district. Prospects from the above, run over $100 per ton, and some 75 tons worked from them run from $50 to $75.

About two miles north of the town of Belmont, on this ore belt, is located the

Green and Oder Mine.

This mine is owned by four partners, P. Farrell, Thos. Warburton, Barney Mullen and John Grimes, and contains 1200 feet in the location. It has been worked up to within a few weeks, and is developed to a depth of 120 feet, following the ore body, which dips east at an angle of about 45°. The ledge matter between the walls is from 6 to 8 feet thick. About 30 tons of ore have been extracted from this mine, which averagod $300 per ton. Prospects have been taken from this mine ranging from $175 to $800 per ton, but there is as yet no fixed ore body in this location, as they are not down deep enough, although the walls, which are of slate with a heavy clay gouge, are just as smooth as glass, and there is every indication of a fine mine at a depth of, say, 200 feet. In a few weeks at most they will put a full force on this shaft to sink it to that depth. At present it is idle.

From Austin and Battle Mountain Districts in my next.

L. P. Mc.

Quicksilver Extraction.

EDITORS PRESS:—I notice in your issue of Oct. 4th an article under the above heading, advancing some new ideas and many old ones, which perhaps are new to many of your readers, as few except those particularly following that branch of industry can be expected to be up to the improvements made and making in that department of reduction. There are therein many scientific facts clearly stated, and some other things stated as facts to which I cannot assent, and must ask for proof.

It is asserted that the heat in the furnaces is often as high as 2,000°, which I believe is true, and that it is unnecessarily hot and a waste of fuel; but I cannot admit that any mercury is thereby destroyed. Furnaces using such a heat are badly constructed, or badly handled by the operatives. I have known cases where the ore was put into furnaces so fine that the fire could not penetrate the mass of ore, except near the sides of the furnace, and a great heat was kept up to heat the center of the charge, which would have been unnecessary if the ore was of such size that the fire could have passed through the ore as was intended, and as it must to be a success. Other furnaces are so constructed that the ore stays in the fire but a few hours, and to extract the mercury in the time it remains in a red hot state, it must be very hot or some mercury will remain in the ore when drawn from the furnace. I have seen the effect of this high heat in a semi-fluxing of the rock on the surface, thus shutting in the remaining mercury beyond the possibility of escape. But these cases are the abuse of the true principle of construction and working a furnace, and no argument against the furnace as an institution. You have found it very difficult to treat the soot, "even with the addition of lime or boiling." I should think it might be difficult to treat the soot by the latter process, but never having tried it, it is mere speculation on my part, but with lime and a little manipulating with the steam engine, we have no trouble or difficulty, nor loss of labor.

Another difficulty or danger in the way is given as "the facility of fracturing" the cast iron condenser in transitu from place of manufacture, to where used at the furnace. Now there have been one hundred and fifteen of these condensers, "of peculiar construction" made and put in operation in this State, and not one has been thus far broken, nor even fractured so as to prevent its being set in its place and successfully used.

And I will here state the reason why cast iron is preferred to wrought. The first cost is much less, and they will last twice, or thrice, as long. This double advantage is deemed sufficient to justify the risk of breakage.

Your correspondent asserts that a fan is used about many of these works, and puts forth a conundrum: "Why should this appliance be required here any more than in the deposition of arsenic?" Well, I give it up. But in the reduction of cinnabar by furnace, it is necessary to save the mercury, and to save the men who operate the furnace from its effects.

In a properly constructed furnace with a suction fan for an aid to the draft, there is no mercury escaping from the furnace or conden-

sers, even if there are defects, (unless very great ones, when they must be remedied), except through the fine prepared for them, and by this they are conducted far enough to leeward, to prevent their return to, or about the furnace.

It is well known to those engaged in the reduction of cinnabar, and to all scientific persons, that the vapors of mercury and sulphur are very heavy, much heavier than the atmosphere, hence they will not rise through a chimney unless quite warm, and the older style of furnaces all have a fire place about the chimney or near it, to aid the draft, or to produce the artificial draft objected to, and it is not an infrequent occurrence in such furnaces, that the vapors refusing to rise through the flue and chimney, force themselves through the condenser doors and drive the operatives from their work till the fire in the chimney produces the artificial draft. This work the fan does constantly, and renders it impossible for the vapors to break from their inclosure.

I have to frankly confess that I am one "of the adherents of this novel plan," and I claim to save about 99 per cent. of the mercury actually in the ore. When I say this, I do not mean 99 per cent. of some mythical amount obtained by operating with a few grains and a blow pipe or acids, from a piece of ore supposed to be an average of a lot. But I do mean this: that by "this novel plan," I will convince your correspondent or any one who will take the trouble to look into the matter, that the reduction of the ore is complete and not a trace of metal left in it; that there is nothing absorbed by the furnace; that there is no metal lost in the passage of the vapors through the condensers and flue until the end of the flue is reached. At the outlet some mercury escapes, and it is a question yet to be determined how far it is profitable to continue the traps in which we catch the mercury. That the "novel plan" is aiming in the right direction does not admit of a doubt, and if more condensers and other appliances are profitable, they are easily added. The offer heretofore extended to you and your scientific friend is extended to your scientific correspondent, that he can obtain ten dollars a pound for all the mercury he may save over and above one per cent. of the amount saved by the "novel plan" from the vapors sent forth from the coke chimney at the end of the flue. I also invite your correspondent to prospect the grounds around our flue, (we have no chimney) for a rich strike.

The operations of the furnace on the "Napa Mine," as described by your correspondent, are certainly a bad showing, and if that sums up his experience in furnaces, no wonder he prefers the "stage coach" retorts to the "railroad" furnace. That experience could put the richest mining company on this coast into bankruptcy, "the lo s stated" is so "enormous."

Retorts are proposed as a remedy for this enormous loss. Retorts in their place and for many uses, are better than anything yet devised to serve certain purposes. In the reduction of cinnabar they do the work well. But are they superior in the reduction of cinnabar to a furnace rightly constructed in the quality and economy of operation? I propose to take the negative on this question, and will give you my reasons therefor. To those unacquainted with this business, I will say the first item of this reduction is to reduce the ore fine, (the finer the better). This crushing must be done dry, or, if wet, must be afterwards dried before it can be put in the retorts.

This dry crushing cannot by any known process be done for less than $1.50 per ton, and most mill men put the cost higher. It then requires at least one barrel (200 pounds) of lime to each ton of ore, costing at the mines not less than $2 per barrel,—often more. For fuel and labor the cost per ton will not be less than $5, when done on a large scale, (and more on a small one), making $8,50 per ton. If your ore is rich, it will pay; if low grade, you must concentrate it at considerable cost, and some loss of cinnabar, for by no process of concentration can you save all the cinnabar, and the closer you concentrate, the greater the percentage of loss. Now this "novel plan" furnace will take the ore without crushing, and also take all the fine ore produced by a mine working in ledge without making an "adobe," and it can be reduced at a cost not exceeding $1.25 per ton of 2,000 pounds, so cheap that it is unprofitable to employ many "sorters" to break off the waste rock except the larger portions, it being cheaper to put a few tons of "waste" through the furnace, than to employ men to break it off. I speak of my own knowledge of the cost by the "novel plan," and of the best style of retorts heretofore used, and not of those soon to be patented by your correspondent, which he claims will reduce "72 tons every 24 hours, at a cost of $1.50 per ton."

Excuse me, Mr. Editor, for having used so much of your valuable space, but progress can only be made by an interchange of ideas. "Try all things—hold fast that which is good."

"Novel Plan."

Combustion of the Diamond.—An experiment lately made by Mr. Spence, of Manchester, seems to prove that under certain conditions the diamond is combustible at a much lower temperature than has been hitherto supposed. A South African diamond of the size of a small pea, coated with refractory clay, was placed in a crucible with a mixture of soda and hydrate of lime, and then heated in a muffle for three days and three nights. On opening the mass, it was found that the diamond had entirely disappeared, although the heat had never exceeded a cherry-red.

Mechanical Progress.

Wind and Water as Motors.

A writer in the *European Mail*, discussing the subject of wind and water as motors, says: In the case of a ship, there are two things to be considered. The pressure of the wind is of two kinds: 1. That upon the sails, which could be applied to machinery, and of which a certain proportion could be converted into energy, and applied to moving the vessel. 2. That upon the hull, rigging, &c., the total amount of which (added to the increased pressure by any supposed advance) must be deducted from that available for conversion. Mr. Schuckt gives his machine what Archimedes is said to have required in order to remove the world, *a point d'appui* outside of it. He had much better set about making a model which would realize some actual conditions, and tell us whether it has worked its way across a pond against the wind. When he can make such a statement, the matter will be worth inquiry as a mere interesting application of principals. Till then discussion is simply waste of time, because although the conditions are different from the usual perpetual motion nonsense (as it is not perfectly clear how large a proportion of the wind pressure could be applied to the machinery), yet it is perfectly certain that no practical benefit whatever could be obtained, and that such machinery would simply be an enormous outlay, made for the purpose of doing less advantageously what can be done already in a much simpler manner by means of sails. Of course, when a ship is working to windward, the pressure of the wind is really so applied as to overcome itself, and give a surplus energy; and this is effected by means of the friction of the water and the hull. Mr. Schucht might attach his windmill to a truck, substituting for the screw an axle and gearing to the wheels; he would then see whether the apparatus had power to drive itself up in the face of the wind upon a plank or rails. Even this, however, would give conditions much more favorable than those of a ship, because with the wheels locked, as would be the case, at least (the sails acting as a brake), the wind would not be able to drive the truck backward except in a strong breeze, while a ship would have no such bite upon its supporting water, but would drift freely. Rig a windmill, the axle of which should be supported by a spring balance, which would measure the pressure of the wind when the sails were fixed, and also when free to revolve. Affix gearing which would raise a weight, and measure the wind pressure with varying weights and velocities. Such experiments, frequently repeated in steady winds, would soon show how much of the wind pressure could be converted into work available. With a vertically mounted windmill, the axis would have to be mounted on a bridle, or fitted with two balances to support it against the pressure.

Covering Steam Pipes.

A new method of covering steam pipes has been patented by Herr Weiss, civil engineer, which is coming rapidly into use in the mines in the district around Saarbrucken. It has proved very efficient, and is applied in the following manner. A coat of thin loam wash is first given to the pipes, which serves to increase the adhesion of the mass with which they are to be covered. The mass itself consists of equal parts of loam or clay, free from sand, and brick dust, with an addition of calves' hair. After being well mixed, it is applied to the pipes in a hot state. For better securing this coating, wood splints, 0.26 metre long, 22 millimetres thick, and 13 millimetres broad, are laid along the whole length of the pipes, and fastened by thin iron wire. After again applying the loam to the dried mass till all the cracks have disappeared, the pipes receive another coating of the composition, until they feel quite cool, which will be the case after it has been laid on to the thickness of from 124 to 140 millimetres. A coat of cement and linseed oil is finally given. The above method answers at present all requirements, the covering being perfectly air-tight and free from cracks. The mass is not hygroscopic, a property fitting it especially for pipes in the open air. The cost of the covering per foot of 8-in. pipe, is 12c., the expense of the old method amounting to nearly 16c.

Atmospheric Telegraph at Paris.

The name, Parisian Atmospheric Telegraph Company, is somewhat a misnomer. By telegraphing we understand the transmission over wires of messages by means of electrical signals. The system we are about to describe briefly is exactly similar to that which has been in successful operation for some time in London, for the distribution of mails to and from the different post offices. It consists in the propulsion through tubes of small carriages containing within them messages, etc. These tubes are of small dimensions, and laid down beside the gas and water-pipes. The system is composed of sixteen tubes, each of which is about 1,300 yards in length. These sixteen tubes, placed end to end, are separated by sixteen telegraph offices, the distance between each of which is traversed in rather less than a minute. The carriages might be sent more rapidly, but the speed mentioned is quite sufficient. The oldest part of the work was constructed during the time of the Empire, and consists of six tubes forming an almost regular hexagon. These tubes are traversed every fifteen minutes by *trains* of small carriages or boxes which move with the sun.

On this central system are grafted two branch systems and three single lines. Counting stoppages, the trains travel at the rate of more than a mile in five minutes. It is said that, when properly delivered, a message should not take longer than when sent in a cab by a special messenger. The *trains* are propelled by atmospheric pressure, which is obtained by means of an ordinary air-pump piston. The despatch and reception of trains is communicated from station to station by electric telegraph signals. The simplicity of the operations is manifested by the fact that three men suffice for the work of the central station, one of whom is also employed occasionally as messenger. The principal work of the system, as may be gathered from its name, is the distribution through Paris of telegrams from the provinces.—*Canadian Patent Office Record.*

Scientific Progress.

Increasing Temperature of the Earth.

When Alexander von Humboldt wrote the "Cosmos," the deepest known bore-hole was that of Oeynhausen, near Minden, in Westphalia, reaching to a depth of 2,220 ft. Rhenish, or 2,284 ft. English. Since October, 1872, however, the great bore-hole, which was sunk through rock-salt at the village of Sperenberg, near Berlin, has reached the considerable depth of 4,052 ft. Rhenish, or 4,160 feet English, undoubtedly the greatest depth which has ever yet been attained. This bore-hole was used for making observations on the temperature of the earth's crust, and Oberbergrath Dunker, of Halle, has recently published a pamphlet on the results obtained. For these observations Walferdin's ordinary maximum thermometer could not be used, but the so-called gas-thermometer of Magnus was substituted for it. The temperature obtained was at

Rhenish	English	Fahr.
ft.	ft.	deg.
100	102.9	52.7
1000	1029	73.8
2000	2058	91.4
3000	3087	109.4
4042	4159	118.6

With respect to these results the author remarks, that in this bore-hole, which is filled with water, regard must be taken to the circulation of the latter, as the warmer water at the bottom, having the least specific gravity, has a tendency to rise, and the upper strata an opposite tendency to sink to the bottom, consequently, when measuring temperatures in very deep bore-holes, the index of the thermometer must show somewhat too high near the surface, and somewhat too low at the bottom for the actual temperature of the rock.—*Eng. and Ming. Jour.*

The Oxyhydrogen Light.—M. LeBlanc, gas tester to the city of Paris, considers it proved that the manufacture of oxygen on the large scale is quite practicable. The proportion of nitrogen present was not found less than from 13 to 14 per cent., and, from a variety of causes, a higher standard of purity can scarcely be expected. There has been no opportunity of verifying the inventor's statement concerning the length of time—a year at least—that the manganate of soda will serve without revivification. To keep the reagents in a serviceable state in the retorts, the air admitted must be previously deprived of its carbonic acid. His conclusion is that the Company Tessie du Mothay has not been able to show any commercial economy, and that, for an equal amount of light, the system is more expensive than lighting with ordinary coal-gas. There may be certain special cases where this light, possibly too brilliant for ordinary use, will be advantageous. The hygienic employment of oxygen in hospitals is neither practically useful nor preferable to good ventilation. In certain cases, an excess of oxygen in the air might have an unfavorable influence. As regards heating and metallurgical operations, if we except the extraction and fusion of platinum by Ste.-Claire Deville's method, it is by no means demonstrated that this gas would be preferable to atmospheric air.

Lead.—G. Brügel remarks that the more free from impurities lead is, the more readily does it stain the hands, linen, &c., when handled. Impure lead is almost always much whiter, and softer than that which is less adulterated. The impurities with which lead is most commonly contaminated and which unfit it for many technical purposes, more particularly that of white lead making, are sulphur, iron, tin, antimony and copper. Pure lead melts at 330° to 335° Cent., and in closed vessels is volatile at a white heat. At a little below its melting point it is brittle.

Artificial Cryolite.—Crude or, better, distilled hydrofluoric acid is taken containing 5 per cent. of anhydrous acid and half saturated with pure alumina. A solution of sodium chloride is then added until the mixture contains three equivalents of soda for one of alumina. The precipitate is artificial cryolite.

Carbonic Acid in the Air.

Sir Walter Trevelyan, in a communication recently addressed to the *Gardener's Chronicle*, starts a curious and ingenious theory on the advantage of a small per centage of carbonic acid in the air. The sedative nature of this gas is well known, and with most animals in a state of nature, sleep comes on at the time when plants commence to develop carbonic acid, that is, at sunset—and it relaxes its hold about sunrise, when plants begin to exhale oxygen. Further, when men and animals compose themselves to sleep, they not only do so in the position which gives the greatest relaxation to the muscles, but they "place the head so as to favor the accumulation of that gas about it, and consequently its inhalation. The head of a man, when at rest, generally lies low, on a soft and depressed pillow, those of most quadrupeds couched between their paws, and those of birds nestled among the feathers of their back or wings," so that in all these cases, owing to the low and confined position of the mouth and nostrils, much of the air must be inhaled again and again, and become gradually mixed with a larger proportion of carbonic acid. He also adduces the fact that the carnivora, who are nocturnal in their habits, retire during the day to deep and narrow caverns, in which the air becoming vitiated by their respiration, tends to promote sleep. The obvious objection to this theory is, that the carbonic acid becomes rapidly diffused, so that the air in every part of the room would probably be found to be sensibly of the same composition.

A Chemical Experiment.—To prove that the inner, dark portion of an illuminating flame contains combustible gases, the general practice with experimenters is to insert into that part of the flame a glass tube, so inclined that a portion of these gases shall rise into it, and thereupon igniting them at the farther extremity of the tube, or leading the contents of the tube by an aspirator into a convenient vessel, when its combustibility can then be directly tested. Mr. Henman has communicated to the German Chemical Society another method, and a simpler one, of accomplishing the result, which seems worthy of notice.

He recommends taking advantage of the well-known fact that a mixture of about four parts of chlorate of potassa and one part of strontium nitrate, heated to fusion, will burn with a very intense flame in hydrogen or illuminating gas, when once the ignition of the oxygen liberated from this mixture is effected by contact with a flame.

To perform this very pretty experiment, the author states that it is only necessary to fuse a small quantity of the mixture in question in a little spoon at the apex of a luminous gas flame, and then to lower it into the dark portion, when a brilliant combustion will immediately ensue; while, when removed to the luminous portion of the flame, or taken altogether out of it, is at once extinguished.—*Jour. of the Franklin Inst.*

A New Poison.—There has lately been discovered a poison called *inea*, which is said to be more subtle than digitaline. It is obtained by pressure from the seeds of *Strophanthus hispidus*, an apocynaceous plant, found in Gaboon, and from experiments made with samples of it, taken from arrows upon which the natives placed it, it appears that it acts more powerfully than digitaline or antiarine, and quickly paralyzes the heart. Three milligrams kill a frog, a sparrow or a dog, though the resistance of several animals varies. A snail, for instance, requires five milligrams; a mouse has withstood three milligrams of the extract (obtained by macerating the seeds in alcohol), while the latter dose kills a dog nearly a thousand times heavier than a mouse. The heart comes to a complete standstill after a few irregular efforts.

Soluble Glass.—The employment of soluble glass in the chemical and industrial arts is constantly increasing, and its value is now fully established. Recently a cement of great hardness and various applicability has been produced by mixing different bases with this singular substance. It is found that, combined with fine chalk and thoroughly stirred, it will produce a hard cement in the course of six or eight hours. With fine sulphide of antimony, a black mass is produced which can be polished with agate, and possess a superb metalic lustre. Fine iron dust gives a gray black cement. Zinc dust produces a gray mass exceedingly hard, with a brilliant metallic lustre, so that broken or defective zinc castings can be mended and restored.

Potash in Plants.—A correspondent of the *Country Gentleman* gives the following table, showing the amount of potash contained in 1,000 lbs. of ashes made by burning different kinds of wood: pine, ½lb.; poplar, ¾lb.; beech, 1¼lb.; maple, 4lb.; wheat-straw, 4lb.; corn-stalks, 17 lb.; oak-leaves, 24lb.; stems of potatoes, 55lb.; wormwood, 72lb.; sunflower stalks, 19lb.; oak, 2¼lb.; beach bark, 6lb. The remaining portion of the ash, consisting of carbonate and prosphate of lime, iron, manganese, alumina, and silica, is an excellent fertiliser.

Chloral Hydrate as an Antiseptic.—Jacobsen finds that chloral hydrate has antiseptic properties, ¼ of one per cent. added to a concentrated solution of albumen (equal parts dry albumen and water) preventing decomposition for a long time.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Oct. 15, 1873.

NAME OF COMPANY.	IN MIN.	SHARES IN MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co	....	....	....	....	....	....
Alpha Consolidated	300	6000	24	21	....	1
Alta	3600	....	....	....	....	....
American Flat	....	30000	10⅛	4	....	5⅝
Arizona & Utah	1900	18000	1⅞	1⅜	....	⅛
Bacon Mill & Mining Co	65	24000	2½	2⅛	....	⅜
Baltimore Consolidated	....	54000	11⅛	6¾	....	2⅝
Belcher	1040	104000	71	64½	....	3½
Best & Belcher	224	22400	6	5	....	½
Bowers	20	5000	....	....	....	....
Bowers	....	16000	1	1	....	....
Bullion	2500	25000	....	....	....	....
Caledonia Silver M. Co	5000	20000	18	16½	....	....
Central	150	10800	12	10	....	1½
Central No. Two	100	20000	6	6	....	2½
Challar-Potosi	2800	28000	40	37½	....	....
Confidence Silver M. Co	130	24960	8¾	6¾	....	1¼
Cons. Gold Hill Quartz	345	20000	2½	2	....	½
Consolidated Virginia	1160	23600	174	139	19	....
Cook & Geyer	1600	24000	....	....	....	....
Crown Point G. & S. M. Co	600	100000	123	96	24	....
Daney	2000	24000	1⅜	1	....	⅜
Dardanelles	1200	24000	....	....	....	....
Eclipse	70	25000	5	4	....	1
Empire Mill & M. Co	75	50000	4¼	3¾	....	⅛
Exchequer	400	8000	8	7½	....	....
Flowery	3000	12000	....	....	....	....
Franklin	....	20000	1¼	....	....	⅜
Globe	1200	48000	13⅜	10⅞	....	1⅛
Gould & Curry S. M. Co	400	16000	26	23½	....	1
Hale & Norcross	184	100000	4¾	3¾	....	¼
Imperial	....	....	....	....	....	....
Indus	2000	80000	....	....	....	....
Insurance	....	....	....	....	....	....
Jacob Little	2000	30000	1½	1⅜	....	....
Julia Gold and S. M. Co	3000	21000	8¾	7	....	....
Justice	95	20000	14¾	11	....	2½
Kentuck	1200	24000	4	3¾	....	....
Knickerhocker	....	....	....	....	....	....
Lady Bryan	3600	36000	....	....	....	....
McMeane	1600	50000	....	....	....	....
Mint Gold & S. M. Co	3000	40000	1¼	1	....	....
Nevada	3600	36000	....	....	....	....
New York Consolidated	800	10000	....	....	....	....
Occidental	1400	16800	61	52	8½	....
Ophir Silver Mining Co	1200	12000	12⅞	10	....	1½
Overman Silver M. Co	1200	24000	....	....	....	....
Phil. Sheridan	2000	30000	¼	¼	....	....
Picton	....	24000	1	40¢	....	½
Rock Island	800	16000	44	38½	....	5
Savage	160	6400	51	46½	....	....
Segregated Belcher	....	10000	....	....	....	....
Segregated Caledonia	....	24000	12½	11½	....	¼
Senator Silver M. Co	....	20000	1¾	1½	....	....
Sierra Nevada	....	24000	13¾	11⅞	1¾	....
Silver Hill	....	24000	....	....	....	¾
South Overman	7600	22800	1	1	....	....
Succor Mill and M. Co	....	24000	....	....	....	....
Sutro	20	50 0	....	....	....	....
Trench	2200	33000	1⅛	60¢	57½¢	....
Tyler	803	20000	1½	1⅜	....	....
Union Consolidated	....	20000	2	1½	....	....
Utah	1400	28000	1⅞	1½	....	⅜
Woodville G. & S. M. Co	1200	24000	56	49	....	4
Yellow Jacket	....	....	....	....	....	....
NEVADA.						
Adams Hill	....	50000	....	....	....	....
Alps Silver Mining Co	800	30000	3¼	2½	....	....
Amador Tunnel & M. Co	....	....	2	2	....	....
American Flag M. & M	....	30000	3½	2½	....	⅛
Arkansas	300	30000	....	....	....	....
Belmont	....	....	4⅜	3½	....	⅛
Bowery	....	30000	1¼	¾	....	....
Chapman Mill & M. Co	....	30000	¼	¼	....	....
Charter Oak S. M. Co	1000	30000	1⅜	⅜	1	....
Chief of the Hill	....	30000	⅞	⅞	....	⅜
Chief East Extension	....	36000	....	....	....	....
Columbus M. & M. Co	10000	50000	....	....	....	....
Condor	....	25000	....	....	....	....
El Dorado South	....	....	....	....	....	....
Eureka Consolidated	....	50000	10⅞	10⅜	....	⅜
Excelsior	....	12000	....	....	....	....
Harper Silver Mining Co	....	30000	....	....	....	....
Hermes	1000	30000	4	3½	....	....
Home Ticket	....	....	....	....	....	....
Huhn & Hunt S. M. Co	3600	36000	1¼	1¼	....	⅛
Ingomar Silver M. Co	1000	40000	40¢	35¢	....	....
Ivanhoe	....	30000	¼	¼	....	....
Jackson	....	50000	¼	¼	....	....
Juniata Consolidated	5000	50000	....	....	....	....
K. K. Consolidated	....	....	4½	....	....	⅜
Kentucky Gold & S. Co	1000	30000	3¼	2½	....	....
Kinston	1000	30000	....	....	....	....
Lehigh	1000	30000	....	....	....	....
Lillian Hall	1000	15000	....	....	....	....
Louise	2400	30000	35¢	35¢	....	....
McMahon	1000	30000	....	....	....	....
Marion	....	30000	....	....	....	....
Meadow Valley	24023	60000	17	15	....	1½
Mocking-Bird	1200	30000	....	....	....	....
Monitor-Belmont M. Co	....	....	....	....	....	....
Murphy	2000	60000	....	....	....	....
Newark Silver M. Co	800	32000	5	4½	....	⅜
Pacific Tunnel & M. Co	....	....	....	....	....	....
Page & Pancoa S. M. Co	2400	40000	1¼	99¢	....	⅛
Peavine	1000	30000	....	....	....	....
Phœnix	1000	50000	¼	¼	....	....
Pioche Silver Mining Co	1000	20000	6	5½	....	1
Pioche West Extension	....	35000	....	....	....	....
Pioche-Phœnix	....	40000	....	....	....	....
Portland	....	....	....	....	....	....
Raymond & Ely	5000	30000	63	61	....	1
Silver Peak	....	30000	¼	¼	....	....
Silver West Consolidated	....	....	....	....	....	....
Standard Mill and M. Co	....	....	....	....	....	....
Star Consolidated	18000	50000	....	....	....	....
Starlight	6900	25000	....	....	....	....
Sterling	....	30000	....	....	....	....
Spring Mountain	....	25000	....	....	....	....
Spring Mountain Tunnel	....	20000	....	....	....	....
Ward Beecher	....	....	....	....	....	....
Washington and Oreole	200	30000	2½	1½	....	¾
Yellowstone	....	....	....	....	....	....
....	....	....	....	....	....	....
CALIFORNIA.						
Alpine	1200	12000	....	....	....	....
Bellevue	8000	20000	....	....	....	....
Calaveras Gold M. Co	3200	20000	....	....	....	....
Cederberg Gold M. Co	....	24000	....	....	....	....
Consolidated Amador	....	....	....	....	....	....
Cottonwood Creek	....	20000	....	....	....	....
Dunderberg M. & M. Co	....	....	....	....	....	....
El Dorado Ind. Quartz M	....	....	....	....	....	1
Eureka Gold Mining Co	1650	20000	20	18	....	....
Gillis	....	24000	....	....	....	¼
Independent Gold M. Co	1500	25000	1	1	....	....
Keyetone Quartz	....	10000	....	....	....	....
Mt. Jefferson	1500	25000	....	....	....	....
Oakville Quartz M Co	....	....	....	....	....	2
Rye Patch	....	....	10	7	....	....
St. Lawrence M. & M. Co	....	....	....	....	....	....
St. Patrick	1800	20000	½	½	....	....
Tecumseh	3000	30000	....	....	....	....
Yule Gravel	400	10000	....	....	....	....
....	....	....	....	....	....	....
....	....	....	....	....	....	....
IDAHO.						
Empire	....	25000	3⅝	3	....	....
Golden Chariot	750	10000	24½	20	4½	....
Ida Elmore	1300	10000	3¾	2½	½	....
Mahogany G. & S. M. Co	1200	20000	7	7	....	⅛
Minnesota Gold & Silver	1070	20000	14¾	14½	....	⅛
Red Jacket	....	....	5	5	4	....
South Chariot	660	20000	3	2½	....	....
War Eagle	1000	10000	2⅜	1⅛	....	¼
WHITE PINE.						
General Lee	1000	20000	....	....	....	....
Mammoth Silver M. Co	1800	36000	....	....	....	....
Noonday	1000	20000	....	....	....	....
Orig. Hidden Treasure	800	21333	7	7	....	....
Silver Wave	....	....	....	....	....	....
Ward Beecher	....	24000	....	....	....	....
UTAH.						
Deseret Consolidated	2400	30000	....	....	....	....
Wellington	....	50000	....	....	....	....
OREGON.						
Virtue	2800	20000	....	....	....	....

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Deling'nt.	Sale.	Secretary.	Place of Business.
American Flag M. & M. Co.	Ely Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K. Spinney, 325 California st
Arizona & Utah M. Co.	Nevada	6	50	Sept 8	Oct 13	Oct 31	J. Macnire 419 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 30	Oct 24	C. F. Balcom, 426 Montg'y st
Chief of the Hill M. Co.	Ely District	3	50	Sept 11	Oct 16	Nov 7	C. S. Neal, 419 California st
Daney G. S. M. Co.	Washoe	7	50	Oct 9	Nov 14	Dec 15	G. R. Spinney, 320 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Oct 13	Nov 18	Dec 13	Wm Willis, 419 California st
Emerald Hill M. Co.	Utah		25	Oct 2	Nov 11	Dec 3	F. Madge, Merchants' Ex
Empire M. & M. Co.	Idaho	5	1 00	Oct 4	Nov 8	Dec 2	W. Willie, 419 California st
Equitable Tunnel & M. Co.	Utah	4	10	Oct 7	Nov 10	Dec 1	O. S. Healy, Merchants' Ex
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow, Merchants' Ex
Globe M. Co.	Gold Hill	4	50	Oct 14	Nov 17	Dec 8	Joseph Maguire, 419 California et
Huhn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 7	Oct 23	T. L. Kimball, 419 California st
Hale & Norcross S. M. Co.	Washoe	41	5 00	Oct 3	Nov 6	Nov 23	J. F. Lightner, 438 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 25	Oct 1	Oct 22	C. S. Neal, 419 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Dec 15	Wm. Willie, 419 California st
Independent G. M. Co.	Cal	4	50	Sept 29	Nov 3	Nov 24	G. T. Graves, 240 Montg'y st
Julia G. & S. M. Co.	Washoe	16	1 00	Oct 16	Nov 17	Dec 8	A. Noel, 419 California st
Justice M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener, 414 California st
Kentuck M. Co.	Washoe.	11	1 00	Sept. 16	Oct. 21	Nov.11	Frank Swift. 415 Montgomery st
Lady Esten Tunnel M. Co.	Utah	5	10	Oct 7	Nov 10	Dec 1	C. S. Healy. Merchants' Ex
McMahon S. M Co	Nevada.	5	25	Sept. 4	Oct. 6	Oct. 27	Geo. R. Spinney. 320 California st
New York Cons. M. Co.	Gold Hill		25	Oct 13	Nov 17	Dec 8	H. C. Kibbe, 419 California st
Ohio Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp, 116 Leidesdorff st
Overman S. M. Co.	Washoe.	27	2 00	Sept. 16	Oct. 21	Nov. 8	W. W. Stetson. 414 California et
Ophir S. M. Co.	Washoe	27	5 00	Oct 8	Nov 11	Oco 2	Jos. Marke, Merchants' Ex
Phœnix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Dec 10	J. Maguire, 419 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 13	Sept 26	Oct 23	O. C. Elliott, 419 California st
Phenix Tunnel & M. Co.	Utah	2	20	Sept 29	Nov 1	Nov 20	Chas. S. Healy. 35 Merchants' Ex
Peavine S. M. Co.	Ely District	5	25	Aug 28	Oct 4	Oct 28	C. F. Balcom, 426 Montg'y st
Red Jacket M. Co.	Idaho	1	1 00	Oct 3	Nov 8	Dec 1	Wm Willis, 419 California st
South Eureka M. Co.	Nevada	5	20	Aug 30	Oct 6	Oct 27	T. P. Cronise, 438 California st
Silver Peak M. Co.	Ely District	3	5	Sept. 19	Oct. 27	Nov. 17	G. T. Grimes. 240 Montgomery st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A Jennings, 401 California st
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 6	A. Noel. 419 California st
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Dec 15	T. B Wingard. 318 California st
Washington & Creole M. Co.	Ely Dist		1 00	Oct 15	Nov 17	Dec 9	F. D. Cleary Merchants' Ex
Wyoming G. M. Co.	Novada Co., Cal		25	Sept 13	Nov 13	Dec 8	W. J. Gunn, 410 Montg'y et

Other Companies (not on the Lists of the Boards.)

Adams Hill Coo. M. Co.	Nevada.	4	10	Sept. 24	Oct. 28	Nov. 20	W. W. Traylor.	419 California st
Buena Vista Petroleum Co.	Kern Co	17	40	Sept 20	Nov 10	Nov 25	L Aguayo,	430 Jackson st
Bunker Hill Quartz M. Co.		11	10 00	Oct 13	Oct. 13	Nov. 5	Walter Palmer.	24 Fine st
Commercial Coal M. Co.	Santa Cruz Co		25	Oct 8	Nov 17	Dec 15	S. B. Hanson,	402 Montg'y st
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C. E. Elliott,	419 California st
Cincinnati G. and S. M. Co.	Kelsey Dist		50	Sept 18	Oct 20	Nov 10	Wm. Small,	331 Kearny st
Eureka M. Co.	Nevada	1	25	Sept 2	Oct 4	Oct 21	R. B. Noyes,	411½ California st
Gold Run M. Co.	Nevada Co., Cal.		25	Sept. 13	Oct. 20	Nov. 10	C. C. Palmer.	Cr. Market & Spear ste
Homestead Farm Aes.	S. F.		7 00	Oct 6	Nov 8	Nov 27	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Oal	1	15	Sept 29	Nov 14	Dec 15	W. H. Knight,	Montg'y st
Homeguera M. Co.	Lower Cal.		3 00	Sept 5	Oct 27	Nov 17	J. H. Applegate,	729 Montg'y st
Ida & Rhoda Lode Con. M. Co.			10	Aug. 28	Sept. 30	Oct. 20	C. J. Eaton.	12 Express Building
Leo M. Co.	Washoe		10	Oct 6	Nov 10	Dec 4	C. J. Eaton,	Express Build'g
Lady Franklin M. Co.			50	Oct 14	Nov 22	Dec 15	J. S. Luty,	307 Montg'y st
Lemon M. & M. Co.	Eureka District		50	Sept 27	Nov 3	Nov 24	L. T. Milliken,	608 Merchant st
Lane & Kurtz Carihoo M. Co.	British Col		1 00	Oct 3	Nov 6	Nov 28	B. B. Minor,	411½ California st
Nichols Claim Cement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 28	W. Firderer.	513 Montg'y et
Occident G. & S. M. Co.	White Pine.	3		6	Sept. 14	Oct. 21	Nov. 15	J. A. McClelland. 414 Montg'ry st
Pride of the Mountain M. Co.	Nevada			10	Aug 25	Sept 30	Oct 20	W. H. Applegate 729 Montg'y st
Red Branch G. & S. M. Co.	Cal		1	5	Aug 16	Sept 26	Oct 20	F. D. Cleary, Merchants' Ex
Revenue Cons. M. Co.	Arizona		1	25	Oct 11	Nov 12	Dec 10	R. H. Harney, 113 Leidesdorff st
Stanislaus River M. Co.	Cal		1	10	Sept 25	Oct 27	Nov 12	Wm. Stuart, 113 Deidesdorff st
Silver Wave M. Co.	White Pine			40	Sept 20	Oct 30	Nov 25	J. W. Clark. 418 California st
Stevens Pacific S. & M. Co.	Oal			10	Sept 11	Oct 15	Nov 3	J. M. Knight, 320 Montg'y st
Southern Pacific Cons. G. M. Co.	Oal			10	Sept 11	Oct 25	Nov 25	C. A. Eaton, 12 Express Build g
Santa Cruz Coal M. Co.	Oal	$	3	5	Aug 19	Oct 22	Nov 10	L. Kaplan, Merchants' Ex
State of Maine M & M. Co.	Cal		4	5	Oct 1	Nov 4	Nov 24	H. B. Congdon, 406 Montg'y et
Sapphire S. M. Co.	Nevada.		2	20	Sept. 5	Oct. 10	Oct. 30	Joel F. Lightner. 438 California st
Tecumseh G. S. & O. M. Co.	Cal			25	Sept 15	Oct 20	Nov 11	F. J. Hermann, 418 Kearny st
Wellington M. & S. Co.	Utah.		2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener. 414 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Cons. Virginia M. Co.	Washoe.	Called by Trustees.	401 California st	Special	Oct. 18
Emma Hill Cons. M. Co.	Utah	Called by Trustees.	302 Montgy et	Special	Oct 15
Golden Chariot M. Co.	Idaho.	Called by Trustees.	Merchant's Ex.	Special	Oct 20
Las Crusecitas M. Co.		J. F. Lohse,	314 California st	Sepcial	Oct 24
Silver Lick Cone. M. Co.	Nevada	A. K. Dunbar,	Merchants' Ex	Annual	Oct 27
South Chariot M. Co.	Idaho	J. L. King,	411 California st	Annual	Oct 20
Washington M. Co.		T. B. Wingard,	318 California st	Special	Oct 27

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California et.	30	Oct 17
Slack Diamond Coal Co.	California.	F. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	3 00	Oct 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot.	419 California St.	3 00	Oct 10
Cederberg G. M. Co.	California	D. M. Bokee.	420 Montgomery St.	50	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Derby M. Co.		F. Cunningham,	301 Montg'y st	50	Oct 22
Diana M. Co.		N. C. Faseet.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	2 00	Oct 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Sept 10
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey.	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willie,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Cotburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Montgry, St.	1 50	Aug. 1
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Monlder	419 California St.	3 00	Sept 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. O. Ralston, Ch'r,	Cor. Cal. & Sane'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May 1
First National Gold Bank of S. F.		N. K. Mastick, Ch'r	N. W. cor. S. & Sans. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	H. Picholr,	Cor. Mont'g. & Wash. sts	1½ per cent.	Oct 15
German Savings & Loan Society	S. F.	Geo. Lette,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st.	9 6 10, 8 & 4 per cent	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No. 8 Post st	9,7,5-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. Vanbrunt, Ch'r.	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April
Pioneer Land & Loan Association,	S. F.	H. Kofahe, Ch'r.,	405 California st.	1 per cent.	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	O. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, ch'r.,	532 California st.	9 6 10 & 8 per cent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	Oct 14

GIGANTIC MINING ENTERPRISE.—The Nevada *Transcript* gives a detailed description of the work in the North Bloomfield Gravel Mining Company, closing as follows: The size of the tunnel from the lower end or mouth to shaft No. 6, is 6½ feet high hy 6 feet wide; from that point to shaft No 8, it is 8x8 feet. It is now being worked from the foot of each shaft, hoth ways, making from 95 to 108 feet per week. This work is heing done hy contract, each different heading heing a separate contract, employing from 150 to 175 men, who are making from $3.50 to $6 per day of eight hours. Up to this time the lower end or mouth has also heen run hy hand and hy contract, hnt the company is now msking preparations to put in the Diamoud Drill Machine, which was very successfully worked in the tunnel of the Union Gravel Mining Company, situated at Columbia Hill, in this county, and when that is fairly started, the compauy expect to increase the rate to 115 feet per week. Some parts of the tunnel are very wet, and the amount of water raised hy the pumps at the varions shafts is ahont 490,000 gallons per 24 hours. The entire length of the tunnel will he 7,874 feet, of which 2,515 feet is completed. Work was commenced in April, 1872, and it is expected to he completed in fifteen months more, at which time tbe estimated total cost will he ahout half a million of dollars. To he added to this is the layiug of the pipes conducting the water to each shaft, the erection of the machinery and the houses over the track leading from them.

SUPPLEMENT.—With this nnmber of the PRESS will be found a supplement containing the advertisement of the Mutual Relief Association of Petaluma.

Our Weekly Stock Review.

THURSDAY EVE., Oct. 16th, 1873.

There has not heen much business done in Mining Stocks dnring the past week, and prices continue generally low. The dividends declared for the month by mining companies are generally lower than they were last month, hnt that makes very little difference as far as the prices of the stocks are concerned. The low state of water in the Carson river retards hnllion production, and ore still continnes to collect on the various dumps of the Comstock mines. The weather sharps unite in promising a wet season, and, if their predictions are verified, the hullion product of the placers of this State will he much increased next season. The more water the more gold is a certainty in California.

Letters from the varions mine Superintendents are more than usnally enconraging of late, and everyone is sangnine that a prosperous winter is coming.

The Belcher letter of the 11th says that the varions ore-hreasts throughout the mine look splendidly, and give promise of a long-continued yield of fine ore. In relation to the dispute hetween this mine and the Crown Point, the Virginia *Enterprise* says: "The snrvey of the line hetween the Crown Point and Belcher mines, hy J. E. James, agrees very nearly with the survey made some time since hy Mr. Marlette. It shows that on the 1300-foot level the Belcher Company have worked over npon Crown Point ground a distance of nearly twenty feet. At the 900-foot level they were exactly on the line, hut in going down gradually deviated from the perpendicular, until at the 1300-foot level they were, as we have ssid, nearly twenty feet into Crown Point ground. We understand that reclamation will he made on the Belcher Company for ahout $1,000,000. The ore at this point in the two mines is very rich, and estimates that have been made in regard to the value of the ore taken from the Crown Point gronnd show that it would amonnt to ahout $1,000,000."

The Eureka (Grass Vslley) mine pays a dividend of $40,000 this month. The last clean-np was 1,050 ounces of amalgam.

On the 15th inst. the Board of Brokers held only one session, on account of the judicial election, which took place on that day. A general weakening of prices was manifested, possihly on account of the news of the possibility of further money troubles in the East.

The following mining companies have levied assessments thus far this month: Hale & Norcross, Washoe, $5; Ophir, Waehoe, $5: Lane & Kurtz, Carihoo, British Columhia, $1; State of Maine, Cal., 5 cents; Red Jacket, Idaho, $1; Virginia Con. M. Co., Cal., 5 cents; Commercial Coal M. Co., Santa Cruz Co., Cal., 25 cents; Lady Franklin, 50 cents; Revenue Consolidated, Arizona, 25 cents; Ohio Consolidated, Calaveras Co., Cal., 15 cents; Julia, Washoe, $1; Leo, Washoe, 10 cents; Globe, Gold Hill, 50 cents; Ida Ellmore, Idaho, $3; New York Consolidated, Gold Hill, 25 cents; Phœnix, Eureka, Nev., 50 cents; El Dorado Sonth Con., Belmont, Nev., $1; Daney, Washoe, 50 cents; Emerald Hill, Utah, 25 cents; Washington & Creole, Ely District, $1; Lady Esten Tunnel, Utah, 10 cents; Equitable Tunnel, Utah, 10 cents.

The dividends paid this month by mining companies are as follows:

NAME.	PER SHARE.	AMOUNT.	PAYABLE.
Belcher	$3	$312,000	Oct. 10.
Black Bear Quartz	30c.	9,000	Oct. 17.
Derby	50c.	———	Oct. 22.
Crown Point	$3	$300,000	Oct. 10.
Eureka, Grass Valley	$2	40,000	Oct. 7.
K. K. Consolidated	25c.	12,500	Oct. 15.

Last month the Minnesota paid a dividend of $1.50 per share, aggregating $30,000, and the Raymond & Ely paid its first dividend since February last, amounting to $3 per share, or $90,000. Belcher paid $5 per share or $520,000, and Crown Point $4 per share or $400,000. The Eureka (Grass Valley) psid in Septemher only $1 per share, or $20,000, and the Golden Chariot paid $3 per share or $30,000. The dividend of the Derby Mining Company, located in Utah, is the first ever paid hy that company. The Black Bear has not paid one since last July until this month.

MORE MINING DISCOVERIES.—Visalia, October 7: There is considerahle excitement in town to-day over the discovery of new mines in King District, about three miles east of the first discoveries. Specimens just hrought to town show free gold in considerahle qnantities. Specimens of silver ore from the same district srs said hy mining experts to he similar in character to the richest specimens of Lone Pine rock. The discoveries are at the head of the Kaweah river, fifty miles east of Visalia, and directly opposite Lone Pine, which is on the other side of the mountains. Au assay of the first rock showed $87 in silver and a large percentage of lead; but the new discoveries are believed to be much richer. The ledge is said to be fifteen to twenty feet wide, and two or three miles loug, in sight. Specimens will he sent to San Francisco to-night for assay. Many hnsiness men and all the hangers-on ahout town, have gone to the mines, and nothing is talked of on the street hut "feet."

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

AMADOR COUNTY.

THE BOSTWICK MINE.—Amador *Ledger*, Oct. 4: We paid a visit to the Bostwick mine, at Scottsville, about a mile and a half from Jackson, a few days ago, and were somewhat surprised to find that so much work had been done toward opening and prospecting the mine. The lead is quite extensive and can be easily traced for a long distance on either side of the mine, running from north-west to south-east. Mr. Bostwick had some of the rock assayed some time ago and it showed a prospect of $25 per ton in gold and $6 in silver.

CAVED ON.—A miner, whose name was unknown to our informant, was severely bruised and injured about the head and shoulders last Wednesday, while working a hydraulic claim, near the "Gate" by the caving in of a bank of dirt upon him.

MARIPOSA COUNTY.

HASLOE MINING COMPANY.—Mariposa *Gazette*, Oct. 10: A contract was let by the new Superintendent of this mine, Mr. Rob't Hannagan, some two months since, to sink 100 ft. on the vein. At the depth of 40 ft. they struck rich ore, which, it is reported, will pay from $50 to $100 per ton. Appearances indicate that this pay streak is likely to continue. Their new ten stamp mill is now in successful operation, and the first shipment of bullion has been made to the company's office in San Francisco. The result gives general satisfaction. As before remarked, this mine has been immensely rich, and it is very probable that its ancient status may be revived. It was formerly known as the Funk Hollow Mine, and was successfully worked some years ago by H. G. Coward.

NEVADA COUNTY.

SLATE LEDGE MINE.—Grass Valley *Union*, Oct. 10: This mine (better known as Perrin's) is looking well at the present time. A party of miners have a contract there for taking out ore, and their contract is paying well. They are taking out rock which pays over $50 a ton. A crushing was had, the other day, of rock taken out by ten men in three weeks time, and the result was 99¼ ounces of gold of the value of about $1,600. The contractors are working below the work done by the company, and water troubles them. The rock, however, is proved to be rich.

MICHIGAN BLUFF.—River mining has been prosecuted with energy the present season, though with variable results. Owners of mines rely more on vigorous and systematic working and utilizing the great water power they possess for a reward for their toil and investments, than in the expectation of finding rich strikes and rich spots at every turn.

A majority of the claims are yielding a fair average—a few a good deal more. Farquaharson and Margiuni are working on the North Fork, above the junction, and are raking it out to the tune of from 5 to 25 ounces a day. Labor expenses per day, including wear of machinery and tools, about $16; leaving a nice margin for profit.

Ditch building is all the rage. The Iowa Hill canal, a new ditch from one of the forks of Shirt Tail Cañon leading to Yankee Jim's, and a large ditch, nearly completed, which taps the South Fork near its source, and traverses the ridge bordering the river to Mount Gregory, with a branch to Georgetown, are a few of the enterprises of that character carried on in and near this locality, which, when completed, will infuse new life into mining and other industries.

PLUMAS COUNTY.

SALE OF MINING PROPERTY.—Plumas *National*, Oct. 4th: Messrs. Heath and Dodds have recently purchased the splendid mining claims on Bear Creek, near Buck's Ranch, so long owned by Mr. Jno. Morrow. The former owner has worked the claims with a small head of water for many years, and always with good results. The new company propose to bring in the waters of Mill Creek, in a canal about nine miles in length, which will cost heavily, but as the pay ground is almost limitless the investment is a safe one.

STRUCK IT.—We have been shown some specimens from a ledge recently discovered by Mr. W. W. Kellogg, of Cherokee, which show splendidly in free gold, and look very much as though "Billy" had made a valuable hit. We hope it will prove as good as it looks.

PLACER COUNTY.

COAL MINE IN PLACER.—Placer *Herald*, Oct. 11: We learn from a friend that a bed of coal has been discovered at Lincoln, in this county, which promises to be of great importance, not alone to that section, but to the whole country. The same material was struck as early as 1862, while boring a well, but it attracted no attention, as no one seemed to suspect the existence of coal in that part of the country. Since that time it has been struck upon by well borers, but until recently the real character of the mineral thus unsuspiciously brought to light was not considered. To be sure, the presence of this, what was thought peculiar mineral, was occasionally talked of, and it so much resembling stone coal, some parties were at last induced, through curiosity, to try it. They were agreeably surprised to find that it possessed, in many respects at least, the properties of stone coal, but the crumbs which they submitted to the test being those brought up by a small auger, were too small to afford a perfectly satisfactory test. But the result created an interest, sufficient to induce Col. Wilson, a capitalist and property owner in Lincoln, to begin a thorough investigation.

SIERRA COUNTY.

OTHER CLAIMS.—Claims here do not seem to be doing very much. The Union has dismissed their Chinamen, and work but one shift at present. The Highland Mary, at Wahoo, have just completed a house and blacksmith shop, and some think it will prove a very rich claim.

STANISLAUS COUNTY.

LAGUANGE.—Stanislaus *News*, Oct. 10: We understand that the Lagrange Mining and Canal Company have commenced to enlarge the Patricksville reservoir, near that place. The ditch is also to be continued some three miles down the foot-hills. A large force of men and teams are already at work, and the old town of Lagrange is assuming much of her former importance in our county.

TUOLUMNE COUNTY.

IRON ORE.—Tuolumne *Independent*, Oct. 11: A second shipment of iron ore arrived in Stockton, on Tuesday, from the mine, at Jamestown, consigned to Kruese & Enler, San Francisco, for transportation East, per Carrier Dove. The Stockton *Independent* says, "The ship named is, we understand, to take 100 tons of the ore; and 600 tons are to be sent forward immediately to be tested. A good judge of iron ore stated to us last evening that he is firm in the belief that much of the ore designated will produce as much as eighty per cent. of pure iron of good quality."

SOULSBY.—They are taking out good rock from the south shaft of the Soulsby mine.

COLUMBIA DITCH.—The water in the Columbia Ditch, for general mining purposes, gave out on Tuesday last. A week's rain would set the boys going again.

WASHING UP.—The miners supplied by the Columbia Ditch have been busy this week washing up. Most of the claims turned out well, and the season has been generally prosperous to these engaged in placer and hydraulic mining.

TULARE COUNTY.

THE NEW MINES.—Tulare *Times*, Oct. 11: Quite a number have returned from the new mines on the Kaweah, during the week. They bring the most favorable reports and exhibit some splendid specimens of ore. One party, of which Senator Fowler and others were members, show rock from a ledge which they located that discloses gold freely to the naked eye. The ledge is said to be about ten feet wide and crops out for more than a mile. Some fine specimens of silver ore were brought in from the Crahtree mine. There are quite a number of prospectors at the mines; but the extent of the country is so great and the ledges so numerous that during all next summer there will be plenty of chance for all new-comers to find mines. Owing to the altitude the season there is already, far advanced, and not much more exploring can be done this year. Next Spring we expect a high excitement over these new discoveries. We have little doubt that Prof. King is right when he pronounces the region in which these mines are situated to be one of the richest in minerals in the United States.

MORE MINING DISCOVERIES.—There is considerable excitement in town to-day over the discovery of new mines in King District, about three miles east of the first discoveries. Specimens just brought to town show free gold in considerable quantities. The ledge is said to be fifteen to twenty feet wide, and two or three miles long, in sight.

SUTTER COUNTY.

QUICKSILVER.—Marysville *Appeal*, Oct. 12: At the Empire Foundry may be seen two quicksilver retorts, which are now being finished for the Caswell mine, near Simmons' Sulphur Springs, in the Coast Range. The cinnabar ledges being opened and prospected in that section promise to be extensive, and before the lapse of many years quicksilver will be produced in quantities equal to those now furnished by the New Almaden mines. The Colusa coast range cinnabar is very rich, and the percentage of quicksilver per pound is quite equal if not superior to any mined in the State. The development of the mines will prove of great advantage to all kinds of business in this part of the State. The Chapin Company is about to commence the erection of works on their mine, and others will be located.

Nevada.

ELY DISTRICT.

MEADOW VALLEY.—Pioche *Record*, Oct. 12: Incline No. 3 has been sunk 105 ft. below the ninth station. There has been no change in the rock. The east drift at the 520-ft. level is in 200 ft., the face being quartzite. The east drift from the 630-ft. station is in 638 ft. The east drift from the 750-ft. station is in 360 ft., the face showing a strong vein of quartzite, carrying metal. From incline No. 7 the east drift at the 4th level is in 40 ft. The drift at the 8th is 470 ft. in length.

PIOCHE.—During the present month, 92 tons of ore have been shipped to the Amador Mill. Assays average $116.63 to the ton. In the new shaft, a contract was finished day before yesterday, making the hole 314 ft. deep.

CHIEF OF THE HILL.—A progress of 9 ft. in the shaft, and 10 ft. in the west drift has been made since last weeks report.

SILVER PEAK.—The incline is 326 ft. long. The ledge at the bottom is 5 ft. in width, and contains some ore of an excellent quality. By a cross-cut in the west drift a body of fine chloride ore has been developed.

LOUISE.—There is considerable improvement at the 200 ft. level. The workmen are there raising on the ledge, which is now nearly 1 ft. wide, and of very good ore.

SPRING MOUNT.—The workmen have got out of shale into quartzite, the most favorable indication since the shaft was started.

PIOCHE WEST EXTENSION.—The sinking of the shaft is being continued. Station timbers are being put in at a depth of 600 ft.

BOWERY.—The machinery has been stopped for repairs. The work is still going on underground.

POUTLAND.—The sinking continues. Ten feet more will make the shaft 300 ft. in depth. The drifting will then begin.

SPRING MOUNTAIN TUNNEL.—The work of sinking from the tunnel continues without change. The usual force of men is employed.

ALPS.—The winzes have a favorable appearance, and the main drift is progressing satisfactorily.

CHIEF EAST EXTENSION.—Work is progressing as usual, and some ore is being taken out daily.

PEAVINE.—The shaft is being sunk as fast as could be desired.

CHAPMAN.—There is no change to note since our last report.

WASHINGTON AND CREOLE.—The same work is being done as reported last week.

HUHN AND HUNT.—Improvement throughout the mine continues.

SINKING.—In the Pioche, Phenix, Ivanhoe, Raymond & Ely, Carolina and South Side Mines, the work being done is the sinking of the several shafts.

WASHOE DISTRICT.

BELCHER.—Gold Hill *News*, Oct. 11: Daily yield 400 tons of ore. The quantity of ore extracted can be greatly increased whenever mills can be obtained to crush it. The main incline is down 112 ft. below the 1,300 ft. level, the sinking making excellent progress. The main drift north from the incline on the 1,300 ft. level, to connect with the main south drift from the Crown Point on the same level, is making excellent progress. The main drift south from the Crown Point is in 395 ft., the face in good ore. The winze from 1,200-ft. level is still in fine ore. Sinking the winze from the 1,300-ft. level is making fine progress, the ore in the bottom showing a steady improvement. The ore breasts throughout the mine are both looking and yielding finely. The bulkhead between the Crown Point mine and the Yellow Jacket will shortly be removed, when extracting ore from the 1,300-ft. level will be resumed.

CROWN POINT.—About 380 tons of ore are being extracted daily. It is taken from the 1,000, 1,200 and 1,300-ft. levels. The ore breasts still look well, and are yielding the usual amount of ore, similar in quality to that already taken out. The winzes are being pushed vigorously ahead, and have already attained a vertical depth of 55 ft. The middle winze shows ore of a much better quality than the north one. The main drift from the 1,400-ft. station is in a distance of 250 ft., and is being rapidly driven forward toward the Belcher line. No work has been done on the 1,500-ft. level with the exception of driving a drift northward to meet a drift running southward from the Yellow Jacket mine. Water, scalding hot, flows so freely from the main drift on the 1,500-ft. station that it has been considered unsafe to proceed with the drift, as the pump is now worked to its fullest capacity.

CONSOLIDATED VIRGINIA.—Enlarging the main shaft will be completed, and hoisting ore through it will be commenced in about four days more. There are now sixty tons of high grade ore being extracted daily through the main drift on the 1,167-ft. level of the Gould & Curry shaft, which will be increased to 260 tons per day as soon as the company can resume hoisting through their own shaft. The ore breasts are now opened out 40 ft. in width, and are being gradually extended in width as the work of extraction progresses. The body of ore opened is improving daily in quality, and there is no longer a doubt as to the richness and value of the deposit.

BALTIMORE CONSOLIDATED.—The main west drift at the second station, during the week, cut through a vein of solid ore, lying directly against the east wall of the ledge, five feet in thickness, which assays from $20 to $92 per ton. The drift is still continued to the westward, the face being in very promising vein matter, and excellent indications of striking a continuation of the ore. The west drift at the third station shows a continued and steady improvement. There is no change to report of the first station.

JUSTICE.—The north drift from the up rise in the north drift on the 800-ft. level, has developed some rich ore, which bids fair to develop into a fine and extensive body. The east cross cut from the 300-ft. level is being pushed rapidly ahead to make connection with the Waller Defeat works. Both the north and south drifts at the first station of the Waller Defeat shaft are in good ore.

AMERICAN FLAT.—The first cross-cut from the main south drift at the third station has penetrated a splendid body of ore the distance of ten ft. the full face of the drift still being in fine ore. The second cross-cut from the same drift, 50 ft. south of the first, this morning cut the face of the ledge, showing splendid ore, the extent of which is not yet known.

DANEY.—The shaft is down 193 ft., the sinking making excellent progress, the rock in the bottom blasting and working finely. Some little water is encountered in sinking, but not enough to in the least impede the work. The new machinery is all working splendidly, and there seems to be nothing now to interrupt the steady development of the mine.

SAVAGE.—Sinking the main incline for the 1,900-ft. level is making fine progress, the rock in the bottom working and blasting well. The east cross-cut on the 1,600-ft. level is still pushed steadily ahead, with the face in clay, quartz and porphyry. It is the intention to continue this drift until positive assurances are found that the east wall has been reached.

TYLER.—The shaft is down 198 feet, the sinking making good progress, although the flow of water somewhat impedes the work. Some stringers of quartz of a very promising nature have been cut during the week, indicating a near approach to the main ledge.

DAYTON.—Drifting both north and south on the ledge, at the first station, is making good progress, the face of both drifts being in ore.

CHOLLAR-POTOSI.—Daily yield 100 tons of ore, the assay value of which is $33 per ton. In the Blue Wing section the ore breasts are not yet yielding quite so well as at our last report. In the Potosi section the ore shows a considerable improvement in quality. Bullion receipts for September, $43,636.70.

IMPERIAL.—Sinking the main incline is making fair headway, though the rock in the bottom blasts quite hard. The quartz in the face of the south drift on the 1,700-ft. level has shown considerable improvement during the week. The cross-cut west on the 1,700 level is making good progress.

SIERRA NEVADA.—There is but little change in this mine to report. The ore breasts are all looking and yielding finely. The mill is kept steadily running, crushing ore from the mine. Daily yield 60 tons of ore. Shipped during the week, $11,123.08.

FRANKLIN.—The recent good ore developments and indications in the Baltimore Consolidated and American Flat mines, being close to the Franklin, and doubtless extending into it, justly cause the owners of the mine to feel pretty good over their excellent prospects.

SILVER HILL.—The ore breasts on the first level, both north and south, continue to improve in appearance and quality of the ore extracted. The north winze is making fair progress, the entire bottom in fine milling ore. The ore body on the lower level of the mine continues to improve in both the main north drift and west cross-cut.

SUCCOR.—The main east drift, at the second station of the new shaft in the cañon, is still driven ahead with the expectation of tapping the ledge in a very short time.

HALE & NORCROSS.—Daily yield, 60 tons of ore. Sinking the incline is making steady progress, though the rock in the bottom continues to blast tough and hard. The prospecting drifts at the tenth and eleventh stations have been discontinued.

EMPIRE.—The face of the east cross-cut on the 1,700-ft. level shows considerable improvement since our last report. The material in the face is much softer, with some quartz and excellent indications of an ore vein ahead, proving conclusively that the east wall of the ledge has not yet been reached.

NEW YORK CONSOLIDATED.—Sinking the shaft is making good progress, although the work is somewhat impeded by the heavy flow of water. Some stringers of quartz of a promising character have been cut during the week.

WOODVILLE.—Sinking the shaft is making good headway, the rock in the bottom working finely. Extracting ore from the old works continues, the ore-breasts not only holding out, but steadily improving in quality and quantity.

GOULD & CURRY.—Drifting and prospecting the different levels throughout the mine is progressing as usual. Bullion shipped during the week, $15,000.

ARIZONA, UTAH AND GLOBE.—The main west drift at the 400-foot station is still driven ahead, with strong indications of a near approach to the main ledge. Sinking the incline is making good progress.

BUCKEYE.—There is little or no change in either the quantity or quality of the ore produced since our last report. All the ore-producing sections are looking and yielding well. The Hope mill is kept steadily running crushing ore from the mine.

CALEDONIA.—The work of enlarging the main shaft by the addition of a third compartment is making good progress. The ore breast, both north and south, on the second level, is yielding finely. Bullion shipped during the week, $7,177.73.

UTAH.—Sinking the shaft is making but moderate progress, the heavy flow of water from the bottom considerably impeding the work. The entire bottom of the shaft is in fine appearing quartz, with occasional spots of excellent ore.

OVERMAN.—Sinking the shaft is making good progress. It is now down to the 1,200 foot level. Drifting and prospecting on the 1,000 foot level continues, with very favorable indications of yet developing a body of good ore.

JULIA.—Driving the main southwest drift at the 900-foot level is making excellent progress, with prospects of soon reaching the ledge.

OPHIR.—Prospecting the different levels progresses as usual, with no change of material value to report, except a slight improvement in the main south drift on the 1,300 foot level.

Hydraulic Mining in Calaveras County.

No hranch of producing industry in this county has so rapidly increased in importance, during the two or three past years, as hydraulic mining. Within tbe period of time mentioned the system of hydraulicing formerly in vogue has heen revolutionized, and results reached that have given vigorous vitality to that species of mining. It is an absolute fact that deposits of gravel that with the appliances and method of hydraulicing pursued five years ago would scarcely pay "water money," are to-day yielding their owners bandsome profits for working. Ridges, in some instauces miles in extent, tbat a few years since were miued as long as operations could be made profitable, under the old order of things, and theu ahandoned, have since heen relocated and hy the present intelligent system of working are yielding even larger returns tban when in the hands of their original owners. But this is not the only gratifying circumstance connected with the great revival in hydraulic mining. The success achieved in re-working ahandoned ground has stimulated research and led to the discovery of new fields. We do not hazard an opinion in stating that there are douhle the numher of hydraulic mines now heing actively worked in this county than at any former period in its history, while the aggregate yield is proportionately much greater. Rapid as has heeu the progress made in thie hranch of mining during the past three years, evidences of increased activity iu the future are everywhere apparent. From different portions of the county we are constantly hearing of the inception of fresh enterprises, aud there is no question hut that with the advent of rain the "heaviest run" ever made upon the gravel hanks of Calaveras will he inaugurated. Without exaggeration there is hut one county in tbe State—Nevada—that now outranks Calaveras as a gravel mining section, and we honestly believe that hefore two yeare have elapsed we shall not he compelled to make even that exception.

The impetus recently given to hydraulic mining in this county is almost wholly due to the radical change in tbe manner of conducting operations. Formerly the great mistake was made of endeavoriug to use ae little water as poesihle. Now that element is subetituted for manual lahor in every manner practicahle. Five years ago fifty inches of water wae considered an unusually large quantity for a company to purchase. It was conducted to the claim through a emall canvas hose, with neceeearily little pressure, and precipitated against the hank from an inch nozzle. The etream had no more effect upon tbe gravel than would have heen produced by the discharge of a six-inch syringe. Miners were forced to "coyote" under the hank and "cave it down" to get gravel to wash—a elow, laborious and expensive method of procedure. The sluices attached to these primitive "hydraulics" were never more than twelve inches wide, or high, and yet their capacity was ample for the requirements of mining as then conducted. Tbat whole system of operatious has heen revolutionized. At present three huudred inches of water is the minimum employed iu any claim that aspires to the diguity of a hydraulic. Iron has taken the place of canvas for hose, and the greater the pressure to be ohtained the hetter. Patent nozzles direct the streame that cut down the hank like grass hefore the scythe, and the mingled gravel and water find passage from the mine through a three-foot flume. Really, more dirt is put through the sluices of a modern hydraulic in a week than was formerly washed during an entire season. And yet the cost of running oue of the mammoth hydraulice of to-day is but a trifle, if any, more than the expenee of conducting one of the piddling coucerns that disgraced the name ten years ago. Water works cheaper than bands, and the employmeut of that element, to the almoet entire seclusion of manual lahor, is the princi al reasou why it costs no more to wash a ton of gravel now than it formerly did to move a single pound.

Hydraulic mining in this county, notwithstanding the progrese made during tbe past two years, is yet in its infancy. A heginning has scarcely heen made. Two-tbirds of the ahandoned ground, from one end of the county to the other, will pay for re-working, aud new minee are coustauly being discovered and opened. As an illustration we will cite one instance: Near Murphys in this county a gravel mine, one hundred and sixty acres in extent, has lately been located and patented. Beyond a little superficial prospecting no work has been done upon it, and yet a tenth interest in tho ground wae sold for $10,000 the other day. Some curious individual hae made an estimate of the probahle yield of the entire mine, basing his calculatious upon the "prospects" ohtaincd. The result of his figuring is tbat tbe whole one hundred and sixty acres will yield an average of ninety cents per square yard. When the rapid progress made dnring the past few years, the steady developmeut of the present and the hrightening prospecte of the future are taken into consideration, who can set a limit to the immensity of the hydraulic mining interests of Calaveras a dec..de henco ?—*Calaveras Chronicle.*

Grains of Science.

Cruel Feet.

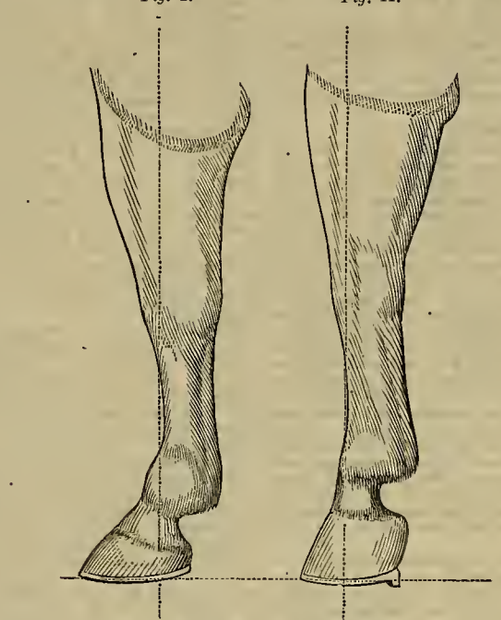
Did you ever notice the feet of the work-horses of San Francisco? Look at those faithful aud almost disabled brutes attached to hacks, street-cars and drays, and you will find uearly all of those which have worn shoes for six, eight and ten years, have growu high on stilts. Tbey have gradually lost the heel of the foot to stand npon, and are forced to tread upon the toe and middle of the foot. The heel proper is in the air.

Nature furnishes the foot of the colt with hoth a toe and heel, for a special object. Tbe philosophy of pedestrian locomotion determines that object, and explains the reason of it. The heel is the chief plantar organ to support tbe superimposed weight of the body; the toe is dutiful in propulsion. When the unthinking mechanic hy repeated hurtful shoeing, takes away one of these, and misplaces the position of the other, the foot assumes the character of a dull stump as seen in Fig. 2. The auimal's ahility to travel is then so impaired, that his motions thereat make one think of the motions of a Chinawoman whose shoes touch the ground in the middle of the foot. Horses with such feet are almost fated to stumhle, especially when going down grade. Feeling insecure on their feet they become reluctant steppers.

You will notice how the unwise mechanic agravates the evil of an over-grown heel hy giving to the shoe more thicknese at that point than at the toe. Fig. 2. outliues one of that kind. To develop such deformed feet is a cruelty to the nohle animal.

Fig. 1. depicts the natural foot of a colt or a young mule. The margin of the hair at the heel reaches to within a half or three-fourths of an inch of the floor. The vertical linee show how the natural heel sustains the weight of the animal in the one case, and how the toe and middle of the foot are made to sustain that weight in the other. The loss of one joint from Mr. Weeton'e great toe, would have prevented his celehrity as a walkist.

Fig. I. *Fig. II.*



NATURAL AND UNNATURAL.

In mercy to our poor uncomplaining servants, let not nature's beautiful patterns he longer thoughtlessly perverted.

As a *foot-note*, I cannot forhear telling an incident touching our suhject, as a seemingly honeet stranger recently told it to me. In Sacramento this stranger in former years, had purchaeed a large, well made dray horse for a paltry sum of money, hecause, as was supposed, the animal had out-grown his usefulness. There was no perceptihle defect about him except that he seemed mounted on high feet as if they were pedestals on which the innocent creature hohbled about. They measured seven inches from the hair line to the ground. With a carpenter's hand eaw, he cut off *four inches of the hoof*, which lowered him to a natural footing, raised him in value, and restored his large ahility to work. A. S. Hudson, M. D.

Seeds of Sugar Cane:—A. Cossa has heen making scientific investigation into the cause of the deterioration of the sugar-cane hy hyhridization. His attention was first called to it hy the fact that ahout half the canes on a Piedmontese eugar plantation yielded no sugar. On examination, it appeared that theee canee sprang from a different kind of seed which wae mixed with the other, and which was heavier, reddish in color, and germinated more easily, thongh hoth varietiee came from successive reproductions of the same plante. He helieves the sugar heet to he more reliahle than the cane.

The Sutro Tunnel.

Interesting Facts and Figures.

This great work is now employing ahout 240 men, and the tunnel is pushing along toward the Comstock lode at the rate of a little more than 100 feet per week. When shafts 2, 3 and 4 reach the tunnel level, which will he witbin a few months, a few additional miners will suffice to pnsh the great adit 300 per week, or nearly 50 feet per day. The total length of the tunnel from its mouth to where it will intersect the Curtis shaft of the Savage mine is, according to the engineers of the company, 20,178 feet, or nearly four miles, and according to the report of the United States engineers, 19,790 feet, or about tbree and three-quarter miles. Taking the company's measurement as tbe more accurate, and deducting 4,915 feet of tunnel run, up to yesterday, we find remaining 15,263 feet yet to be excavated. With all the shafts down to the tuuuel level, and drifting going on each way from the hottom of each shaft, as is the intention, tbis could he made in 306 days, or exactly ten months. We are hasing our estimate npon the progress made in the main header aud in the eaet and west drifts from shaft No. 1 (which reached the tunnel level eome time eince) during the present week, which we here give: Progress in main header of tunnel, 35 feet; in east drift from hottom of shaft No. 1, 33 feet, and in west drift from same, 33 feet; total, 101 feet.

The tunnel is 12 feet high, 13 feet wide at the top and 14 feet wide at the hottom, with a douhle row of strong timhere, plauked so as to form walls V-ehaped, passing through the center, hetweeu which is a footway ovorlying the caual, and on each side of tbis double wall is a railroad track. As hefore stated, the tunnel, running on an air line from its mouth, will strike tbe main or Curtis shaft of the Savage mine, at the 1,700 foot level, which is now being prospected. The franchise, surveys and estimates call for the tapping of the Comstock lode 1,898½ feet below Station A (established hy Clarence King in bis geological survey) of the Gould & Curry croppings, which point is, in round numhers, 200 feet above the surface at the Savage works. Shaft No. 1 is 5,198 feet from the tunnel; trom shaft oue to two is 4,150 feet; from two to three, 4,480 feet; from three to fcur, 4,150 feet, and from shaft four to the Curtis shaft on the Comstock, 2,450 feet. From the east drift from Shaft No. 1 to the main header of the tunnel is 218 feet. Shaft No. 1, completed to the tunuel level is 523 feet in depth; sbaft No. 2, which will be 1,041 feet in depth, is now down 623 feet, leaving 418 feet still to go; shaft No. 3, which will he 1,361 feet deep, is now 377 feet, leaving to go 984 feet; shaft No. 4, which will he 1,485 feet in depth, ie now down 510 feet, leaving 975 feet still to he excavated.

While it will he seen that only ahout one-fourth of the tunnel has been excavated, it is apparent that fully if not more than one-half of the expense of the entire work has already heen incurred, as one shaft has reached the tunnel level, giving two additional points from which to prosecute work on the main adit, and three other shafte are well advauced, hesides which, everything in the way of machinery that will he needed to completo the work is on the ground, and the company has a vast quantity of miscellaneoue supplies on hand. Adolph Sutro, the projector and general Superintendent of this stupendous enterprise, has not yet sailed from Europe, as was supposed, hut it is helieved that he will he here in the course of a few weeks, and we learn tbat he has met with marked success in negotiating for additional and ample capital to insure a vigorous prosecution of the work. During his protracted absence the affairs of the company have heen admirably administered and the work judiciously carried on by the efficient Assistant Superintendent, Mr. H. S. Safford.

From the foregoing facts and figures it will he seen that this great work is approacbing completion with far greater rapidity and certainty tban even our local readers bave generally heen led to helieve, and it now seems probahle that this great historical "hore" will he under our homes before we can realize tbe fact tbat it is under full headway. But it cannot he completed too soon for the welfare and safety of tbe thousands who are toiling in the burning depths of tbe mines, for as soon as the main adit reaches tbe Comstock, hranch tunnels will he pusbed botb ways along the lode to connect the various mines from the Ophir to the Overman, a distance of ahout 12,000 feet, or two miles and a quarter. Then we will have no more Yellow Jacket fires nor fire-damp, nor gas explosions, nor heart-rending scenes about tbe hoisting works, for the mines will he ventilated hy a volume of air that would sweep a man off his feet, and the miuers will have ample facilities for escape in case of fire.—*Virginia Chronicle, Oct.* 4.

Wooden Railways.

In the interest of cheap transportation for oree and fuel, an engineer writes: "The track is formed of heavy logs, hewed on the npper side to the width of eight inches, and on the inside at right angles, sufficiently deep to form a straight edge for tbe flange. These logs are huried so that the top, or rail surface, ie almost level with the road eurface, resting on etont sills at the ends and middle, to which they are eecured hy wedged tree-nails. The rails, therefore, are solidly hedded aud not liahle to warp or twist. Twenty feet would he a convenient length on curves, hut on straight lines longer pieces can he used, the ties heing ten feet apart. The grading of a sufficieut width on a eide hill with gentle slopes would cost ahout $200 per mile for a three feet gauge; hut, of course, the cost of graduation will vary greatly with the locality. Ravines and small watercourses would in general he crossed with rough trestles or timher cribs. Hewing the timber would cost ahout $200 per mile. In a wooded country, where timher can he ohtained along the line of the road, where no large hridges are required, and no rock to he excavated, the cost of such a wooden railroad ehould he covered by from $500 to $2,000 per mile, depending upon the amount of earthwork. The care proposed for such wooden railroads are simple frames placed on wheele, without springs, and covered with a floor of plank. The wheele are of wood, built up of pieces cut from two inch plank in the form of regular sectors, ahout eight inches at the wide end. Four thicknesses of plank will build a wheel with a tread of eight inches corresponding with the face of the rail. A cast iron huh is inserted in the center, through which an iron axle passes, and a cast iron flange is holted on the ineide. The timher should be of hard wood, well eeasoned, the sectors laid so as to hreak joints and well bolted. Diameter of wheels about 30 inches. Such cars, if uscd with horsee, would cost ahout $40 to $50, or about one-third the price of a farm wagon; they will carry three tons, and can he made hy any rough band who can use carpenters' tools. If designed for use with locomotives in trains, draw hare and springs must he used, and the cost per car increased.

Machine for Testing the Condition of Rails.—A Russian engineer named Sakhovsky, has invented an apparatus, a kind of differential gauge, of very simple construction, which is said to have heen found to work admirahly at the Moscow Terminus of the Nijni Railway, and ou several other lines. The apparatus consists of a heam, ahout five feet long, provided at one end with an articulated lever, on tbe shorter arm of which is a stud tbat preeses, by means of a sprfug, against the inner face of one of the rails, and at the other with a fixed stud; the heam is drawn along the rails hy a man by means of shafts, or it may he attached to a truck. As the gauge proceeds along the liue, the deviatious from the normal width hetween the raile is shown hy the longer arm of the lever, which moves against a dial-plate. The apparatns costs only eight rouhles, and its snperiority over the common gauge is striking, eepecially as regards the rapidity and continnity of the action. The directore of the Nijni and other liues have adopted the invention, whicb we helieve is pateuted. Such a gauge run along a line every morning migbt prevent many an accident.

Water for Seven-mile Canon.—A small flume has heen huilt from the terminus of the main flume of the Virginia and Gold Hill Water Company, at the northeud of town, to the mills at the head of Seven-mile Cañon. The small flume was completed and the water turned in two days ago. This gives to the mills in that locality an abundance of water not only for their hoilers, hut also for their hatteries and all other uses. There must now he qnite a stream flowing through the lower part of Six-mile Cañon, as a good deal of water is being constantly raised from the Utah mine and aleo from the new ehaft of the Sutro mine; hesides, the contrihution to Six-mile Cañon from this city is unusually large. This is fortnnate for the owners of water mills at the lower end of the cañon, as they can now keep tbeir works iu constant operation.—*Enterprise.*

Useful Information.

Greasing Buggies and Wagons.—Greasing buggies and wagons is of more importance than some imagino. Many a wheel is ruined by oiling ton plentifully. A well-made wheel will endure constant wear from ten to twenty years, if care is taken to use the right kind and proper amonnt of oil; hut if this matter is not attended tn, the wheel will be nsed np in five or six years, nr may be sooner. Lard should never he used on a wagon, for it will penetrate the hub and work its way aronnd the tondons of the spokes and spoil the wheel. Castor oil is a good material for nse on an iron axle; jnst oil enough should bo applied to a spindle to give it a light coating; this is better than more, for the snrplus pnt on will work ont at the ends and he forced by the shonlders and nnt into the hub around outside of the boxes. To oil the axletree, first wipo the spindles clean with a cloth wet with turpoutine, if it won't wipe without it. On a buggy or carriage, wipe and clean off the back and front ends of the hubs, and then apply a very small quantity nf castor oil, or more especially prepared lubricator near the shoulder'a point.

To clean paper-hangings, the following is a very good method: Cut into eight half-quarters a stale loaf of bread and with one of these pieces, after having blown off all the dust from tho psper to be cleaned, by means of a good pair of bellows, begin at the top of the room, holding the crust in the hand, and wipe lightly dnwnward with the crumb, about half a yard at each stroke, till the npper part of the hangings is completely cleaned all aronnd; then go ronnd again with the light sweeping stroke downward, always commencing each snccessive stroke a little higher than the upper stroke had extended, till the bottom be finished. This operation, if carefully performed, will frequently make old paper look almost equal to new. Great cantion must be used, not by any means to rub the paper hard, nor to attempt cleaning it across or horizontally. The dirty part of the bread must be each time cut away, and the pieces renewed as soon as at all necessary.

Preserving Charred Papers.—Mr. E. H. Hoskins, of Lowell, Mass., has suggested a very nseful and practical way of preserving and giving toughness and flexibility to charred paper, which has proved to be of much importance in the identification and copying of valuable documents, charred by conflagrations such as the recent Boston and Chicago calamities. We have seen specimens of charred papers and bank notes thns treated, that can be handled with impnnity. The printing upon the charred bank notes can be readily discerned. The preserving process consists, we believe, in ponring collodion npon the surface of the charred paper. The collodion forms a thin, transparent film, dries in a few minutes, when the process is complete.—*Scientific American.*

Removal of Glass Stoppers.—It may not have occurred to every one—at all events it is not noticed in any of our treatises on practical pharmacy—thst the easiest way to take out a stopper which has become fixed in the neck of a bottle is to reverse the motion given to it when putting it in, that is to knock the stopper from right to left. In most instances when a stopper is fixed, without the intervention of an adhesive substance, it is by turning it as one would drive a screw. The direction is almost invariably from left to right, and thus a thread is formed, which itis easier to follow backwards than to break. The trouble with which the removal of stoppers is nsnally attended must form an apology for introducing a suggestion of so little apparent importance.—*Canad. Phar. Jour.*

Artificial Ebony.—This is prepared on a large scale by grinding to powder 60 parts of charcoal obtained from sea-weeds, previously treated with dilute sulphuric acid and dried, and mixing it with ten parts of liqnid glue, five of gutta-percha, and two and a half of india-rubber, care having been taken to mix the two latter substances with coal-oil tar to render them gelatinons; then ten parts of coal-tar, five of pulverized sulphnr, two of pulverized alum, and five of powdered resin are added, and the mixture heated to 300° Fahr. After having been cooled, a substance is obtained which is equal in many respects to gennine ebony-wood, but fsr less expensive, and capable of receiving a finer polish.—*The Cabinet Maker.*

Preservation of Woon.—Mueller employa for this purpose the phosphate of baryta formed within the fibre. The wood is first atceped in a solution of the phoaphate of soda, containing seven per cent. of the salt. When dry, the wood is again treated with a solution of chloride of barium, containing thirteen per cent. The wood thns prepared rssists damp well.

Removal of Nitric Acin Stains from the Hands.—It ia said that a mixture of solutions of caustic potash and snlphate of ammonia will effect this object. It may be presumed that the akin will he removed at the same time of the stain.

To remove staina from marble, take two parts common soda, one part of pumice atone, and one part of finely-powdered chalk; pass these through a sieve and mix with water. Rub the marble with this mixture and wash off clean.

Value of Castor Oil.—A correspondent of the Germantown *Telegraph* writes: "We have nsed neatsfoot oil in its simple form and prepared in various ways, also the leather preservative oils, sold in cans at the stores; also all the oleaginous, butyraceous, and other lugubrious substances knowu to the farm-kitchen, but we give the preference over them all to castor oil. We have had boots a year old that we have oiled with it and the leather was soft, smooth and water-proof to the last time they were used. We apply it clear, without heat. A little lampblack might he used on old leather, but it is seldom necessary on new, as the oil itself seems to keep the blacking on and renders the leather black and of fine appearance. Those who have been annoyed with hard, cracked, water-soaked boots, the snrface of the latter rough without blacking, and the leather shrunken and wrinkled so as to chafe, gall and otherwiso punish their feet, will find castor oil well applied to he every way satisfactory. We have used it for wagons and buggies, and find that it is in every way snperior. It will wear longer, lubricate better and is the least objectionable of anything we know of. We use it very little at once, not enough to cause it to run off and catch dirt at the ends of the hubs."

Parisian Wood Varnish.—To prepare a good varnish for fancy woods, dissolve one part of good shellac in three or fonr parts of alcohol of 92 per cent, in a water bath, and cantiously add distilled water nntil a cnrdy mass separates ont, which is collected and pressed hetween linen; the liquid is filtered throngh paper, all the alcohol removed by distillation from the water bath, and the resin removed and dried at 100° Centigrade until it ceases to lose weight; it is then dissolved in double its weigbt of alcohol of at least 96 per cent., and the solution perfumed with lavender oil.

An Aoent for Removino Hair.—Professor Boettger recommends snlphydrate of sodium for removing hair from hides. The reagent is prepared by mixing one part hy weight of crystalline sulphydrate of sodium, with three parts by weight of fine chalk. It can be kept in closely stoppered vessels any length of time. When required for use, moisten a small quantity and apply it to the hide; in a few minutes the thickest hair is attacked, and can be removed by water. Too long contact would soon injure the hide.

Fastening Leather upon Metal.—One part of crushed nntgalls is digested six hours with eight parts distilled water, and strained. Glue is macerated in its own weight of water for twenty-fonr hours, and then dissolved. The warm infusion of galls is spread upon the leather, the glue solution upon the roughened snrface of the warm metal; the moist leather is pressed upon it and then dried, when it adheres so that it cannot be removsd without tearing.

An excellent marking ink can be obtained from the anacsrdium nut (*a. orientale*). The juice, it appears, contains an oily matter which becomes black on exposure to the air, and is proof against all known detergents and decolorizers, acids and alkalies, cyanide of potassium, and chlorine. If linen be marked with this natnral ink, and then moistened with a little ammonia, the black becomes very intense and is perfectly permanent.

Zinc Signs.—*The Manufacturer and Builder* gives the following recipe for lettering zinc labels: Two parts acetate of copper (verdigris), two parts chloride of ammonium (sal ammoniac), one part lamp-black, twenty parts water; mix well in a glass-stoppered bottle, and shake before using. For fine lettering you may apply it by means of a blunt-pointed steel pen.

Preserving Grinnstones. — A grindstone should not be exposed to the weather, as it not only injures the wood-work, bnt the sun's rays harden the stone so mnch as, in time, to render it useless. Neither should it stand in the water in which it runs, as the part remaining in water softens so much that it wears unequally, and this is a common cause of grindstones becoming "out of trne."

Bronzing and Varnishing Plaster Figures. These shonld be sized first, and painted with color according to the colored bronze required, as red, white, green, yellow, black, etc. Before the colors are thoroughly dry, that is, when they feel "tacky," the prominent parts should be bronzed with bronze powder, applied by a piece of chamois leather. Varnish afterwards with some quick drying varnish.

Pottery Varnish.—Coatings of lead oxide and salts are apt to dissolve off in acid liqnids, thereby threatening the health of those who use them. Several anccessive coatinga with a aolution of sodic ailicate, and then exposure to a bright red heat in a furnace, prevent any such solution from taking place when the vessels are nsed.

Indestructible Putty.—Boil 4 pounds a brown nmber in 7 pounds linseed oil for two hours; stir in 2 ounces of wax; take from the fire and mix in 5½ pounds chalk and 11 ponnds white lead, and incorporate thoroughly. The latter operation ia quite essential.

The heaping np of damp, waahed or sodden wool is very objectionable as favoring rotting, and at all events the wool spins badly, and will not dye well. A chromium or alum and tartar bath is the best to nse for sodden wool.

Good Health.

The Teeth.

Dr. Hayes, an eminent snrgeon-dentist residing in London, gives the following nseful hints abont the care of the teeth. They are simple, timely, and deserve attention:

"In the first place, the teeth shonld be fairly used. By this I mean, not made to perform the duties of crackers for nuts, experimented on to ascertain their strength, or by ladies to rival scissors in cutting thread; for rest assured—in every case, more particularly the last—the party having recourse to such practices will surely some day rne them; the teeth so unwittingly injured being always the first to part company from their fellows. Those who indulge in such or similar habits may truly be called the dentist's friends. Cleanliness is absolutely essential for the preservation of the teeth, and they should he well brushed at least morning and evoning, that any fecnlence which may be attached to them, either dnring sleep from the stomach, or by day from msals, may not he allowed permanently to adhore, cansing, firstly, discoloration, then tartar, and subseqnently, if I may so express myself, nndermining the constitution of one or more, as from their positioa they may be more or less liable to corrosion. In order that the teeth should look natural—that is, retain their natural color—a dentifrice free from the smallest particle of acid should be nsed at the matin hour, and the mouth rinsed with tepid water, for extremes of heat and cold are most highly prejudicial, not only to their color, but also to their durability; and I know no methed so simple of converting a really useful and ornamental set into one of pain and snbseqent extiuction, than the nse of washing in either one or the other. The person who habituates him or herself, to any extent, to hot soup, tea, or other drinks, assuredly rivals the friend to the dentist just named. Brushes for the teeth should be of medium substance of bristle, and those made on what is cslled the penetrating principle are best. I wonld also observe that children at an early age shonld be instructed in the use of the toothbrush, and tanght the value and importance of the teeth, in order to inculcate habits of cleanliness and a due appreciation of the ornaments of the mouth. A brush properly selected (not too hard) may be used by children of five years of age, every morning; and by being part and parcel of the general ablution, and thus directing habitual attention to the teeth, a useful and cleanly habit will be engendered which will insure for them proper care through life."

Study Beneficial to Health.

The London *Globe* editorially presents the following: True study is an eminently leisurely process, the great condition of success in it being deliberation, and though it always sufficiently intsrests the student to keep his facnlties lively, it seldom excites him to any dangerons degree. Hence I believe that genuine study is much less injurious to health than is often supposed—certainly much less injurious than many things that are scarcely reputed injurious at all. The processes of genuine and well directed study positively saves the brain by their rational and orderly seqnences by the safe advance from step to step. Study of this kind is like a well-built staircase, by which you can climb to a great height with a minimum of fatigue, never lifting the body more than a few inches at a time. Bnt as there might be snch a thing as racing up a staircase, so when we study against time, there is a strain in the more speed, however good may be the system we are following. There may also be a strain on the faculties in the direction of them toward a kind of study which is not adapted to onr natural gifts. If we learn what nature qualified ns to lesrn, and learn it step by step, without hnrry, we incur a minimnm of cerebral fatigae and gain a maximum of acquirement. Study of this kind gently stimulates and does not fatigue, nnless prolonged for an unreasonable length of time. It is positively favorable to health, because it is favorable to cheerfulness; it makes life pleasanter and more interesting, and so far from being injurions to the nervons system, gives it tone and vigor exactly as manly exercises give tone and vigor to the muscular system. There can be no doubt that men were intended to hear intellectural labor without injury to their health; we are constitnted to think and learn, just as a fish is constituted to awim or a bird to fly.

Sleep.—Infants cannot slsep too long; it is well when they can enjoy a calm and long-continued rest, of which they should by no meana be deprived, as this is the greatest support granted them by nature. A child livea comparatively much faater than an adult; its blood flows more rapidly, and aleep promotes more nniform circulation, and facilitates digeation while a horizontal position is favorable to growth and development. Still, sleep should be proportioned to the age. After six months, the time of sleep can be regulated. An infant should always aleep the whole night in preference to the day, and as it grows older, a few hours morning and afternoon; and, after a while, to aleep after dinner will be snfficient. After a child ia four or five years old, its time of sleep may be shortened one hour every succeeding year, so that a child of seven will not require to sleep more than eight or nine hours.

Domestic Economy.

House-Cleanino.—In cleaning a room, the carpst shonld come up first, not only because of the dust, but to give the floor all day to dry, not leaving it to be scrubbed last, as we have seen some had managers do, and pay for it by influenzas. Where the walls are papered, they should next be swept with a clean towel pinned firmly round a hroom, if there is not a brush kept for the purpose. The ceilings of chambers are nsually whitewashed; this is the next proceeding; and the walls scrubbed, if painted or hard finished. Then come windows and wood-work, in all things being careful to nse as little slop as will thoroughly answer the purpose. In cleaning wood-work, nse little soap, but plenty of clean water, which will prevent discoloration. If dirty spots and patches are wiped off the year rouud, faithfully, there will be mnch less need of scrubbing the boards bare in "house cleaning." Oak, or dark woods, now so much the fashion, need not he tonched, with good care, more than once a year; frequent dry rubbing will answer every pnrpose. Spots of grease may be removed from nnpainted floor by soaking and rubbing them with turpentine, and afterward washing it off with soap or pearlash. If they are inveterate, make a paste of a quarter of a ponnd of potter's clay, and the same quantity of pearlash, stirred into a quart of boiling water; spread a thick coat on the floor, and leave it ten or twelve hours.

To Clean Looking-Glasses.—Take a newspaper, or part of one, according to the size nf the glass. Fold it small, and dip it into a basin of clean, cold water; when thoroughly wet, sqneeze it out in your hand, as you would a sponge, and then rub it hard all over the face of the glass, taking care that it is not so wet as to run down in streams. In fact, the paper must only be completely moistened, or damped all through. After the glass has been well rubbed with wet paper, let it rest a few minutss, and then go over it with a fresh, dry newspaper (folded small in your hand), till it looks clear and bright—which it will almost immediately, and with no further trouble. This method, simple as it is, is the best and most expeditions for cleaning mirrors, and it will be fonnd so on trial — giving a clearness and polish that can be produced by no other process. It is equally convsnient, speedy and effective. The inside of window frames may be cleaned in this manner to look beantifully clear; the windows being first washed from the outside; also the glasses of spectacles, etc. The glass globe of an astral lamp may be cleaned with a newspaper in the above manner.

Roast Oysters.—There is no pleasanter frolic for an autnmn evening, in the regions where oysters are plentiful, than an impromptn "roast" in the kitchen. There the oysters are hastily thrown into the fire by the peck. You may consider that your fastidions taste is marvellously respected if they are washed first. A bushel bsske is set to receive the empty shells, and the click of the oyster-knives forms a constant accompaniment to the music of langhing voices. Nor are roast oysters amiss npon your own qniet supper-table, when the "good man" comes in on a wet night, tired and hungry, and wants "something heartening." Wash and wipe the shell-oysters, and lay them in the oven, if it is qnick; upon the top of the stove, if it is not. When they open, they are done. Pile in a large dish and send to table. Remove the upper shell by a dexterous wrench of the knife, season the oyster on the lower, with pepper-sauce and butter, or pepper, salt and vinegar in lien of the sauce, and you have the very aroma of this pearl of bivalves, pure and undefiled.

Rapin Picklino of Meat.—The following is an English recipe: Roll the meat in a mixture of 16 oz. salt, ¾ oz. saltpeter, and 1 oz. sugar, so that all parts may be completely salted; then wrsp closely in a piece of cotton cloth previonsly well scalded and dried, and place in a porcelain or other vessel. The cloth is essential with small pieces, to retsin the brine formed in contact with the meat. After about 16 honrs, however, some brine will drain off into the bottom of the vessel, and it will be necessary then to turn the meat, still wrapped up, daily. A piece of six ponnds, treated in this wny for six days, then nnwrapped and boiled, will be fonnd quite palatable and snfficiently pickled. For larger quantities the cloth may be dispensed with, siuce the brine formed will be sufficient to cover the mass, provided the pieces are closely packed, and any nnavoidable cavities filled with stones.

Scallopen Oysters.—Crush and roll several handfuls of Boston or otber friable crackers. Put a layer in the bottom of a buttersd pudding-dish. Wet this with a mixture of the oyster liquor and milk, slightly warmed. Next have a layer of oysters. Sprinkle with salt and pepper, and lay small bits of bntter upon them. Then another layer of moistened crumbs, and so on nntil the dish is full. Let the top layer be of crumbs, thicker than the rest, and beat an egg into the milk yon ponr over them. Stick bits of butter thickly over it, cover the dish, aet it in the oven, bake half an hour; if the dish is large, remove the cover, and brown hy aetting it upon the upper grating of oven, or by holding a hot shovel over it.

One ounce of fresh quick-lime dissolved in water, will soften two barrels of ordinary hard water, and render it fit for washing purposes.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:
Saturday Morning, Oct. 18, 1873.

Legal Tender Rates.—S. F., Thurs., Oct, 16.—buying 92; selling 92¼.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Ingersoll's Rock Drill; Indiana Mines; The Eureka mine 241. Manufactures in a Mining Town; Copper Ores; Bullion, 248. California Cattle and Vaqueros, 249.
ILLUSTRATIONS.—Ingersoll's Rock Drill, 241. Grains of Science, 246. California Cattle and Vaqueros, 249.
CORRESPONDENCE.—Quicksilver Metallurgy; Notes of Travel in Nye County, Nevada; Quicksilver Extraction, 242.
MECHANICAL PROGRESS.—Wind and Water as Motors; Covering Steam Pipes; Atmospheric Telegraph at Paris. 243.
SCIENTIFIC PROGRESS.—Increasing Temperature of the Earth; The Oxyhydrogen Light; Lead; Artificial Cryolite; Carbonic Acid in the Air; A Chemical Experiment; A New Poison; Soluble Glass; Potash in Plants; Chloral Hydrate as an Antiseptic, 243.
MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 244.
MINING SUMMARY from various counties in California and Nevada, 245.
USEFUL INFORMATION.—Greasing Buggies and Wagons; Preserving Charred Papers; Removal of Glass Stoppers; Artificial Ebony; Preservation of Wood; Removal of Nitric Acid Stains from the Hands; Value of Castor Oil; Parisian Wood Varnish; An Agent for Removing Hair; Fastening Leather upon Metal; Zinc Signs; Preserving Grindstones; Bronzing and Varnishing Plaster Figures; Pottery Varnish; Indestructible Putty, 247.
GOOD HEALTH.—The Teeth; Study Beneficial to Health; Sleep, 247.
DOMESTIC ECONOMY.—House-Cleaning; To Clean Looking-Glasses; Roast Oysters; Rapid Pickling of Meat; Scalloped Oysters, 247.
MISCELLANEOUS.—Hydraulic Mining in Calaveras County; Seeds of Sugar Cane; The Sutro Tunnel; Wooden Railways; Machine for Testing the Condition of Rails; Water for Seven-mile Canon, 246.

Quicksilver Furnaces.

In other columns of this issue will be found letters from correspondents in relation to quicksilver metallurgy, which will be interesting to those connected with the mines as well as the general public. Our regular correspondence page being over full this week, we give place on this page to the following letter from the foreman of the New Almaden Mine, in relation to the subject of quicksilver, etc.

ENS. PRESS:—I noticed an article about "Quicksilver Extraction," in your issue of 4th inst., written by Hubert Bankert, in which he says: "In the New Almaden Works, I examined carefully the bricks of ons of the large condensers lately pulled down, and out of about 100 bricks, which I broke, scarcely one was not thickly permeated with metal, and in all the crevices of the mortar it poured out; neither can they ever be rendered sufficiently cool."

It seems to me very strange that Mr. Bankert should have made a statement so utterly at variance with the truth; the ore chamber and condeneers torn down were the last ones put up at these works, and their construction was entirely different from any of the other reduction works; they proved unsatisfactory, were only used for a short time, and then torn down for this very reason; the hundred bricks Mr. Bankert professes to have seen, and broken, could only exist in his imagination, as the whole furnace and condensere combined, did not contain that number of bricks, "permeated thickly with quicksilver."

But then as his article seems to be only written with the intention of recommending and lauding the old system of retorts, mixture of quicklime, concentration of ore, etc., (all of which was tried, and diecarded years ago at the Enriquetta Mine,) he probably thought that by depreciating the brick condensers, his invention would be much more admired by those who lack practical experience in beneficiating quicksilver ores.

F. FIEHLER,
Foreman, New Almaden Reduction Works.
New Almaden, Oct. 11.

CHRONIC.—For the last ten years, as winter approached, the papers of the State were rife in predicting early and heavy rains as likely to occur. Just previous to the late dash of rain, because the sky at times was slightly overcast, the same kind of prediction commenced again, and went from paper to paper, the round of the State. Now, since the shower has cleared up, all's mum.

Copper Ores.

On this Coast, though we have an abundance of copper ors, none of it is worked here, except what is mads up into bluestone. The few mines that make regular shipments, send their ore to this city, whers it is shipped and sent to Europe or to Baltimore. A great many people think that copper mines cannot bs worked here to a profit, because the business has been neglected, and because they think it is difficult to make any sales of their ores. This is erroneous; although none of the ore is smelted here, there are plenty of buyers in the market who buy to ship. This business should hs encouraged among us, as we have plenty of good copper mines, which only need development to be good paying properties. For the benefit of those who are unacquainted with the method of buying and selling copper ore we will give a short account of the way it is done.

Copper ores are bought by the unit or per cent. of copper contained, which, of course, depends on the grade of ore. Less than 16 per cent. ore is not very saleable. The price per unit varies here more than it does in the East or Europe, for ons reason, because we have to pay as much for the freight on low as on high grade ors. The scale of prices per unit at say $2.25 per unit for 20 per cent ors and $2.75 per unit for 30 per cent ore, for instance, ars for the following reasons: Suppose such ore to bs worth at home markets $4 per unit in gold.

20 per cent.@$4 per unit, equals $80 00 per ton at home.
Freight Insurance Commission, etc 36 00

Balance—20 per cent. @ $2.26....$45 00 per ton; price here.

Now if we take the 30 per cent. ore we have the following:

30 per cent. @ $4.00, equals $120 00 per ton at home.
Freight Insurance Commission, etc 37 50

Balance—30@$2.76..... $82 50

There is therefore a difference in charges on commission according to the percentage, and the insurance is of course higher on higher grade ore.

Most of the copper ore brought here comes from Nevada, but there are very few mines shipping 50 tons per month. The Battle Mountain Mine, Nev., belonging to English owners sends its ore here and direct to Liverpool on its own account, but most of the mines sell their ore here to buyers or agents. There are plenty of mines, which if worked vigorously, could produce a great quantity of ore for which there is a good market. Antimony and arsenic in any quantity in the ore disperses it in value, and in fact, almost ruin it. If such ore is shipped to this place, there is no sale for it, as good ore can be obtained. This class of ore is so expensive to smelt that smelters do not want it.

Moisture is to be taken into consideration in this connection, and it makes some considerable difference in the net weight of the ore. The Nevada ores as a general thing contain about two per cent. in moisture, but some run as high as three, four and five per cent. One mine—the Ella, in Nevada—has run as high as 20 to 25 per cent. in moisture. The carbonats ores never contain less than one per cent. moisture, but pure sulphuret ores sometimes contain as low as a tenth of one per cent. but generally three or four tenths. Most of the moisture is mechanically combined.

Almost all the ore that goes from here is sent by sailing vessels. Ships going "home" from here to England, except during the wheat seasons, are glad to get a layer of copper ore for freight, and sometimes it is taken very cheap. In shipping to Baltimore the ore first goes to New York and then by canal to its destination. Ships for there generally carry light assorted cargoes from this port, and want some dead weight, for which reason freight there is generally reasonable on ores. Ore can be sent from here to Baltimore, on an average, as cheap as it can be sent to Liverpool, on vessels, notwithstanding the additional expense of handling on canal boats, etc. Buyers for that place are in the market, as can be seen in our advertising columns.

The owners of copper mines who intend to ship, ought to send to disinterested parties who will see that the ore is properly assayed and sampled, and from whom the regular buyers can purchase. The ore on being sent here is systematically sampled by persons in the business. A certain proportion of the shipment is crushed and then spread out and thoroughly mixed over and over. From this samples are taken at random and placed in small bottles for the use of the assayer. By the method employed a good average of the whole lot is obtained. The seller takes his samples for assay and the buyer his. The assays are all made by the humid method and a certain proportion—one and three-tenths—is deducted, to agree with a fire assay. To show the means employed to get at the value of the shipment we will give an illustrative invoice or bill of sale of ore.

1 car load.....200 sacks.....20,000 lbs. gross.
Tare.....200 lbs.....
Moisture, as per assay, say 2 per ct.400..... 600

Net or dry weight.....19,400
19,400..... 8 684-2352 tons.
Sellers' assay..... .... 21.40 "
Buyers' assay..... 21.20 "

Average..... 21.30 "
Allowance for humid assay to fire assay..... 1.30 "

Net assay 20 per ct.
20 per cent..@$2.25 per cent.....$45 per ton.
8 684-2362 tons@$45 per ton..... 371.17 "

Copper ore always sells by the ton of 2,352 lbs., or 21 hundred weight (four quarters—28 pounds — making a hundred weight — 112 pounds).

The bluestone makers buy some copper ore but the demand from that source is limited. They prefer high grade carbonats ores. The bluestone men pay a high price for small lots as the demand for bluestone is good. It now sells at 12½ cents per pound, whereas in the spring and summer it sold below 10 cents. Birdsall & Co., of Dayton, Nev., make considerable of this material and as they supply their market—the Washoe mines—they have stopped the demand from Nevada for bluestone from this place. The orders have been decreasing ever since they first began to manufacture bluestone there.

Manufactures in a Mining Town.

In the mountains of Victoria, 96 miles from Melbourne, is the town of Ballarat, the foundation of which dates from the discovery of gold in 1851, when it became the center for supplies of the district, the mines of which are varied as they are in many of the mining centers of California. As the placers became poorer, the deep diggings were developed, followed by the working of the quartz mines. We often hear of the ability of the inhabitants of this district to work to a profit quartz that produces no more than $3 or $4 per ton. The temporary structures of 1851-2 soon gave place to substantial buildings for public use for manufacturing, and for stores and dwellings, many of every class of which would do credit to any city in any part of the world. There are hotels, banks, libraries, reading rooms, halls for lectures and public assemblages, hospitals, asylums, markets, etc.; they have their parks, their botanic gardens, cricket ground, race courses, pleasure grounds; they have cattle shows, agricultural and horticultural fairs, and also a school of mines for the practical training of those who desire to adopt mining as a profession or a business.

Of manufactures there must be many, for in 1867 some 45 meters were used in the supply of water to manufacturing establishments; among the most prominent now is the Phœnix foundry, which, established to supply the wants of the mines, employing but few hands, has developed into an extensive concern, fitted up with machinery, etc., with a force of 130 hands. This institution being able to undertake any business which offered, when the railway department invited bids to furnish ten heavy locomotives and tenders, bid for and attained the contract which amounted to £30,710. Since then they have entered into another contract to furnish 15 locomotives and tenders for the light lines of railways now in course of construction, the aggregate bids of the two contracts amounting to £81,320.

The materials for the 25 engines are imported in the raw state by the company; the only portions they do not manufacture are the wheels and axles, which the Government must find, the brass tubes for the boilers, and a few of the springs which even in England the locomotive builders procure ready made. The cost of the material imported was £30,000, the duty paid on which was £2,200. In addition to the duty, the company had to pay railroad freight to Ballarat to the amount of £1,000. Forty-five thousand pounds will represent the wages expended, and the profits made by the company on the two contracts. The first engine with its tender is of the class known as "six-wheeled, coupled, heavy-goods engine," with inside cylinders, 16 inches in diameter. The power is 510 nominal horse-power. The engine was subjected to a severe test, and gave perfect satisfaction.

In honor of the completion of this the first locomotive manufactured in the colony of Victoria, a banquet was given at which 180 gentlemen were present. The Chair was occupied by Mayor Smith, Chairman of the Board of Directors of the foundry. In response to the toast, "Prosperity to the Phœnix Foundry," he made a short speech, which was reported in the *Australasian*, and from which we make a few extracts as containing ideas of general interest in this as in all communities. He said he had been connected with the company from its commencement; when it was formed, comparatively few men were employed. An arrangement was arrived at between labor and capital which enabled the company to go on triumphantly. *He put labor first because without it capital could not exist.*

"The men in most cases were shareholders. When the profits of the undertaking were large enough to provide full wages for the workmen, the proprietors drew a full rate of interest on the capital they had invested. The workmen for three months only drew half wages; if at the end of the term the balance sheet showed that there was enough to pay full wages, they then got full wages. Full wages had been drawn by the men on all occasions except two since the company was formed.

"Something might be said of the establishment as a means of curing 'larrikinism' (i. e. hoodlumism). They saw 60 or 70 boys in it to-day. Some of them were employed in making the most delicate portions of the machinery. With some parts they had to be very particular indeed, because if they shaved ever so small a piece off, the part was ruined, yet he was informed that no parts had yet been set aside as marred. He was sure they must have been pleased with the youngsters when they noticed the manner in which they handled the machines. No public man who performs his duty, would neglect any means of providing employment for the generation which was springing up in the country. It was the duty of those who called themselves statesmen to make provision for the young, irrespective of what it might cost in the first instance. He believed that two or three of the most noted 'larrikins' in Ballarat, were furnished with employment at the foundry, but the work took the 'larrikinism' clean out of them! Let education be given the youngster and let him have fair and reasonable means of obtaining employment and we should not hear much of this cry of 'larrikinism'. When this contract was completed no English firm would be able to compete fairly and squarely with the Phœnix Company. The company intended that the artizans of this country should have a fair and reasonable opportunity of manufacturing what they were able to manufacture. He was assured that nothing could surpass the workmanship on this engine. It had no ornament—the Government required none—but if required it could be covered with brass. Those who constructed the complex and delicate parts of the machinery would not find it difficult to add ornament if needed."

From this it seems that our friends in Victoria have had trouble from "hoodlums" as well as ourselves and they have found a practical solution of the problem in establishing manufactories which gave them employment. This is what the capitalists of our city should do. Our manufactories here are limited in number as to variety and there are numbers of boys in the city out of employment. True, the hoodlum element is largely augmented by those who are really at work, but a few idle boys will in a measure corrupt a large number of laboring ones by setting a bad example. The establishment of manufacturing institutions, however, will tend greatly to decrease the hoodlum element in our midst. What has been done elsewhere can be done here, and our advantages are much greater than those of Ballarat.

Bullion.

The S. F. *Bulletin* gives the monthly shipments of bullion and dust through regular mercantile channels for the past nine months as follows:

1873.	Fine Gold.	Fine Silver	Gold Dust.
January.....	$198,684	$745,786	$1,680
February.....	69,954	393,162	3,230
March.....	129,237	393,080	300
April.....	331,845	627,250	538
May.....	129,429	1,264,142	4,926
June.....	308,664	796,019	365
July.....	385,587	698,627	2,557
August.....	898,797	976,718	2,920
September....	34,174	516,214	2,060
Totals.....	$2,487,371	$5,305,996	$18,486

The monthly shipments of coin for the same period have been as follows:

COIN MOVEMENT.

	Gold.	Silver.	Mexican.
January.....	$227,412	$10,000	$443,280
February.....	1,465,329	.....	315,448
March.....	1,776,302	5,940	249,255
April.....	1,015,696	700	265,008
May.....	229,768	6,000	327,682
June.....	285,096	100	328,639
July.....	218,758	9,488	236,622
August.....	200,586	116,060	334,213
September.....	788,182	46,600	119,770
Totals.....	$8,207,106	$193,886	$2,817,817

California Cattle and Vaqueros.

The large cattle ranges of this State, which are never separated by fences as in older countries, made necessary the adoption of some method by which the cattle of different owners could be recognized, In consequence of the herds becoming frequently mixed. The custom of branding was brought from the mother country by the early Mexicsn settlers, and is still ccntinued. To effect this object, *rodeos* are periodicslly held in csrtain localities, at which time the csttle belonging to different parties are branded with their respective marks and then turned loose. This custom is still in vogue in the southern counties of the State, but in many plsces has been discoutinued, as fewer cattle are kept, the land is fenced in and the country more settled up. A *rodeo* is, however, in progress this week on one of the large ranches in Marin county.

Without going into detail the method is as follows: The day for holding the *rodeo* is appointed by some of the prominent stock owners of a certain range of country. The large bands of cattle of perhaps fifty owners, which have been roaming during the year in the range are to be brought to a certain level spot at a convenient point for the purpose. All the *vaqueros* and ranchmen convene at the appointed place to share the work and sport, for sport it is to most of them and work for all. If there are "corrals" on the ground, so much the better, if not, horsemen are detailed to keep the different herds separated. Several fires are built where the brands are heated and the work hegins. The calves are recognized (as to ownership), hy the hrands in the cows they follow, so the same hrand is seared into their skin hy the men who have charge of that part of the business.

VAQUEROS "LASSOING" CATTLE.

The herders separate into bands, generally of three, and one of them rides into the herd, singles out a yearling and drives him into the open field. These men do not show the slightest hesitation ahont riding into the middle of the herd after they have singled out an animal. When the *vaquero* drives him out, another *vaquero* throws his riata over his horns and tries to slacken up his speed; meantime another riata is thrown over his hind leg and down he comes. Whsn necessary the third man dismounts, and the hull, by the aid of a sharp knife, quickly becomes a steer. If only to he branded, he is thrown as near the fire as possible and the hrand is applied. The riata is disengaged from the horns by one of the men, and by a quick motion and practiced turn of the wrist the man who holds the animal hy the hind leg, throws his riata loose and the beast is free. He is then driven off to the band in which he belongs. These men, however, become so expert that they can easily throw a stout hull with the aid of a riata and trusty horse. The method of doing this is shown in the spirited engraving accompanying this sketch. In these contests the strength of the *riata* is of more moment than the strength of the bull. When the vaquero is well mounted, as he generally is, after throwing his lasso over the hull's horns and taking a turn on the strong pommel of his Mexican saddle, there is a small chance for the bull.

These *rodeos* are scenes of enjoyment for the native Californians, who fairly revel in the sport. They are, without doubt, the finest horsemen in the world, and appear to the hest advantage on horseback. In this respect they are like sailors who, when ashore, are not particularly graceful in movement, and seem totally different from what they are. But in a gale of wind, aboard ship, the tar is in his element, and there is a certain romance connected with his profession which lends a charm to all his actions, and makes the clumsiest "shellback" for the time a model of grace. It is just so with these *vaqueros*. See them dismounted, in a watermelon patch eating *sandias*, in a cabin playing *monte*, or rambling idly, cigarreto in mouth, through the streets of a town, and these "greasers," as we call them, appear to be an idle, worthless set. Put these same men on a "bucking" *broncho*, kicking, biting and naing every endeavor to unseat his rider, or watch them single out and chase a vicious, long-horned steer at full speed, in all their leather and huckskin trappings, with jingling spurs, fancy hits and bridles, and wide, flapping *tapaderas*, and you would scarce recognize the same individual. He guides his steed by the slighest motion of the hody, appearing, Centaur-like, psrt of the horse itself, and seems to pay attention to anything rather than the animal he rides.

This class of men do most of the herding that is done on the large cattle ranges of this coast. The cattle themselves are mainly the common Spanish hreed, with large horns, lithe in body quick in motion, vindictive and possessing a courage and endurance which has made them famous. They have not the slightest fear of a man on foot—nnless he has a coil of rope in his hand—but when approached by a man on horsehack, behave themselves much more respectfully. Of late years a better hreed of cattle is springing up in our Stste, owing to the importations from the Esst, and it will not be very long before the long-horned steer will be a thing of the past.

Some mining operations are conducted as if governed hy spiritual advice, or with the view of spending the most money to obtain the least results, and owners and stockholders find out, when too late, that they have been "going it hlind." This is the result of faith. Now if people who have money to spend on a mine would employ none hut what they are satisfied is the hest ability -the most capahle captains and hest practical miners—instead of the cheap and indifferent ability and help too often employed, they would save at the hunghole thrice what is gained by the spigot policy. Or let these espitslists invest their money in some of the other sources of wealth in the region, which requires less faith than practical demonstration to prove success, and thus withdraw their pernicious influ·nces from the more prosperous mining operations.

The Horse-chestnut is now used in France for the manufacture of starch. The nnt yields about 17 per cent. of pure starch.

Bullion Drift.

Ths *Bulletin* of the 2d inst. says: It is interesting to watch ths ebb and flow of treasure to and from San Francisco. In former years, the channels were wsll defined and ths quantities sasily ascertainsd. The amounts brought to ths city by private individnals and carried away in the same manner havs never been known. It is probably true that the snpply offsets the dsmand in this respect, and hence it is immaterial to get at the facts, even if it were possihle. Of late ysars, ths public channels for the movemsnt of treasurs havs been somewhat disturbed. Formerly nearly all the bullion from the mines was shipped to this city. Now a considerabls portion goss dircct from ths mines to New York and other markets. This is one derangement. Auother is found in the shipment of coin and bullion through ths mails. There is no record kept of this movsment by the Post-office authorities, and hence it is impossihls to state the quantity thus sent. Most of the domestic treasure and a portion of the foreign trsasure received iu this city comes throngh Wells, Fargo & Co's Express. The amount received through this channel for the past quarter was $9,695,700, and for the nine monthe, $23,825,600. The details are as follows:

	Silver Bullion.	Gold Bullion.	Coin.
January	$295,261	$892,477	$917,197
Febrnary	333,375	635,326	621,152
March	332,677	653,915	865,979
April	1,298,128	795,404	614,546
May	1,842,283	855,470	687,133
June	970,862	976,613	652,204
July	1,168,758	1,176,298	934,243
August	1,346,993	1,208,133	671,680
September	1,643,506	833,687	722,629
Total	$9,211,843	$7,927,122	$6,686,663

The sourcee whence this treasure was received are indicated as follows:

From northern and southern mines	$19,760,997
From northern coast route	1,663,839
From southern coast route	558,687
From Mexico	1,842,105
Total	$23,825,628

The quarterly receipts of treasure through thie channel since January 1st compare as follows with the same time last year:

	1872.	1873.
First Quarter	$9,053,203	$5,437,368
Second Quarter	8,719,140	8,692,543
Third Quarter	9,356,000	9,695,727
Totsl	$27,128,343	$23,826,628

The receipts for the first quarter this year were unusually light, only $4,000,000 coming from the northern and southern mines, againet over $8,000,000 from the same sources during the pas. quarter. The comparison for the nine months shows an apparent falling off of $3,300,000, prohably due to dircct ehipments East from the mines. The coin movement to and from the interior has been ae follows.

	Recelved.	Remitted.
January	$917,197	$1,491,140
February	621,152	1,102,813
March	865,979	965,742
April	614,546	1,006,846
May	687,133	868,104
June	652,204	993,617
July	934,243	1,061,480
August	671,680	1,493,211
September	722,629	2,231,864
Total	$6,686,663	$11,204,716

The foregoing would seem to indicate that the country has drawu on the city for $4,500,000 more than it sent here. It is undouhtedly the case that more coin is brought to the city by private iudividuals than ie taken away in a like manner, and hence the above statsment does not accurately indicate the coin movement between the city and country. The drafts from the interior are the heaviest duriug the last halt of the year, particularly during the quarter ending September 30th, wheu the bulk of the grain crop is handled. The amount of coin aent into the interior during the past qnarter was $4,786,600, against $5,425,500 for the same quarter last year and $5,276,000 for the same quarter in 1871. The total amount of coin received from and sent to the interior during the first nine monthe of the year, compares as follows:

	Received.	Remitted.
1870	$4,800,223	$13,365,671
1871	9,383,836	12 254,887
1872	6,471,266	13,079,471
1873	7,686,663	11,204,716

We have received $215,000 more coin from the interior than we did last year and returued $1,815,000 less. The gold notee in circulation in this State largely take the place of coin in the exchanges hetween city and country. There is now over $2,000,000 of this currency in the five banks of the State, aud it ie interesting to etate that it is all coustantly in circulation, and there is room for more of the same kind, payable in coiu on demaud.

The Champion Team.—A team consisting of eighteen very large mules, and hauling a train of three prairie schoonere loaded with general merchandise, arrived in town yesterday evening from Wadsworth. The team is owned by Clem. Ogg, and is claimed to he the best team in Nevada.

The ahove bit of a blow comes from the *Borax Miner*, puhlished at Columbus, Esmeralda county. That team is a very diminutive affair, as compared with some of Pritchard'e broad-gauge traine plying regularly hetween Eureka and Palisade. Twenty-six mules, drawing six wagone and in the neighborhood of ninety thousand pounde of bullion, are not an uncommon occurrence in these parts. The *Borax* man will have to gear up more stock before he can lay claim to the honor of having ths "champion team of Nsvada." Eureka excels the world in the matter of coarse bullion and hig teams. We also consider ourselves a loug way above the avsrage as a charcoal-producing community. Each of our furnaces licks up, every season, a pile of charcoal almost eqnal in size to Mount Davidsou.—*Eureka Sentinel.*

Gold Mountain Mines.

The Reese River *Reveille* givss tbe followiug mining items from Gold Mountain:

John Frost has just returned from Gold Mountain and Lida Vallsy, where hs has besn for some time supsrintending the work of opening the mines belonging to ths company with which he is counected. He informs us that he is sinking on the Indspendent and Blue Gravel ledgss. On the former a dspth of 50 feet has been attained, disclosing a solid ledge of 6 fest in thickness. On ths Blus Gravsl a depth of 30 feet has heen reached also disclosing a well defined ledge of high grade ore. One sample which he brought in from the Independent was assayed at the Manhattan Mill, in this city and gave a result of $558 per ton. Following are the resnlte of some aseays of ore from these two ledges, made by J. D. Pringle, of this city: Blue Wing—silver, $31-42; gold, $25.01; Oriental—silver, $188.50; gold, $12.50; Oriental—silver, $417.84; gold, $125.58; Independent, silver, $873.50; gold, trace.

The company with which Mr. Frost is connected contemplates the erection of a mill as soon as warranted by the development of the mines; the machinery is now ready for shipment. A site for the mill has heen selected at Lida, where there ie an excellent supply of hoth wood and water. There are about twelve men now at Gold Mountain. Frank Higge ie Postmoster; hut is going to resign as the salary ($12 per annnm) is too small and the duties are ao arduous that he is unable to leave the camp.

Lida Valley.

At Lida Valley, Hiskey & Walker'e mill is rnnning eteadily and turning out bullion at the rate of $1,000 per day. The Brown's Hope, Cinderella and Blue Dick localities are being worked eteadily and are producing ore of a high grade. A quantity of ore from a ledge owned by Len Martin and othere was worked at the mill and yielded at the rate of $1,100 per ton. There are 75 men at Lida.

Mr. Frost expresses himeelf as highly pleassd with the appearance of the mines hoth at Lida and Gold Mountain and as having every confidence in the permauence and richness of the minee and the future prosperity of the districts. He intende returning in a few daye.

The San Juan Mines.

The Denver *Tribune* gives the following concerning the San Juan mines: "The immense and apparently iuexhaustihle mineral resonrces of the San Jnan District are as yet but little known to the masses. The papere of Southern Colorado have written up the distriots frequently and quite fully, and the *Tribune*, with its corps of special corrsepondeuts, has given detailed descriptions of a few of the more prominent mines, hut there are hundreds of rich discoveries of which not a line has been written, owing partially to the fact that the discoverers and owners have paid more attention to developing their property than to fnrniehing correspondsnts with facts relating thereto. We have to-day been put in possession of interesting facts regarding two of the hitherto almost unheard of mines of that district, the Mother Comstock and Swansea, of which a hrief description will he giveu.

The Mother Comstock

Was discovered in Jnne, 1872, by an old miner named Newcomh, who at one time worked in the famoua Comstock lode in Nevada. When he saw the vein he said that it eurpassed the latter in richnese, and that it should be called the Mother Cometock. It is located about a quarter of a mile from the Little Giant, on the same level. The vein of quartz is forty feet wide, and the vein of aolid mineral therein is from eight to fifteen feet in width. One assay, made at the U. S. Mint here, gave $1,484 in silver per ton. The lead has been traced for a distance of two miles and a half, showing it to be a true fissure. Every foot of this has been located. The main claim belougs to Messrs. Ketchum, Weitzel & Wallace, who have run a tunnel into it a distance of thirty feet, and pronounced the deposits as unlimited in value.

The Green Mountain

Is another of thoee immense deposits of eilver for which the district is noted. It is located half a mile east of the Mother Comstock, and has a vein of solid mineral from four to seven feet wide, with grey copper permeating every pait of it. Many aesays have been made, which gave $3,000 per ton in silver.

The Swansea

Was discovered in August, 1872, by Dr. E. F. Cameron, the discoverer of the great Moose mine, in Mt. Lincoln district. It is located two miles west of the Little Giant, at ahout the same elevation, and is owned by Ketchum & Cook. The vein is smaller than the two mentioned ahove, the vein of quartz being four feet wide, and that of solid mineral from two and one-half to three feet in width. This one assays from $400 to $3,000 per ton. The mineral is composed of sulphnrets of silver and grey copper.

Splendid water-power of abundant capacity for mining machinsry, is close at hand, and large forests surround ths mines, on the Las Animas River, at ths site of old Animas city, first sttled upon by Baker and his party, in 1862, are large beds of coal of excellent quantity and great extent, which can be hastily worked.

Engineer's Report of the San Joaquin R. R.

An Associated Prsss dispatch dated Stockton, 10th inst. says: At a meeting of the Sau Joaqnin Tulare Narrow-Guage Railroad Company yesterday, Engineer Archibald Blair suhmitted a full and exhaustive report. The eastern line from Stockton to Visalia, running from the Stockton to the Stanislaus river, thencs to ths north bank of the Tuolumne river, thence to the north hank of ths Merced rivsr, thence to Bsar Creek and Hundred-Mile Station, thence to the north hankof the San Joaquin river, thence thence to the north hank of King's river, to Visalia. Total length of line from Stockton, 175 80-100 miles. Greatest hight above tidewater, 460 feet. Maximum grade ascending south, 52 8-100 feet per mile; average grade per mile, 20 87-100 feet. Total length of bridging of all kinds, 20,570 feet. Total estimated cost of the eastern line, $1,973,166.89; average cost per mile, $11,223.23. The western line, running from Stockton to Stanislaus river, thence to the north bank of the Tuolumne river, thence to the north bank of the Merced, thence to Bear Creek and the 92-mile post, thence to the San Joaquin river, thence to the north bank of King's river, thence to Visalia. Total length of the western line from Stockton to Visalia, 164 miles. Greateet hight ahove tide, 373 feet. Maximum grade, ascending south, 47 52-100 feet; descending south, 31 68-100. Average grade per mile, 11 4-100 feet. Total leugth of bridging of all kinds, 23,582 feet. Total estimated cost, $1,878,448 53. Average cost per mile, $11,447 85. The excess of the average cost per mile of the western over the eastern is in consequence of the greater amount of bridging required on the western line. The average cost of bridging per mile is $1,855 14.

The Directors did not vote on the adoption of either line. A Committee was appointed to draft a bill, to be submitted to the next Legislature, to authorize the several connties to snbscribe to the capital stock, but not in the form of a donation. Under the present law, the capital stock of the company ie fixed at $500-000. The amount of stock eubscribed for to date is $188,000, and ten per csnt. paid. The cost of surveying has heen $5,728. It ie underetood the hill to he drafted authorizing counties to subscribe, will except San Joaquin. The next regular meeting of the Board will be on the second Wednesday in November.

Dunderberg and Jinksville Mines.

We are credibly informed that the difficulties between these two companies are so far adjusted as to allow work to be commenced at once; the final settlement being contingent on future arrangements between them. The exact nature of the case we have not tronhled ourselves to ascertain; for to the community, and to ourselves, ench businese negotiations are of no importance. We rejoice in the aesurance that the disputed mines are to be worked, but by whom, and uuder what agreement, are alike matters of no consequence, as the people will he equally henefited by the act hy whomsoever performed. We hope the present friendly settlement will ultimately lead to one of a permanent character, and thus relieve onr camp from the demoralizing effects of mining lawsnits; for while we desire our legal friends—and we have many of them—to reap such rewards as belong to the profession, we can but think their talents may be as well directed and equally remunerative when applied to the settlement of snch questions hy compromise, instead of the weariness and damaging procrastination incident npon this kind of litigation.

Our fellow towneman, Capt. Plater, has been appointed to the general management of the business of the Ruby, and we wish him succeas, as well on personal grounds ae for the general good the favorable results of any enterprise invariably hrings to the public. The smelting department will coutinue to be coutrolled by Mr. Hahn, whose long experience, thorough knowledge and complete success in the past, are sufficient guarantees for future reeults.

The known husiness ability brought into requisition by both these litigants in the preeent arrangement between them cau but induce the helief that it is mutually advantageous, and hence another impetus ie given to the mining interests of our already prosperous community. —*Eureka Sentinel.*

Pure Argentio Nitrate.—In the preparation of pnre nitrate of sliver from alloye, the copper alloyed with silver is now dissolved in nitrio acid, and the liquid is evaporated down, not to dryness, but to the coueistence of a thick oil. Concentrated nitric acid is then added. The nitrate of silver is precipitated in cryetals whilst the copper remains in eolution. These crystale are next repeatedly washed in concentrated nitric acid, when they retain no trace of copper.

Silver-lead—Smelting Furnaces.

Ths Oreana mine, Silver Lake District, mentioned by ns a few days since as a new and rich discovery, abont forty miles from Dayton and six milss southwest of Hinss's Hot Springs, has been purchased by John B. Winters, Lon Hamilton and Mr. Hobart, of this city. Ths purchassrs will at once proceed to erect two or three furnaces near their mins and begin the work of smeltiug. Thomas Alchorn, of this city, with three or fonr workmen as assistants, lsft hers last night on the Dayton stags for ths mine. Mr. Alchorn goes out to ersct a boarding and lodging house, stahles and othsr necessary buildings. The new proprietors of ths mine have just completed a road over which to haul lumber and all other neeced snppliss. The mine is on the summit of a high monntain, which on the east side slopes down to Walker River Valley. Around the hase of the mountain lies what is known as Nnt Pins Valley, which will afford an abundance of wood from which to make charcoal for use in the furnaces. The ore assaye $100 per ton in silver, and contains from seventy to eighty per cent. of lead. The mine has been developed thus far by meaue of a perpendicular shaft, but the nsw proprietore will run to the lead three tunnsls at euitahle dietances down the side of the mountain. Owing to the peculiar sitnation of the vein it may be tapped at an immenss depth. Two or three companies are at work on extensions of the Oreana, and have not only found the vein, but have found large deposits of good ore. Should the new enterpriss provs as profitable as it promiscs, the many veins of argentiferous galena to he found in varions parts of this section of the State will donbtlsss he pretty closely looked after by onr prospectors.—*Territorial Enterprise.*

Mining Claim Sold.—The Placer *Argus* says: On the 31st of March last, O. Bunker, L. E. Seamen and W. C. Shain, owners of the El Dorado Hill mining claim, sitnated about one and one-half miles northeast from Michigan Bluff, bonded their claim to Gen. George S. Dodge for the sum of $15,000. By the terms of the bond they received $4,000 down and ths balance to he paid at the expiration of six months, if the sale was consummated. Gsn. Dodge immediately commenced fitting up the claim with the most improved modern apparatus for working the same, having expended in doing so over $6,000. The time given having expired on the 1st day of Octohsr, Messrs. Seaman, Bunker and Shain called on Messrs. Hubbard & Andrews, agents of Wells, Fargo & Co., in Auhurn on that day and were informed that the halance of the money, $11,000, was awaiting their order, the parties for whom General Dodge was operating having concinded, after a thorough prospect of the claim, to take it. The claim conaists of 160 acres of gronnd, and in a fair season they are enabled to have a supply of water for hydraulic purposes of from six to seven months. When the Iowa Hill Canal is completed it will give them a supply ths year ronnd. The claim has been worked and prospected for the past six months nnder ths supervieion of Mr. William Walsh, an experienced, thorough-going, energetio miner, to whom great credit is due for the manner in which he has managed the eame.

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Laws Concerning Corporations.

[Under the New Code—January 1, 1873.]

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A pamphlet containing the ahove provisions concerning Corporations has been printed from the Statutes of California. It furnishes those who wish these special laws an opportunity of obtaining them for the small sum of 25 cents (post paid). Address, Dewey & Co., Publishers, snd Patent Agents, S. F.

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The Explorera', Miners' and Metallurgist's Companion; Comprising a Practical Expositon of the Various Departments of Exploration, Mining, Engineering, Assaying, and Metallurgy. The Most Practical and Comprehensive Work on Mining Subjects Extant. Comprising 640 Pages, and 81 Engravings. By J. S. Phillips, M. E. Price, bound in cloth, $10 (in coin); in leather, $12. Forwarded by mail, in cloth, $11.40, currency; in leather, $13.75. Issued and for sale by Dewey & Co., Patent Agents and Publishers Mining and Scientific Press, S. F.

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well-constructed model is generally first needed, if the invention can well be thus illustrated. It must not exceed 12 inches in length or hight. When practicable, a smaller model is even more desirable. Paint or engrave the name of the article, and the name of the inventor, and his address upon it.

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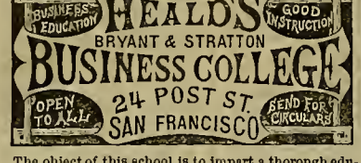

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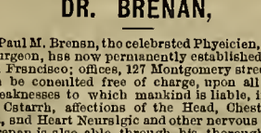

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SEALED PROPOSALS, for furnishing certain materials and constructing a portion of the Napa State Asylum Building for the Insane, will be received at the office of the President of the Board, No. 204 Sutter street, San Francisco, until 12 o'clock M. of the 30th day of October, 1873.

The printed specifications and printed forms of proposals can be had on application to Messrs. Wright & Sanders, Architects, 418 California street, where plans and drawings can be seen and all further information obtained. No bids will be entertained unless made on the specified printed forms of proposals and accompanied with a certified check or bond with two or more good and sufficient sureties, in a sum equal to ten per cent. of the total sum of the tender, to be returned on the due entering into the contract by the party to whom it may be awarded, or to be forfeited if the party fails to enter into the said contract.

The Board reserves the right to reject any or all bids.
oc4-td J. F. MORSE, President of the Board.

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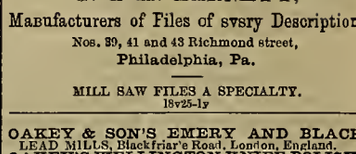

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[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., October 11th, 1873.

FOR WEEK ENDING SEPTEMBER 30TH, 1873.*

MECHANICAL KEY AND SOUNDER FOR TELEGRAPHS.—David L. Parkhurst, S. F., Cal.

BEE-HIVE. — George Miller, Battle Ground, Washington Ter.

TRADE-MARK.

WINDMILL.—Atwood & Bodwell, S. F., Cal.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

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Of all the articles that we import from foreign countries for our home consumption, Sugar comes next in value to Tea, and in weight exceeds all, it taking even more tonnage to import Sugar than to import Iron or Coal of all kinds. Hitherto our imports of sugar have been mainly confined to the supplies needed for the consumption of this Coast, but with the rates of fare on the railroad fixed at any reasonable figure, we may hope to extend our commercial domain in this one article as far as Chicago, and to take in all the States west of Indiana, Kentucky, Tennessee and Mississippi, embracing a population of about twelve millions. At present the rates are against us so that it costs much less to transport goods from St. Louis or Chicago to points on the borders of the States, than it does to send from here the same distance eastward. This has caused the experiment of the California Sugar Refinery in sending refined sugars to Chicago and St. Louis to fail. But we hope for better things and for a policy on the part of the railroad that will foster the trade of San Francisco with the States and Territories to the East. It would be the wisest even for the railroad in the end. Had we the trade of the States and Territories we have mentioned secured to our city, we would

Need to Import Twelve Times the Quantity

That we do now. These need for consumption fully eight hundred millions of pounds annually, and would give employment in this city to fifty refineries of the calibre of those that we now have. And as there are over four hundred men now employed in the business, they would give employment to 4,800, whom with their families and trades-people supported by them would number over 20,000. We shall have this ultimately. By and by, not one, but half a dozen railroads will reach out their arms from this city to meet the embraces of the East. Besides the Central Pacific, we already have of projected roads—the Texas or Southern Pacific, the Colorado Pacific, the Kansas Pacific and the Atlantic and Pacific, all of which are destined to have their termini in this city. The future sugar trade of San Francisco will mount up into values of hundreds of millions of dollars. Hitherto we have had but one local trade, we have had no foreign trade to supply. In twenty years more we shall task the resources of the Sandwich Islands, the Manillas, and Central America to supply us with our raws. In the annexed table will be found statistics of the imports for the last eighteen years, beginning January, 1855:

YEAR	IMPORTS IN POUNDS.	INCREASE OVER PRECEEDING YEAR.	DECREASE FROM PRECEED'NG YR.
1855	11,261,567	.....	.....
1856	12,539,946	1,338,379	.....
1857	11,702,300	.....	837,646
1858	15,873,422	4,111,122	.....
1859	25,876,236	10,002,814	.....
1860	13,424,917	.....	12,452,319
1861	17,080,903	3,665,986	.....
1862	19,971,030	2,890,127	.....
1863	26,617,018	6,646,988	.....
1864	27,420,106	803,088	.....
1865	35,204,638	7,784,532	.....
1866	39,126,554	3,921,916	.....
1867	37,094,746	.....	2,031,808
1868	34,247,312	.....	2,847,434
1869	53 337,488	24,110,145	.....
1870	36,657,988	.....	21,729,470
1871	49,141,277	12,483,289	.....
1872	82,353,920	33,712,643	.....
Total,	554,600,338	.....	.....

THE "COMMISSION MERCHANTS" GRANGE.—We see by dispatches to the Associated Press, that the Bostou Grange, oomposed of grain and commission merchants, having been ordered to dishand by the Grand Master of the National Grange, as it was not a Farmers Grange, threatens to carry the matter before the National Grange. The dispatch says the Boston Grange retains its books and rituals; the members using the pass-words and grips of the Order. Ae it is composed of prominent business men, the associated press reporter thinks a warm contest is promised, but we opine that if the members of this Grange are not of the proper kind, the matter will be very summarily disposed of, as just such occurrences as this were likely to occur. The proper measures to prevent troubles of the kind have been taken, and if the Boston Grange was one of an improper kind, the Boston Grange will not he in existence for any length of time. Enemiee of the movement will no donbt rejoice, thinking that internal dissensions in the Order will do it harm, but the Grangers are too earnest in their work not to have made ample provieions against any euch contests.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's Office, San Francisco

PACIFIC TRANSFER Co., Oct. 6.—Object: To carry freight, baggage and merchandise to and from all railroad depots and steamer landings, and to do a general and local express business. Directors: J. D. Fry, George F. Maynard, F. A. Hyde, J. Henley Smith and E. J. Coleman. Capital stock: $100,000.

MAXWELL HYDRAULIC M. Co., Oct. 6.—Object: To extend the Maxwell Mining Company's ditch, in Plumas county, in this State, down Spanish Creek and the Feather River, to a point about twenty-five miles. Directors: Stephen J. Clark, Daniel Swocucy, Thomas B. Prince, Hugh Corbett, J. W. Crawford and D. P. Barstow. Capital stock: $600,000.

SONOMA QUICKSILVER M. Co., Oct. 6.—Location: Sonoma county. Directors: J. D. Fry, C. N. Felton, G. W. Grayson, H. P. Wakelee and G. S. Dodge. Capital stock: $3,000,000.

COLORADO COMMERCIAL LAND Co., Oct., 6.—Object: To carry on business operations in California, Arizona, and in the State of Sonora, Mexico. Directors: Peter Donahue, Juan A. Robinson, Edward Martin, N. K. Masten, C. M. Hitchcock, Phillip A. Roachand Samuel Purdy. Capital stock, $5,000,000.

Meetings and Elections.

CAROLINE M. Co., Oct. 15.—Trustees: Hill Beachy, R. R. Given, C. W. McKecney, R. H. Rogers and Henry Raymond.

JULIA GOLD AND SILVER M. Co.—Trustees: Hill Beachy, Thomas Cole, M. Schmitt, M. D. Townsend, Robert Tracy. The last named gentleman was subsequently elected President; R. K. S. Latham, Treasurer; A. Noel, Secretary, and Frank M. Thayer, Superintendent.

ATWILL & Co. make a business of attending to the interests of shareholders and locators of minee, and conduct a general mining agency in this city. Parties desirous of obtaining their services in business of this character can learn their address hy referring to our advertising columns.

Asiatic Cholera in China.

ALMOST EVERY CASE CURED WITH

PAIN-KILLER!

DEAR SIRS: During a residence of some ten years in Siam and China, as a missionary, I found your Pain-Killer a most valnable remedy for that fearful scourge, the Cholera.

In administering the medicine, I found it most effectnal to give a teaspoonful of Pain-Killer in a gill of hot water sweetened with sugar; then, after about fifteen miuntes, begin to give ahont a tablespoonful of the same mixture every few minntes until rclief was obtained. Apply hot applications to the extremities. Bathe the stomach with the Pain-Killer, clear, and rnb the limbs briskly. Of those who had the Cholera, and took the medicine faithfully, in the way stated above, eight out of ten recovered.

REV. R. TELFORD, Missionary in China.

DEAR SIRS: During a long residence in China I have used your valnable Pain-Killer, both in my own family and among the Chinese, and have found it a most excellent medicine. In the summers of 1352 and 1863, while residing in Shaughai, I found it an almost certain cure for cholera, if nscd in time. Indced, nsing it in a great many instances, I do not remember failing in a single ease. For three years I have been residing in this place, more than fifty miles from a physician, and have been obliged often to fall upon my own resources in cases of sickness. The Chiuese come to us in great numbers for medicine and advice. Though without medical knowledge ourselves, the few simple remedies we can command are so much in advance even of their physicians, that we have almost dsily applications. We allow them to come, because it brings us in contact with them and opens a door of usefulness. In diarrhea, colic, vomiting, cholera, conghs, etc., your Pain-Killer has been my chief medicine. Yours, very truly,

REV. T. P. CRAWFORD, Tungchow, China.

Those using Pain-Killer should strictly observe the following directions:

At the commencement of the disease, take a teaspoonful of Pain-Killer, in sugar and water, and then bathe freely across the stomach and bowels with the Pain-Killer clear. Should the diarrhea and cramp continno, repeat the dose every fifteeu minutes. In this way the dreadful scourge may be checked and the patient relieved in the course of a few hours.

N. B.—Be snre and get the genuine article; and it is recommended by those who have used the Pain-Killer for the cholera, that in extreme cases the patient take two (or more) teaspoonfuls instead of one.

The PAIN-KILLER is sold by all the Druggists and Dealers in Family Medicines.

☞ Price, 26 and 50 cents and $1.

PERRY DAVIS & SON,

Manufacturers and Proprietors, 136 High street, ocll Providence, R. I.

San Francisco Metal Market.

WEDNESDAY, M., Oct. 15, 1873.

IRON.—
Scotch Pig Iron, ₱ ton ..... $52 50 @ — —
White Pig, ₱ ton ..... 52 50 @ — —
Refined Bar, bad assortment, ₱ lb ..... — — @ — 4
Refined Bar, good assortment, ₱ lb ..... — — @ — 4½
Boiler, No. 1 to 4 ..... — 05½@ — 06
Plate, No. 5 to 9 ..... — 06½@ — 07
Sheet, No. 10 to 13 ..... — 07½@ — —
Sheet, No. 14 to 20 ..... — 08 @ — 08½
Sheet, No. 24 to 27 ..... — 08 @ — 09
Horse Shoes, per keg ..... 7 50 @ 8 00
Nail Rod ..... — 9½@ — —
Norway Iron ..... — 8 @ — —
Rolled Iron ..... — 6 @ — —
Other Irons for Blacksmiths, Miners, etc. — 5 @ — —

COPPER.—
Braziers ..... — 35 @ — 38
Copper Tin'd ..... — 50 @ — —
O.Nail's Pat ..... — 55 @ — —
Sheathing, ₱ lb ..... — — @ — 25
Sheathing, Yellow ..... — — @ — 25
Sheathing, Old Yellow ..... — — @ — 12
Composition Nails ..... — 25 @ — —
Composition Bolts ..... — 25 @ — —

TIN PLATES.—
Plates, Charcoal, IX ₱ box ..... 14 00 @ 14 50
Plates, I C Charcoal ..... 13 00 @ 13 50
Roofing Plates ..... 13 00 @ 13 50
Banca Tin, Slabs, ₱ lb ..... — 40 @ — 42½
STEEL.—English Cast, ₱ lb ..... — 18 @ — 22
Drill ..... — 18 @ — 22
Flat Bar ..... — 18 @ — 22
Plough Points ..... — 15 @ — 17
ZINC ..... — 3¾@ — 10
Zinc, Sheet ..... — 9 @ — 10
NAILS—Assorted sizes ..... — 5½@ — 8
QUICKSILVER, per lb ..... — @ 1 10

GENERAL MERCHANDISE.

WEDNESDAY NOON, Oct. 15, 1873.

Potato Gunnies are jobbing at 20 to 22 cts. Australian Coal has advanced 50 cts ₱ ton. Salmon have risen to $9 00 and $9.50 per bbl, and other packages in proportion. Central American Coffee is firm at 21 to 22 cts, Linsood Oil has been again advanced 5 cts. Soaps are quiet; Castile 10½ to 11 cts and Local Brands at the wide range of 5 to 9 cts.

BAGS.

Eng. stand. Wh't	12	@	13
Detrick's Mach o Sewed, 22 x 36,	—	@	1
Gilroy le.....	11½	@	—
do, 22x36, do W	12¾	@	13
do, 22x40, do...	12½	@	—
do, 23x40.....	13¾	@	—
do, 24x40.....	15½	@	—
Flour Sacks ½s,	13	@	15½
" ¼s,	8½	@	9
Stand. Gunnies,	20	@	22
" Wool Sacks,	—	@	62½
" Barley do...	—	@	15½
Hessian 45-in. gds	—	@	11½
do 60	—	@	15
Burlaps, yard....	10½	@	10¾

CANNED GOODS.

Asst'd Pie Fruits			
in 2½ ₱ cans.	3 00	@	—
do Table do...	—	@	4 00
Jams & Jellies	4 00	@	4 50
Pickles ½ gl...	—	@	3 50
Sardines, qr box	—	@	2 15
do ½ box	—	@	3 15

COAL—Jobbing.

Australian, ₱ ton	9 00	@	9 50
Coos Bay.....	—	@	10—
Bellingham Bay.—	—	@	8 50
Seattle.....	—	@	11—
Cumberl'd, oks...	—	@	—
do bulk...	21 50	@	25 60
Mt. Diablo.....	6 25	@	8 26
Lehigh.....	14	@	15—
Liverpool.....	11 00	@	12—
West Hartley....	12 00	@	14—
Scotch.....	10 00	@	11—
Wellington.....	10 00	@	12—
Vancouver's Isl..	12 00	@	14—
Charcoal, ₱ sk...	75	@	—

COFFEE.

Sandwich Island	19½	@	—
Costa Rica per ₱	19	@	—
Guatemala.....	21	@	22
Java.....	—	@	26
Manilla.....	19	@	20
Ground in os....	25	@	27
Chicory.....	10	@	—

FISH.

Pac. Dry Cod, new	—	@	7¾
cases.....	8	@	9
Eastern Cod....	8½	@	9
Salmon in bbls..	3 00	@	3 50
do ½ bbls	5 00	@	5 50
do 2½ ₱ cans	—	@	—
do 2 ₱ cans..	3 75	@	4 00
do 1 ₱ cans..	2 25	@	—
Do Col. R. ½ ₱...	—	@	—
Pick. Cod, bbls.	22 00	@	—
do ½ bbls	11 00	@	—
Bos. Sm'k'd Herr'g	40	@	50
Mack'l, No. 1, ₱ bbl	—	@	10 50
" Extra....	—	@	12 50
" in kits....	2 75	@	—
" ex mess..	3 50	@	—
" Ex mess, ½ bs	—	@	13 00

NAILS.

Assorted size, ₱ lb	7	@	7

NAVAL STORES.

Tar & Pitch, ₱ bl	7	@	8
Oakum pr bale 50lb	4	@	4 50
Rosin.....	5 00	@	5 50
Anchors.....	8	@	8½
Chains.....	7	@	7½

OILS.

Pacific Glue Co.			
Neat F't No. 1.	—	@	—
do No. 2..	1 25	@	—
Castor Oil, No. 1	40	@	45
do do No. 2..	1 25	@	1 35
Cocoanut.....	55	@	60
Olivo Plagniol..	5 00	@	—
do Possel....	4 75	@	—
Palm.....	9	@	—
do Bagicalupi.	—	@	—
Linseed, raw..	1 00	@	1 05
do boiled....	1 05	@	1 10
Chip nut oil...	75	@	80
Sperm, crude....	1 40	@	1 50
do bleached..	1 90	@	—
Coast Whales...	30	@	35
Polar, refined....	45	@	50
Lard.....	85	@	95
Coal, refined Pet	37½	@	40
Oleophine.....	—	@	33
Devoe's Brill't...	43	@	45
Long Island.....	—	@	33

Eureka.....	37½	@	40
Devoe's Petro'm	37	@	33
Barrel kerosene	30	@	—
Downer Kerose'e	50	@	52½
Gas Light Oil....	37½	@	40

PAINTS.

Atlan. W. Lead.	11½	@	12
Whiting.....	1½	@	1¾
Putty.....	—	@	4
Chalk.....	—	@	1
Paris White.....	2½	@	—
Ochre.....	2½	@	3
Venetian Red...	3	@	3½
Red Lead.....	10½	@	11
Litharge.....	10	@	11

RICE.

China No. 1, ₱ lb	5½	@	6¾
do 2, do	5	@	5½
Japan.....	6	@	7½
Sinn Cleaned...	7	@	—
Patna.....	7	@	—
Hawaiian.....	5½	@	7
Carolina.....	10	@	10½

SALT.

Cal. Bay, per ton.	12 00	@	15—
do Common...	5 00	@	8 00
Mexican.....	14 00	@	15 00
Carmen Island..	14 00	@	20—
Liverpool fine..	22 00	@	—
do coarse	20 00	@	21 00

SOAP.

Castile ₱ lb....	10½	@	11
Local brands....	5	@	8

SPICES.

Allspice, per lb..	15	@	16
Cloves.....	37½	@	40
Cassia.....	27½	@	—
Nutmegs.....	13	@	15
Whole Pepper...	25	@	26
Gr'nd Allep pr dz	—	@	1 00
do Cassia do..	—	@	1 50
do Cloves do..	—	@	1 25
do Mustard do	—	@	2 25
do Ginger do..	—	@	1 00
do Pepper do..	—	@	1 25
do Mace do....	1 20	@	1 30

SUGAR, ETC.

Cal. Cube per lb.	11	@	—
Circle A crushed	11	@	—
Powdered.....	—	@	11¼
Dry granulated	10½	@	11
Extra C.....	10½	@	—
Hawaiian.....	7½	@	9¼
California Beet.	8	@	11
Golden C.....	9½	@	—
do Re'g'rade	7	@	—
Cal. Syrup in bls.	80	@	32½
do in ½ bls.	32½	@	35
do in kegs..	40	@	—
do Hawaiian..	20	@	22½

TEAS.

Oolong, Canton, lb	19	@	25
do Amoy...	28	@	50
do Formosa	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	80
do Moyune.	60	@	1 00
Cunpo'dor, Cant.	30	@	42½
do Pingsuey	50	@	90
do Moyune	60	@	1 25
Y'ng Hy., Canton	28	@	40
do Pingsuey	40	@	70
do Moyuno..	65	@	85
Japan, ½ chests, bulk	30	@	75
Japan, lacquered bxs, 4½ and 5 lbs	45	@	67
Japan do, 3 lb bxs	45	@	90
do 1 lb bxs	35	@	65
do ¼ lb paper	30	@	55

TOBACCO—Jobbing.

Bright Navys....	50	@	60
Dark do.....	45	@	50
Dwarf Twist....	57	@	62½
12 inch do	57	@	62½
Light Pressed...	65	@	75
Hard do ...	60	@	70
Comm. Wrap'r....	30	@	50
Penn. Wrapper..	35	@	45
Ohio do ...	30	@	45
Virgi'a Smok'g..	60	@	95
Fine cut chew'g..	50	@	75
Fine cut chewing, huc'ts, ₱ lb..	75	@	90
Banner fine cut..	75	@	95
Eureka Cala....	80	@	85

TURPENTINE.

Eastern.....	67½	@	70

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

WEDNESDAY M., Oct. 15, 1873.

The market has shown considerable movement of late, especially in Cornellians and all kinds of French Calf Skins. Eastern Sheep Linings are also in request. Altogether it may be said that the Leather trade is improving on its late depressed condition. Much more business is down now than a few weeks since, and the general feeling is much more hopeful.

City Tanned Leather, ₱ lb			26@23
Santa Cruz Leather, ₱ lb			28@29
Country Leather, ₱ lb			25@28
Stockton Leather, ₱ lb			26@28
Jodot, 8 Kil., per doz			$50 00@ 54 00
Jodot, 11 to 13 Kil., per doz			80 00@ 85 00
Jodot, second choice, 11 to 15 Kil. ₱ doz			55 00@ 70 00
Cornellian, 12 to 16 Ko			57 00@ 67 00
Cornellian Females, 12 to 13			60 00@ 54 00
Cornellian Females, 14 to 16 Kil			66 00@ 72 00
Canterville, 15 Kil			60 00@ —
Simon, 18 Kil., ₱ doz			51 00@ 63 00
Simon, 20 Kil. ₱ doz.			65 00@ 67 00
Simon, 24 Kil. ₱ doz			72 00@ 74 00
Robert Calf, 7 and 9 Kil			35 00@ 40 00
French Kips, ₱ lb			1 00@ 1 35
California Kip, ₱ doz			40 00 to 60 00
French Sheep, all colors, ₱ doz			8 00@ 15 00
Eastern Calf for Backs, ₱ lb			1 00@ 1 25
Sheep Roans for Topping, all colors, ₱ doz			9 00@ 13 00
Sheep Roans for Linings, ₱ doz			5 50@ 10 50
California Russett Sheep Linings			1 75@ 4 50
Beat Jodot Calf Boot Legs, ₱ pair			5 00@ 5 25
Good French Calf Boot Legs, ₱ pair			4 00@ 4 75
French Calf Boot Legs, ₱ pair			4 00@ —
Harness Leather, ₱ lb			30@ 37½
Fair Bridle Leather, ₱ doz			48 00@ 72 00
Skirting Leather, ₱ lb			34@ 37½
Welt Leather, ₱ doz			30 00@ 50 00
Buff Leather, ₱ foot			19@ 22
Wax Side Leather, ₱ foot			17@ 19
Eastern Wax Leather			—@—

LUMBER MARKET.

WEDNESDAY, M., Oct 15, 1873.

Cargo prices for Oregon Pine are $16@18 for rough and $26@28 for dressed; Laths, $3@3.25. Sugar Pine is quiet at $35@45; Cedar, $12.50, $32.50 and $22.50 for the three qualities.

CARGO PRICES OF REDWOOD.

Rough, ₱ M.....	$20 00
Rough refuse, ₱ M.....	15 00
Rough clear, ₱ M.....	22 50
Rough clear refuse, M..	22 50
Rustic, ₱ M.....	35 00
Rustic, refuse, ₱ M....	24 00
Surfaced, ₱ M.....	32 50
Surfaced refuse, ₱ M...	22 50
Flooring, ₱ M.....	30 00
Flooring, refuse, ₱ M..	20 00
Beaded flooring, ₱ M...	32 50
Beaded floor, ref'se, M.	22 50
Half-inch Siding, M....	22 50
Half-inch siding, ref. M.	15 00
Half inch, Surfaced, M.	25 00
Half-inch Surf. ref., M.	18 00
Half-inch Battens, M...	22 50
Pickets, rough, ₱ M....	14 00
Pickets, rough, p'ntd...	16 00
Pickets, fancy, p'ntd...	25 00
Shingles, ₱ M.....	3 00

PUGET SOUND PINE —Retail Price.

Rough, ₱ M.....	25 00
Fencing and Stepping, M	37 50
Fencing, 2d quality, ₱ M	30 00
Fencing, ₱ lineal foot..	1c
Flooring and Step, ₱ M	80 00
Flooring, narrow, ₱ M..	32 50
Flooring, 2d quality, M..	25 00
Laths, ₱ M.....	3 50
Furring, ₱ lineal ft....	¾

REDWOOD—Retail.

Rough, ₱ M.....	25 00
Rough refuse, ₱ M.....	20 00
Rough Pickets, ₱ M....	18 00
Rough Pickets, p'd, M..	20 00
Fancy Pickets, ₱ M....	30 00
Siding, ₱ M.....	27 50
Tongued and Grooved, surfaced, ₱ M.....	35 00
Do do refuse, ₱ M.....	27 50
Half-inch surfaced, M..	40 00
Rustic, ₱ M.....	42 50
Battens, ₱ lineal foot..	1c
Shingles ₱ M.....	3 50

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Bunker Hill Quartz Mining Company.—

Location of works, Amador, Amsdor county, Cal. Location of principal place of business, 13 First street, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 11) levied on the 10th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wsles L. Palmer	113	20	$200 00
Walcs L Palmer	120	20	200 00
Wales L Palmer	121	20	200 00
Wnles L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmer	125	20	200 00

And in accordance with law, and an order of the Board of Directors, made on the 10th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public suction, st the office of the Company, No. 19 First strcet, San Francisco, Cal., on Monday, the third day of November, 1873, at the hour of 2 o'clock M. of said day, to psy said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, Cal. ocl1

Buena Vista Petroleum Company.—Loca-

tion of principal place of business, San Francisco, State of California. Location of works: Buena Vista, Kern county, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 26th day of September, 1873, an assessment (No. 17) of one dollar per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 430 Jackson street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 7th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 25th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

L. AGUAYO, Secretary.

Office, No. 430 Jackson street, up stairs, San Francisco, California. se27

Cincinnati Gold and Silver Mining Company—Principal place of business, San Francisco, California. Location of works, Kelsey Mining District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 18th day of September, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 331 Kearny street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

WILLIAM SMALL, Secretary.

Office, Room 14, No. 331 Kearny street, San Francisco, California. se20

California Silk Manufacturing Company—

Location of principal place of business, San Francisco, Cal. Location of works, San. Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 5) levied on the 29th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J H Blumenburg	16	1	$5 00
J H Blumenburg	17	1	5 00
J H Blumenburg	18	1	5 00
J H Blumenburg	19	1	5 00
J H Blumenburg	20	1	5 00
J H Blumenburg	21	1	5 00
Jas Dale Johnston	111	1	5 00
Jas Dale Johnston	115	1	5 00
Jas Dale Johnston	117	1	5 00
Jas Dale Johnston	118	1	5 00
Jas Dale Johnston	119	1	5 00
Jas Dale Johnston	120	1	5 00
Jas Dale Johnston	121	1	5 00
Jas Dale Johnston	127	1	5 00
Jas Dale Johnston	128	1	5 00
Jas Dale Johnston	129	1	5 00
Jas Dale Johnston	133	1	5 00
Hentsch & Berton	28	2	10 00
H H Bancroft & Co	46	10	50 00
Jonathan Kittredge	53	10	60 00
Marsh, Pilsbury & Co	56	2	10 00
P Douglas	57	1	5 00
P Douglas	68	1	5 00
P Douglas	202	1	5 00
P Douglas	205	1	5 00
C W Smith	53	5	25 00
C W Smith	175	5	25 00
J M Scott & Son	50	2	10 00
B F Ellis	54	1	5 00
Albert H Jordan	74	2	10 00
Albert H Jordan	97	2	10 00
Robert P Smith	73	¼	1 25
Britton & Ray	85	6	30 00
Strant, White & Co	33	2	10 00
H Rosekrans	94	2	10 00
H Rosekrans	232	1	5 00
H Rosekrans	233	1	5 00
G Wempe	100	5	25 00
A Hollnb & Co	107	2	10 00
John Hall & Son	135	3	15 00
J M Foard & Son	137	1	5 00
Wm Englander	168	5	25 00
Jas Leigh	185	1	5 00
Redington, Hostetter & Co	197	10	50 00
F B Wilde	201	1	5 00
J W Hodgkin	187	1	5 00
George Doherty	70	1	5 00
Robert Christy	200	1	5 00
Miss Minnie Neeley	203	1	5 00
Lewis Schumacher	158	2	10 00
A F Hinchman	160	4	20 00
E Carr	175	5	25 00
J W Egan	204	1	5 00
Bartlett & Pratt	188	1	5 00
Mrs Jane Sheridan	230	2	10 00
Edmund C Burr	234	16	80 00
Edmund C Burr	238½	30	150 00
Edmund O Burr	261	23	115 00
P A Eakina, Trustee	241	8	40 00
A P Brayton, Trustee	244	10	50 00
A P Brayton, Trustee	253	20	100 00
C M Hitchcock	248	6	30 00
W G Doolittle	250	1	5 00
Frank S Sutton	258	1	5 00
Robert Morrison	259	10	50 00
D M Bokee	260	1	5 00
Wm E Prall	262	25	125 00
F Weisenhorn, Trustee	263	40	200 00
O Crandall	264	21	105 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public anction at the office of the Company, No. 559 Market street, San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 2 o'clock P. M., of anch day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

D. M. BOKEE, Secretary.

Office—569 Market street, San Francisco, California. oc4

Commercial Coal Mining Company of

San Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 402 Montgomery street, room No. 23, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office—No. 402 Montgomery street, room No. 23, San Francisco, California. oct8

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the seventh day of October, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the tenth day of November, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oct1

Gold Run Mining Company—Principal

place of business, San Francisco, Cal. Location of works, Nevada county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary, corner of Market and Spear streets, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 20th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 10th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. O. PALMER, Secretary.

Office, corner of Market and Spear streets, San Francisco, Cal. se16 s4d

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, A. D. 1873, an assessment (No 7) of three dollars per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of L. L. Robinson, President, No. 603 Washington street, corner of Montgomery street, in the City and County of San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 4th day of September, 1873, will be delinquent, and advertised for sale at public auction, and unless paymcet is made before, will be sold on Monday, the 27th day of October, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

JOSIAH H. APPLEGATE, Secretary.

Office, room No. 2, No. 729 Montgomery street, San Francisco, California. aug 2.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the 4th day of October, 1873, and the day of sale of delinquent stock is hereby postponed until Monday, the 27th day of November, 1873. By order of the Board of Directors.

HENRY PICHOIR, Secretary pro tem.

Office, No. 603 Washington street, San Francisco, Cal. San Francisco, Sept. 1, 1873.

REMOVAL.—Office of Homiguere Mining Company is removed to office of L. L. Robinson, No. 603 Washington street, corner Montgomery, San Francisco, Cal.

HENRY PICHOIR, Secretary pro tem.

Hayden Hill Mining Company—Location

of works, Hayden Hill, Lassen County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of September, 1873, an assessment (No. 1) of Fifteen Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 331 Montgomery street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 14th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. KNIGHT, Secretary.

Office, No. 331 Montgomery street, San Francisco, Cal.

Lady Franklin Gold and Silver Mining

Company. Location of principal place of business, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 24d day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office, No. 507 Montgomery street, San Francisco, California. oct8

Ida and Rhoda Lewis Consolidated Min-

ing Company—Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1), levied on the 28th day of August, A. D. 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John Clarcsy, Trustee	67	1000	$100 00
John Clarcsy, Trustee	68	500	50 00
John Clarcsy, Trustee	69	500	50 00
John Clarcsy, Trustee	76	200	20 00
John Clarcsy, Trustee	77	200	20 00
John Clarcsy, Trustee	78	100	10 00
John Clarcsy, Trustee	79	100	10 00
John Clarcsy, Trustee	81	100	10 00
John Clarcsy, Trustee	90	50	5 00
John Clarcsy, Trustee	96	25	2 50
John Clarcsy, Trustee	98	20	2 00
John Clarcsy, Trustee	100	20	2 00
John Clarcsy, Trustee	101	20	2 00
John Clarcsy, Trustee	102	10	1 00
John Clarcsy, Trustee	255	100	10 00
John Clarcsy, Trustee	257	100	10 00
John Clarcsy, Trustee	85	50	5 00
John Clarcsy, Trustee	86	50	5 00
John Clarcsy, Trustee	258	50	5 00
John Clarcsy, Trustee	259	50	5 00
John Clarcsy, Trustee	260	25	2 50
John Cody, Trustee	142	100	10 00
John Cody, Trustee	143	100	10 00
John Cody, Trustee	144	100	10 00
John Cody, Trustee	146	50	5 00
John Cody, Trustee	147	50	5 00
John Cody, Trustee	148	50	5 00
John Cody, Trustee	149	50	5 00
John Cody, Trustee	150	25	2 50
John Cody, Trustee	151	25	2 50
G P Martinoni, Trustee	262	100	10 00
G P Martinoni, Trustee	264	25	2 50
G P Martinoni, Trustee	265	25	2 50
G P Martinoni, Trustee	266	25	2 50
G P Martinoni, Trustee	2 3	25	2 50
A E Davis	267	300	30 00
Wm Cory	270	113	11 30
Wm Cory	271	100	10 00
Wm Cory	273	100	10 00
F R Lewis, Trustee	153	1000	100 00
F R Lewis, Trustee	154	1000	100 00
F R Lewis, Trustee	155	1000	100 00
F R Lewis, Trustee	156	168	66 80
F R Lewis, Trustee	157	100	10 00
F R Lewis, Trustee	159	100	10 00
F R Lewis, Trustee	160	100	10 00
F H Lewis, Trustee	163	50	5 00
F R Lewis, Trustee	164	50	5 00
F R Lewis, Trustee	165	50	5 00
F R Lewis, Trustee	166	50	5 00
F H Lewis, Trustee	167	25	2 50
F R Lewis, Trustee	168	25	2 50
F H Lewis, Trustee	169	25	2 50
F H Lewis, Trustee	170	25	2 50
F R Lewis, Trustee	171	25	2 50
F H Lewis, Trustee	172	25	2 50
F R Lewis, Trustee	174	20	2 00
F R Lewis, Trustee	174	20	2 00
F R Lewis, Trustee	175	20	2 00
F R Lewis, Trustee	176	20	2 00
F R Lewis, Trustee	177	20	2 00
F R Lewis, Trustee	199	50	5 00
F H Lewis, Trustee	297	200	20 00
John P Lawson	30	50	5 00
J de Sta Marina, Trustee	31	500	50 00
J de Sta Marina, Trustee	32	500	50 00
J de Sta Marine, Trustee	33	500	50 00
J de Sta Marina, Trustee	34	500	50 00
J de Sta Merina, Trustee	36	330	33 00
J de Sta Marine, Trustee	38	100	10 00
J de Sta Merina, Trustee	40	100	10 00
J de Sta Marina, Trustee	41	100	10 00
J de Sta Merine, Trustee	43	100	10 00
J de Sta Merina, Trustee	44	100	10 00
J de Sta Merina, Trustee	45	100	10 00
J de Sta Merina, Trustee	46	100	10 00
J de Sta Merina, Trustee	53	50	5 00
J de Sta Merina, Trustee	50	50	5 00
J de Sta Merina, Trustee	206	20	2 00
J de Sta Merina, Trustee	210	20	2 00
J de Sta Merina, Trustee	214	50	5 00
J de Sta Merina, Trustee	218	100	10 00
J de Sta Marine, Trustee	219	100	10 00
J de Sta Merina, Trustee	220	100	10 00
J de Sta Merine, Trustee	221	1000	100 00
J de Sta Merina, Trustee	222	600	60 00
J de Sta Merina, Trustee	225	234	23 40
A C Morse, Trustee	179	10	1 00
A C Morse, Trustee	180	10	1 00
A C Morse, Trustee	182	10	1 00
A C Morse, Trustee	183	20	2 00
A C Morse, Trustee	184	20	2 00
A C Morse, Trustee	189	50	5 00
A C Morse, Trustee	191	50	5 00
A C Morse, Trustee	103	100	10 00
A C Morse, Trustee	226	2434	243 40
A C Morse, Trustee	198	500	50 00
F R Lewis	248	1000	100 00
F R Lewis	249	1000	100 00
F R Lewis	250	1000	100 00
F R Lewis	251	1000	100 00
F R Lewis	252	500	50 00
F R Lewis	253	466	46 60
Charles Spencer	227	100	10 00
Charles Spencer	228	100	10 00
Charles Spencer	229	100	10 00
Charles Spencer	230	100	10 00
Charles Spencer	231	100	10 00
Charles Spencer	235	100	10 00
Charles Spencer	236	100	10 00
Charles Spencer	241	500	50 00
Charles Spencer	242	500	50 00
Charles Spencer	243	500	50 00
Charles Spencer	244	500	50 00
Charles Spencer	245	500	50 00
Charles Spencer	246	334	33 40
W H Sherp	13	1000	100 00
W H Sharp	16	1000	100 00
W H Sharp	247	1000	100 00
Ambrose Sorha	104	400	40 00
Ambrose Sorha	114	100	10 00
Ambrose Sorha	116	100	10 00
Ambrose Sorha	118	50	5 00
Ambrose Sorha	126	25	2 50
Ambrose Sorha	129	25	2 50
M J McDonald	208	200	20 00
L A Johnson	269	187	18 70
L A Johnson, Trustee	132	100	10 00
L A Johnson, Trustee	133	100	10 00
L A Johnson, Trustee	134	100	10 00
L A Johnson, Trustee	136	50	5 00
L A Johnson, Trustee	137	50	5 00
L A Johnson, Trustee	138	50	5 00
L A Johnson, Trustee	139	50	5 00
L A Johnson, Trustee	140	50	5 00
L A Johnson, Trustee	152	100	10 00
L A Johnson, Trustee	276	25	2 50
L A Johnson, Trustee	277	25	2 55
L A Johnson, Trustee	278	25	2 50
L A Johnson, Trustee	279	25	2 50
L A Johnson, Trustee	280	25	2 50
L A Johnson, Trustee	281	25	2 50
L A Johnson, Trustee	282	25	2 50
L A Johnson, Trustee	283	25	2 50
L A Johnson, Trustee	284	50	5 00
L A Johnson, Trustee	285	50	5 00
L A Johnson, Trustee	286	50	5 00
L A Johnson, Trustee	287	50	5 00
L A Johnson, Trustee	288	50	5 00
L A Johnson, Trustee	289	50	5 00
L A Johnson, Trustee	290	50	5 00
L A Johnson, Trustee	291	50	5 00
J A Lukin, Trustee	295	100	10 00
W H Smith, Trustee	296	100	10 00
B F Scott	298	250	25 00
B F Scott	299	250	25 00
B F Scott	300	200	20 00
B F Scott	301	300	30 00
George Scott	302	1000	100 00

And in accordance with law, and an order of the Board of Directors, made on the 28th day of August, A. D., 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the Company's office, Room No. 12, Express Building, San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 12 M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office—Room No. 12, Express Building, San Francisco, California. oc4

Ohio Consolidated Gold Mining Company.

Principal place of business, San Francisco, California. Location of works, West Point, Calaveras County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifteen cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 116 Leidesdorff street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 15th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 8th day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Secretary.

Office—No. 116 Leidesdorff street, San Francisco, Cal. oc18

Lemon Mill and Mining Company—Prin-

cipal place of business, San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors held on the 27th day of September, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 608 Merchants' street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the third day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal. oc4

Lady Esten Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors held on the 7th day of October, 1873, an assessment (No. 3) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. oc11

Land Purchasers Association—Office, No.

425 Kearny street (up stairs), San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (Installment No. 37) levied on the 26th day of August, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J K Basford	63, 64, 65, 87	4	$40 00
John Bays	28	1	10 00
J E Boyce	9	1	10 00
W G Burke	30	1	10 00
John A Callison	31	1	10 00
V Chevallier	93	1	10 00
J D Hooker	100, 101, 171	3	30 00
S W Hoyt	198	1	10 00
L Kilgour	21, 22	2	20 00
Mrs N McCarty	114	1	10 00
H O Robinson	150	1	10 00

And in accordance with law and an order of the Board of Directors, made on the 26th day of August, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 425 Kearny street (up stairs), San Francisco, Cal., on Monday, the 20th day of October, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.

Office, 425 Kearny street (up stairs), San Francisco, California. oc4

McMahon Silver Mining Company—Lo-

cation of works, Scholl Crock District. White Pine County, Nevada.

NOTICE.—There are delinquent, upon the following deycribed stock, on account of assessment levied on the fourth day of September, 1873, the severel amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Brush, R G, Trustee	148	100	25 00
Brush, R G, Trustee	149	100	25 00
King, Jos L, Trustee	151	100	25 00
Richardson, E A, Trustee	103	200	50 00

And in accordance with law, and an order of the Board of Directors, made on the fourth day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the salesroom of John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on the twenty-seventh day of October, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEORGE R. SPINNEY, Secretary.

Office—No. 320 California street, Room 5, San Francisco, California.

Phenix Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 2) of 20 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the first day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Thursday, the 20th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc1

Revenue Cons. Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of October, 1873, an assessment, (No. 1) of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary at the office of the company, room No. 1, 113 Leidesdorff street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 12th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 10th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. H. HARNEY, Secretary.

Office—Room No. 1, 113 Leidesdorff street, San Francisco, California oc18

Silver Wave Mining Company—Principal

place of business, San Francisco, California. Location of works, White Pine Mining District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of September, 1873, an assessment of Forty Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of said Company. Any stock upon which this assessment shall remain unpaid on Thursday, the 30th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 25th day of November, 1873, at the hour of 2 o'clock P. M., at the office of the Company, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. W. CLARK, Secretary.

Office, No. 418 California st., San Francisco, Cal.

Southern Pacific Consolidated Gold Min-

ing Company. Principal place of business, San Francisco, California. Location of works, Kern County, California.

Notice is hereby given that at a meeting of the Board of Directors of the above named company, held on the 11th day of September, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the twenty-fifth (25th) day of October, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Tuesday, the twenty-fifth (25th) day of November, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California. sep13

State of Maine Mill and Mining Com-

pany—Principal place of business, San Francisco, California. Location of works, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of October, 1873, an assessment (No. 4) of Five Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 10th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. B. CONGDON, Secretary.

Office—306 Montgomery street, San Francisco, Cal. oc4

San Francisco Co-operative Land and

Building Association. Office and principal place of business, 308 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co-operative Land and Building Association, up to, and including those for the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale. By order of the Board of Directors.

R. B. CONGDON, Secretary.

San Francisco, September 20, 1873. se20-tm

Stevens Pacific Smelting and Mining Com-

pany—Location of principal place of business, No. 320 Montgomery street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Holt, Thomas H	150	5	$ 50
Holt, A L	57	66	5 60
Holt, A L	58	66	5 60
Irelan, L	60	500	50 00
Irelan, L	61	500	50 00
Irelan, L	62	500	50 00
Irelan, L	63	500	50 00
Irelan, L	64	500	50 00
Irelan, L	65	500	50 00
Irelan, L	66	500	50 00
Irelen, L	67	50	5 00
Irelen, L	68	50	5 00
Irelan, L	69	50	5 00
Irelan, L	70	50	5 00
Irelen, L	71	50	5 00
Irelan, L	72	50	5 00
Irelan, L	73	50	5 00
Irelan, L	74	50	5 00
Irelan, L	75	50	5 00
Irelan, L	76	50	5 00
Irelen, L	77	25	2 50
Irelan, L	78	25	2 50
Irelan, L	79	25	2 50
Irelan, L	80	25	2 50
Irelan, L	81	25	2 50
Irelan, L	82	25	2 50
Irelan, L	83	25	2 50
Irelan, L	84	25	2 50
Irelan, L	85	25	2 50
Irelan, L	86	25	2 50
Irelan, L	87	25	2 50
Irelen, L	88	25	2 50
Irelan, L	89	25	2 50
Irelan, L	90	25	2 50
Irelan, L	91	25	2 50
Irelan, L	92	25	2 50
Irelan, L	93	34	3 40
Irelan, L	94	300	30 00
Irelan, L	146	25	2 50
Irelan, L	147	25	2 50
Irelan, L	148	25	2 50
Knight, J M	95	100	10 00
Knight, J M	97	100	10 00
Knigbt, J M	151	95	9 50
Murpby, Daniel	138	33	3 30
Murphy, Daniel	139	33	3 30
Murphy, Daniel	140	33	3 30
Murphy, Daniel	141	34	3 40
Stevens, Levi	47	500	50 00
Stevens, Levi	48	500	50 00
Stevens, Levi	49	500	50 00
Stevens, Levi	50	500	50 00
Stevens, Levi	51	500	50 00
Stevens, Levi	52	500	50 00
Stevens, Levi	53	500	50 00
Stevens, Levi	54	500	50 00
Stevens, Levi	55	500	50 00
Stevens, Levi	56	500	50 00
Shackelford, R M	38	667	66 70
Venderhurs, Wm	11	166	16 60
Vanderhurst, Wm	12	167	16 70
Vanderhurst, Wm	13	133	13 30
Vanderhurst, Wm	14	34	3 40
Vanderhurst, Wm	15	10	1 00
Vanderhurst, Wm	16	10	1 00
Vanderhurst, Wm	17	10	1 00
Vanderhurst, Wm	18	10	1 00
Vanderhurst, Wm	19	10	1 00
Vanderhurst, Wm	25	25	2 50
Vanderhurst, Wm	26	25	2 50
Vanderhurst, Wm	27	25	2 50
Vanderhurst, Wm	28	25	2 50
Vanderhurst, Wm	30	25	2 50
Vanderhurst, Wm	31	25	2 50
Vanderhurst, Wm	33	50	5 00
Vanderhurst, Wm	34	50	5 00
Vanderhurst, Wm	35	50	5 00
Vanderhurst, Wm	36	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 320 Montgomery street, San Francisco, California, on Monday, the third day of November, 1873, at the hour of 3 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. KNIGHT, Secretary.

Office, 320 Montgomery street, San Francisco, California. oc18

Virginia Consolidated Mining Company.

Principal place of business, San Francisco, State of California. Location of works, Kearsage Mining District, Inyo county, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 18th day of October, 1873, an assessment of five cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the secretary at the office of the Company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street, (Room, No. 13,) San Francisco. oc18

Wyoming Gold Mining Company—Loca-

tion of Principal Place of Business, San Francisco, California. Location of Works, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 320 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the eighteenth day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the eight day of December, 1873, at 1 o'clock P. M., to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. J. GUNN, Secty.

Office, 419 Montgomery street, San Francisco, California.

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Partionlar attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

THE RISDON
Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore, Jesse Holladay, O. E. McLane,
Wm. Norris, Wm. H. Taylor, J. B. Haggin,
James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS B. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjueting Steam Pieton

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC
Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

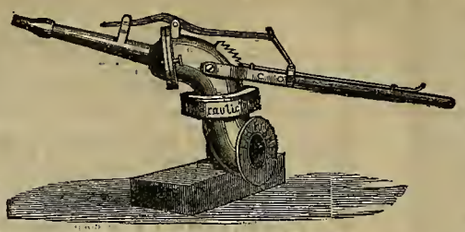
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S **KNUCKLE JOINT** AND **NOZZLE** IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the samo is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigoronsly prosecuted. Nevada, Jan. 13th. F. H. FISHER.

CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

SACRAMENTO FOUNDRY,

N. E. corner N and Front streets.....SACRAMENTO,

Steam Engines—all Kinds of Mining Machinery.

SHIP, AGRICULTURAL, STOVE, RANGE AND HOUSE CASTINGS.

Iron Railings and Ornamental Work of every description

At the Lowest Rates.

13v27-1y WM. GUTENBERGER.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the **Hepburn Rolling Pan** and **Callahan Grate Bars**, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

THOMPSON BROTHERS,
EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

THEODORE KALLENBERG,
MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL ALLOYS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.

MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

13 and 15 Fremont street, near Market, San Francisco
10v14qr

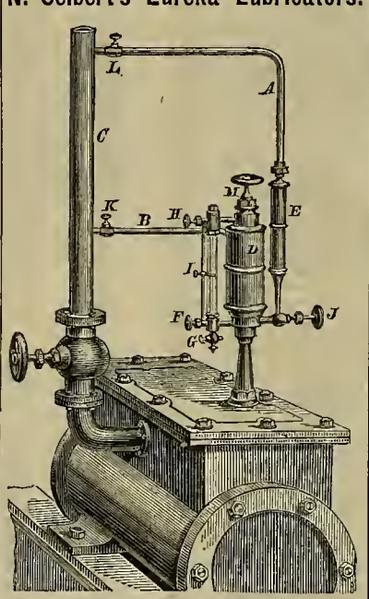
STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

10v27tf No. 32 FREMONT STREET.

Machinery.

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tubo I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

Gravel Claims and Hydraulic Mining.

Special attention given to the development of this important interest in California.

SURVEYS AND REPORTS MADE—COMPANIES ORGANIZED.

Mills, Mines, Mining Machinery, Wood and Timber Lands.

REAL ESTATE BUSINESS OPPORTUNITIES.

Best of References.

W. B. SKELLENGER,
No. 422 Montgomery street, San Francisco.
13v27-3m

☞ BUY BARBER'S BIT BRACE. ☜

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

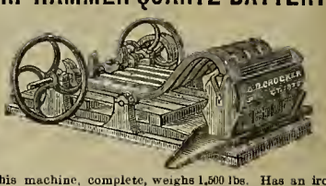
Parshall's Lubricator for Steam Engines.

These Lubricators are suited to all steam Engines, delivering the lubricant, whether tallow or oil, to every kind equally well. They are subject to be placed in the steam pipe, steam chest cover or the cylinder head, as is desirable. They admit the steam freely to the lubricant, which is constantly saturated with it and kept thereby in a free liquid state. When condensation of the steam begins, the water settles below and raises the oil to the top. The oil is fed from the top of the cup, through a tube which passes down through its center. All sediment in the oil settles to the bottom of the cup, and the oil, on going to feed the engine, is always pure. By simply turning a screw in the top of the cup, the flow of oil is regulated to suit the requirements.

We have numerous testimonials from Railroad Engineers and others, speaking in the highest terms of their superiority. The first one put in use on this coast is at the Pacific Saw Manufactory in this city. Parties desiring further information will please send for descriptive circular and price list, or call at our office.

WIESTER & CO.,
General Agents for the Pacific Coast,
17 New Montgomery street,
Grand Hotel Block, San Francisco.

CROCKER'S PATENT
TRIP HAMMER QUARTZ BATTERY.



This machine, complete, weighs 1,500 lbs. Has an iron frame, five steel arms with stamps weighing 17 lbs. each, which strike 2,0 0 blows per minute, in a mortar provided with screens on both sides, and crushes FINE 600 lbs. per hour, requiring one-horse power to drive it. Has been thoroughly tested, and is guaranteed to give good satisfaction. PRICE, $300.

G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND-POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

A. J. SEVERANOE & CO.
Office, No. 315 California street, Rooms 16 and 17.
24v26-tf

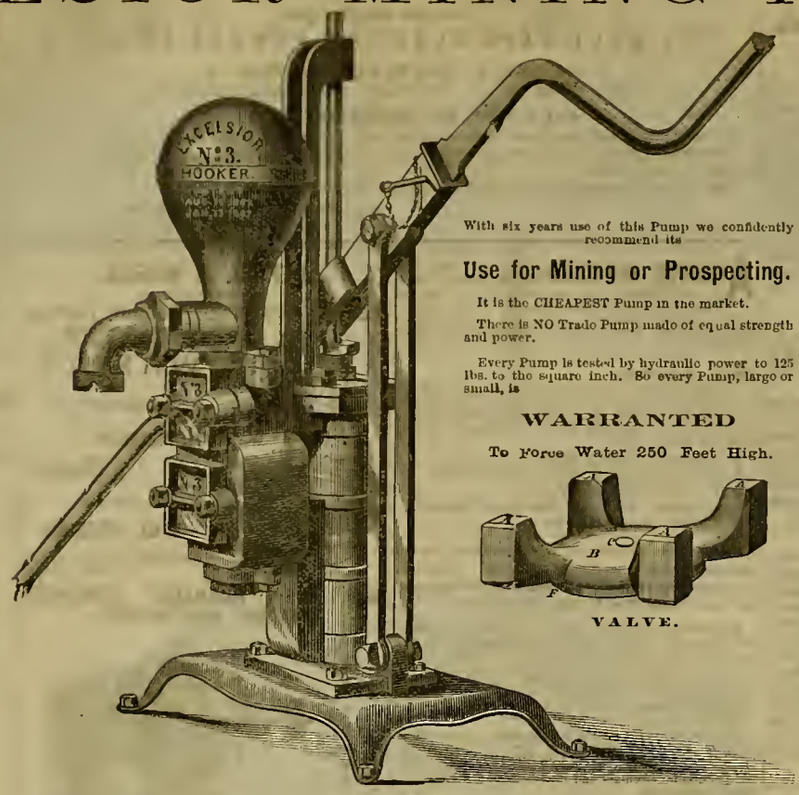
Brittan, Holbrook & Co., Importers of

Stoves and Metals. Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 178 J St., Sacramento. mr.-1y

PURCHASERS please say advertised in Scientific Press.

EXCELSIOR MINING PUMP.

NO. 2—MOUNTED.



NO. 3—SHIP.

With six years use of this Pump we confidently recommend its

Use for Mining or Prospecting.

It is the CHEAPEST Pump in the market.

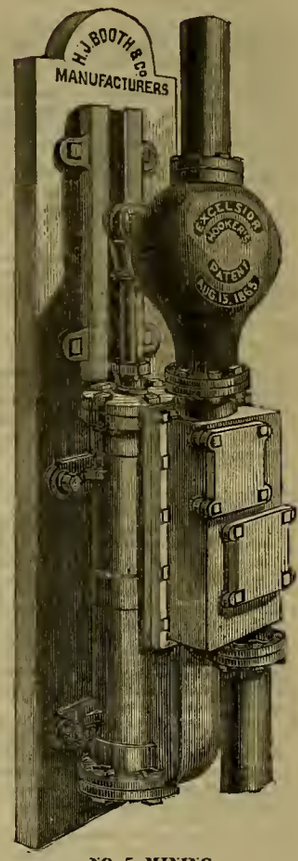
There is NO Trade Pump made of equal strength and power.

Every Pump is tested by hydraulic power to 125 lbs. to the square inch. So every Pump, large or small, is

WARRANTED

To Force Water 250 Feet High.

VALVE.



NO. 5—MINING.

ALL PUMPS WARRANTED. All Expense of Transportation Refunded if the Pumps are Proved Defective.

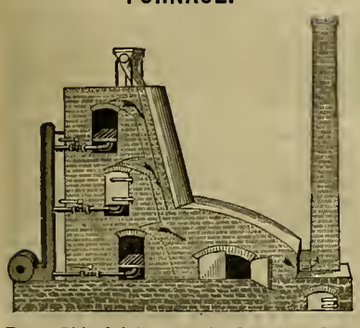
☞ Send for Circular.

Brittan, Holbrook & Co.,

111 and 113 California street, San Francisco, (and also Sacramento), General Agents.

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.

Austin, Nev., July 15, 1873. 6v27-tf

G. W. STRONG. W. L. STRONG.

G. W. STRONG & CO.,

Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

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JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,

Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Important to Miners and Mill Men.

Silver-Platsd Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,

655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention PAID TO

CONSIGNMENTS OF GOODS.

4v16-3m

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,

(Opposite the U. S. Branch Mint)

SAN FRANCISCO CAL. 7v21-3m

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setters for themselves, at the office, 229 Fremont Street, San Francisco

---

Nevada Metallurgical Works,

21 First street.....San Francisco.

Ores worked by any process.
Ores sampled.
Assaying in all its branches.
Analysis of Ores, Minerals, Waters, etc.
Plans furnished for the most suitable process for Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

E. N. RIOTTE,
C. A. LUCKHARDT,
Mining Engineers and Metallurgists.

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation, Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 23v26-1y

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CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 411 DRUMM STREET,

San Francisco.

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.

For all Laboratory and Manufacturing Purposes

H. M RAYNOR,

25 Bond street, New York.

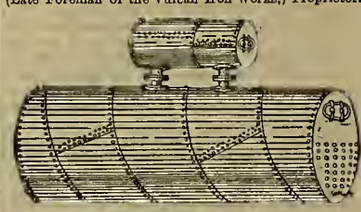
Platinum Scrap and Ore purchased.

San Francisco Boiler Works,

123 and 125 Beale Street.....SAN FRANCISCO

F. I. CURRY,

(Late Foreman of the Vulcan Iron Works,) Proprietor.



High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTURERS OF THE CELEBRATED

SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

---

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

Oregon street, below Front, San Francisco.

All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

JOS. THORNHILL, 1612 Mason Street, near Green.

C. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES, RANGES, etc.

DEWEY & CO.

American & Foreign Patent Agents,

OFFICE, 338 MONTGOMERY STREET, S. F.

PATENTS obtained promptly; Caveats filed expeditiously; Patent reissues taken out; Assignments made and recorded in legal form; Copies of Patents and Assignments procured; Examinations of Patents made here and at Washington; Examinations made of Assignments recorded in Washington; Examinations ordered and reported by Telegraph; Rejected cases taken up and Patents obtained; Interferences Prosecuted; Opinions reudered regarding tbe validity of Patents and Assignments; every legitimate brancb of Patent Agency Business promptly and thoroughly conducted.

Our intimate knowledge of tbe various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons; and our success and business are constantly increasing.

The sbrewdest and most experienced Inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to tbe notice of tbe public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

Foreign Patents.

In addition to American Patents, we secure, with the assistance of co-operative agents, claims in all foreign countries which grant Patents, including Great Britain, France, Belgium, Prussia, Austria, Victoria, Peru, Russia, Spain, British India, Saxony, British Columbia, Canada, Norway, Sweden, Mexico, Victoria, Brazil, Bavaria, Holland, Denmark, Italy, Portugal, Cuba, Roman States, Wurtemberg, New Zealand, New Soutb Wales, Queensland, Tasmania, Brazil, New Grenada, Chile, Argentine Republic, AND EVERY COUNTRY IN THE WORLD where Patents are obtainable.

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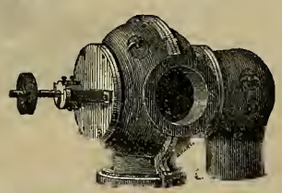

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EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of ths HALLIDIE TRAMWAY put up hy you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ors per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, thers is nothing about it to ever get out of order—nothing to wsar out. While ours requires but about two thousand five hundred feet of wire rope, I can ses no rsason why the line could not hs sxtended almost indefinitely with equally happy results. Again, the carrying capacity might be douhled or quadrupled if desired. Aftsr ssveral weeks trial upon our mine, ths unanimous verdict of all who have seen it is a complete, unquestioned success. If this can hs of any service to you, use it in any way you think propsr. Very respectfully, C. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO.,
Little Cottonwood, Utah,
Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elsvated wire tramway, which carriss its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that oven approaches them in the facilities they afford for moving ore at all ssasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one t n and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can he worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 21, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

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SAN FRANCISCO, SATURDAY, OCTOBER 25, 1873.

VOLUME XXVII Number 17.

Krom's Dry Ore Concentrator.

In a recent issae of this journal we gave at length the details of the workings of the Krom dry ore concentrator at Star Cañon, in this State, and the satisfactory resnlts accomplished there have attracted coneiderable attention to the machine. For the henefit of those who are unable to eee the machine in operatioa we present in this number drawings of the concentrator ae promised before. Figure 1 ie a perspective view of the machine and figure 2 is a transverse eectional view.

The machine is compoeed essentially of the following parts: A receiver, *H*, to hold the cruehed ore; an ore bed, *S*, on which the ore ie submitted to the action of air; the two gatee, *G G*, one to regalate the flow of ore from the receiver, *H*, the other to determine the depth of ore on the ore-bed; a paseage, *C*, in which the concentrated ore deecende, and roller, *R*, to effect and regnlate the discharge of the same; a fan, *B*, to give the puffs of air; a trip-wheel, *K*, lever, *A*, and spring, *E*, to operate the fan; and a ratchet-wheel, *W*, and pawl, *P*, to impart revolution to the roller, *R*.

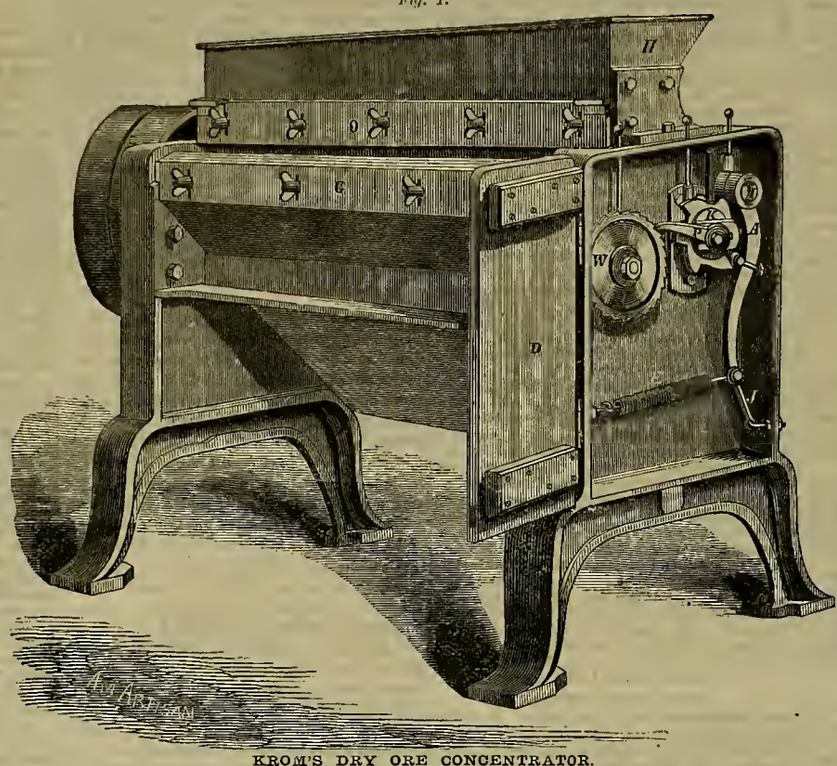
The mode of operating the machine is as follows: Ore is placed in the receiver, *H*, and the driving pnlley eet in motion. The trip-wheel, *K*, fixed on the opposite end of the pulley-shaft, works, by its cam-ehaped teeth, against the lever, *A*; and, by the alternate action of this wheel, forcing the lever in one direction, and of the spring, which at once and enddenly carries it back again, the fan, *B*, is made to swing on the ehaft, *I*, eending at each npward movement a qnick and eharp puff of air through the ore-bed, and lifting elightly the ore lying on it. As there are six projectione upon the trip-wheel, it follows that the moderate speed of 70 to 80 revolutions of this per minute will give 420 to 480 npward movements of the fan, in the eame time, and conseqaently a correeponding nnmber of puffs of air to agitate the ore. This rate is enfficient to secure a steady motion of the heavy halance pulley, and yet not so fast as to prodnce any unpleasant jar or noise—the machine working smoothly and eaeily.

The ore-bed is composed of wire-gauze tnbee, placed at dietancee from each other of one-fourth to three-eighths of an inch, according to the gradee of ore to be concentrated—the finer requiring that the tnhee be set nearer together, while the coarser allow of their being further apart. The ore-bed, situated in front of the fan, as plainly shown in the sectional view, ie formed by these tubes—their ende next to the fan being open; and the air from the fan entering theee, escapes throngh the top and sidee of the tubes, agitating the ore that lies on them, and also that between them near the eurface.

The ore between the tubee reste on that immediately underneath, in the paeeage, *C*, and ainke ae fact as the roller, *R*, at the bottom, effecte ite diecharge. The tubee being open on the lower side, any fine ore paseing throngh the meshes of the wire-ganze eimply descende with the main body, *C*, thue preventing any liability of the tnbes to fill np.

In diecharging the concentrated ore, *C*, the roller, *R*, ie operated (as mentioned above) by means of the rachet-wheel, *W*, and pawl, *P*; and, the latter being carried by a crank on the trip wheel, it follows that its speed is governed hy the speed of the wheel, which aleo gives

Fig. 1.



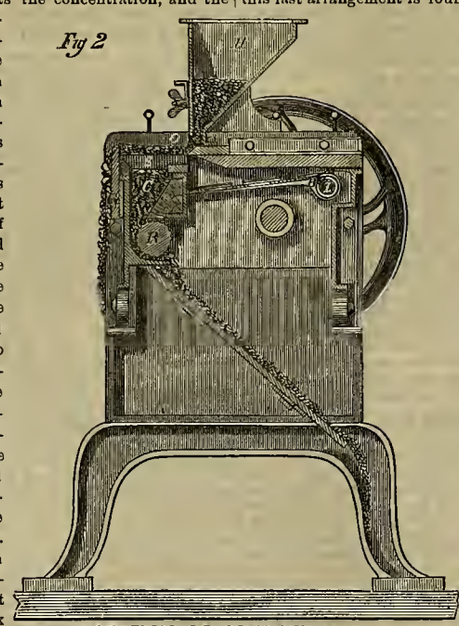
KROM'S DRY ORE CONCENTRATOR.

motion to the fan, *B*. By thie connection, the fan, which effects the concentration, and the roller, which discharges the concentrated ore, are made to act in concert with each other. The importance of this feature will be apparent when it is rembered that the amount of ore concentrated in a given time depende on the number of puffe of air eupplied per minute; so that, as the arrangement here eecures, the motion of the discharge roller ie controlled and regulated to correepond with the epeed of the fan.

To accomplish more satisfactorily the resnlt sought, the crank which carries the pawl can also be adjneted, by varying ite length, so that the speed of the roller may be further regulated, according to the richnees of the ore.

Ae already intimated, the upper gate, *G*, governs the flow of ore from the receiver, *H*, to the ore-bed; whilst the lower gate, *G*, is eo set ae to determine the thickneee of the stratum of ore lying npon the latter; the reaeon for this last arrangement is found in the neceseity of increasing or diminishing the depth of the hed of ore operated on, according to the coarsness or fineness of grade — the finer the crushed ore the thinner should the stratum be.

Fig 2



SECTION OF CONCENTRATOR.

The strap, with its screw fastening, servee, first, to prevent the roller-attachment of the lever, *A*, from striking the body of the trip-wheel, as it falle from each of the cam-shaped projeotions; and secondly, to regnlate the extent of movement of the fan. Further, by tightening up or slacking off by means of the screw fastening, the fan is carried in its vibrrtion through a greater or lese epace, producing, accordingly, a etronger or lighter pnff of air.

The puffs of sir are, at the start, regalated to agitate snfficiently the ore on the hed; bat should the richness of the latter increaee during working, or too large a sapply collect at one time on the bed, the sir ceseee to lift or sgitate the material eo mnch as before; and thne a check ie at once furnished to prevent loee by the overflowing of heavy ore in the tailings. No euch check ie poesible in water concentration; because wster moves practicslly as a eolid, and carriee all before it.

All the parts of thie machine liable to wear in course of time are manufactured duplicste, and can accordingly be cheaply reproduced. The concentrator messuree five feet in length, two feet in width, and three feet ten inchee in hight. It weighe, complete, 1,000 ponnde, and the sgente inform us is cspable of concentrsting half a ton per hour, with one-eighth horse power.

All the mills in Gold Cañon are buey crashing rock from the Crown Point, Belcher, Consolidated Virginia, Hsle & Norcroes and other Cometook mines. The *News* givee the following as the cspacity of the different mills: The Trench mill ie running on Hale & Norcroes rock, and ie crushing about eeventy tons per day. The Bacon ie orushing sixty-five tone per day of Silver Hill rock. To-morrow the mill will commence running on Consolidated Virginia. The Hope mill ie snpplied with ore from the Dayton mine; ite working capacity thirty tons per day. The Excelsior mill, capacity twenty-five tons per day, ie crushing Juetice rock. The Devil's Gate mill is ruaning on Crown Point ore; capacity thirty tons per day. The Pioneer mill is snpplied from the same mine; capacity forty-five tons. The Pappoose mill, capacity eixteen tone, is runniag on Belcher ore. The Atlas ie snpplied by the Crown Point; capacity fifteen tons per day. The Kelsey is ruaning on Belcher rock; capacity forty tons per day. We are not informed ae to the working capacity of other mills not ennmerated in thie list.

The Pioche papere deplore the fact that more attention is not paid to the low grade ores of Highland and Bristol Districts. The *Record* eaye that there is little doubt among experienced men that there ie a great deal of ore in them which it would pay to work, if properly managed. Such being the case, it is somewhat singular that the minee iu theee campe have not yet been more fully developed.

The Amador County people have come to the concluaion that they muet help themeelvee, and not wait any longer for foreign capital to develop their minee. The *Ledger* thinke that inetead of the placer mines being exhaneted, the businese of workiag them hae scarcely been commenced.

Function of Potash-salts in Aoriculture.—Nobbe maintains that potaeh-ealts in eoils are neceseary in order to enable the chlorophyll graine of the leaves to form starch. Sodinm or lithium are unable to replace potaseium in thia function, and the latter is eveu positively hurtful. The chloride of potaseium ie the moet effective form ia which thie element can be eupplied to the soil.

Lead Poisoning ie very prevalent in many of the "haee metal" dietricte of the coaet, particularly in Salt Lake.

CORRESPONDENCE.

Notes of Travel in Lander County, Nevada.

[By our Traveling Correspondent.]

Reese River Mining District.

The mines of this district ars within an area of thrss miles of the town of Austin, ths county-seat of Lander Co., midway between Belmont, in Nye Co., and Bsttle Mountain Stsation on the C. P. R. R., the point yon take the stags fiom, for the mines in the district; the distanoe from Battle Mountain to Austin is 95 miles in a sontherly dirsction; the stage lins plying between the above mentioned pointe is owned by O. Tuller & Co.; this line runs daily; time occupied in transit, 17 honrs; fare, $15. The population of the town of Anstin is about 2,000, and the olevation 6,275 feet above tide water. The

Principal Mines of this District

Ars the Manhattan S. M. Co., (of Nevada,) the Savannah S. M. Co., Mohawk S. M. Co., Lone Star, the South Sonoma and S. C. Baker mines. The three latter are not incorporated, bnt owned by from one to three proprietors each, and are being developed to the best advantage, taking ont ore in paying quantities. The three former are incorporations, and doing the largest portion of the milling and mining of this district. Allen A Curtis, Esq., is Superintendent of both the Mohawk S. M. Co. and

Ths Manhattan S. M. Co.

The latter mentioned company is employing some 30 men in and around their 20-stamp mill, which mill is reducing ahout ono ton to the stamp every 24 honrs. They also give employment to about 165 meu on contract work in their mines. They have a fine set of steam hoisting works and own some 72 ledges, leasing half as many more. From all appearances and hesrsay (the only kind of information obtainable) they are doing well. Since my last visit to this district a year ago, the Pacific M. Co. (limited) have ceased operating here, and I understand are about to disiucorporate.

Bullion Shipments from Austin,

From January 14th, 1865, to July 31st, 1872, were in dollars, $9,465,524.26, aud from that date to Augnst 31st, 1873, by months, as follows, (wbich were furnished me through the politeness of G. H. W. Crockett, agent for Wells, Fargo & Oo's. Express):

1872	BARS.	WEIGHT.	VALUE.
Aug.	65	6664	$ 97,678 75
Sept.	68	6896	101,134 21
Oct.	70	6912	101,939 89
Nov.	57	5739	76,432 40
Dec.	25	2485 Mill closed for repairs	35,299 09
1873			
Jan.	23	2262 Mill closed for repairs	26,791 22
Feb.	80	8046	105,692 46
Mch.	60	5907	74,063 59
April	56	5626	75,467 36
May	103	10575	150,031 31
June	84	8618	127,341 21
July	35	3503	52,579 83
Aug.	86	8497	127,565 55

Battle Mountain Mining District.

This district is located, commencing nt a point sonth of the C. P. R. R., three miles west of Battle Mountain Station; and runs south some 25 milee by from 8 to 10 miles wide, east and west. Tnis district comprises the camps of Old Battle Mountain, Copper Cañon and Galena; the latter ie the most promising, and surrounding it are some very fine locations and developed mines. This district was first organized in the year 1866. The present Mining Recoider is Mr. N. Taylor, resident at Galena. The peculiarity of the

Mountains Comprising this District

Is very marked, there being no regular range of mountaine; the entire district, which is 25 milee long, north and south, by 12 miles east and west, forming an elliptic base, with a plateau in, or near the center; from which cañons are formed, and water runs down each nearly the whole year round in every direction. The deepest mine explored is about 300 feet deep. The ores are silver, copper nnd argentiferous lead ore of a high grade, ruby and wire silver, stetefeldtite, and a trace of gold; also regular antimony ledges. One ledge of over two feet in thickness, runs from 50 to 60 per cent, without a trace of silver.

The Town of Galena,

Around which are centered the principal minee of Battle Mountain District, is located about 14 miles south-west of Battle Mountain Station on the C. P. R. R., the point of divergence via stage from the railroad; Messrs. Tuller & Cluggage run a fine two-horse stage between the points above mentioned; fare $3; total distance from San Francisco, 536 miles; total fare $37.75. This town contains about 250 inhabitants, two hotels, and 3 or 4 mercantile establishments. About 100 miners find employment here in four or five mines, at $4 per day. The principsl ledge of this district runs north nnd sonth in close proximity to the town of Galena; dips to the west from the surface down the first one hundred feet, it then straightens and nt greater depth pitches east. It is a regular fissure vein, crossing the couutry rock, which is of the character as above described, and is traceable for a distance of some thres miles, commencing on the north of which the mines are as follows: Wilmington Tonnel, now in 200 fest, running to tap the above mentioned ledge. The next are ths mines of the

White and Shiloh S. M. Co,

Consisting of the Whits, Bsttls Mountain, and Shiloh; containing in the sggregats 4,900 feet of locstions. They are developing the ssme by two shsfts, and ons tunnel; their tunnel is in 478 ft, nnd is known as the Bsttle Mt. tunnel. Their shafts are down, No. 1., the White shaft, 134 ft. with 3 levels running north, and two south sggregating some 1,500 ft. in thsse drifts; No. 2., the Shiloh shaft, is 150 ft. deep with two levels run north and south sggregsting 500 ft. of drifts. During the courss of this development soms 1,500 tons of ore have bsen extracted, and shipped to San Francisco, that averaged some $400 per ton in silvsr, besides ths lead which averaged 35 per cent. aggregating (assay valus) $675,000 or nstting $450,000 (about 70 per cent). They havs now on their dump about 5,000 tons that will average about $50 per ton. The ore body in this mine runs from 6 to 15 ft. thick and averages 10 ft. Working regularly 25 men, superintended by S. H. Knowles, Esq. Next adjoining the above on the sonth is the

Avalanche North Extension,

Which contains 1,000 ft. in the location, and belongs to A. J. Garvey and M. MacDonald, the latter of whom is General Superintendent. The development on this mine consists of one ehaft now down 30 ft., simply run to hold the property, it showe fine mineral in this shaft assaying over $200 per ton in silver; this, like all of the above in this district, is smelting ore. Next adjoining this mine on the south is

The Avalanche Mining Co.,

One of the oldest locations of the district, and belouging to the same parties as the above. This company is made np of the following locations: the Verritas tunnel, next the Avalanche, next Veritas mine, Avalanche South Extension, Champion, Champion North Extension, and Great Eastern. The Veritas Tunnel covers the entire combination. They aggregate 8,200 ft. of locatious, covering a distance along the main ledge of 4,200 ft. Mr. M MacDonald is Superintendent of this mine. The development on this company's mines consiste of 6 vertical shafts, varying in depth from 30 to 150 feet, over one of which are erected fine

Steam Hoisting Works,

With engine of 20 horse power; they also have one incline, down 76 feet, followiug the dip of the ledge. They have cross-cut and drifted from the above ehafts an aggregate of 700 ft. The locations forming the combiuation have had some 100 tone of fine ore extracted from them, and shipped for reduction, previous to May last, when they were purchased hy the present owners, who have shipped eome 40 tons of ore themselves, assaying from $100 to $150 per ton in silver and about 46 per cent. of lead. Ore bodies have been run across during these explorations, varying in width from a few inches to some 4 ft., of an excellent character, that will run even more than that already shipped. At present, they are thoronghly opening up their mine, and when this is accomplished, they will erect reduction works of their own. At present working some 16 men, night and day. Ahout one mile south of the ahove, in what is known as Copper Cañon, and on this same ledge is located the

Battle Mountain M. Co.,

A copper mine of considerablo note. It is an English incorporation and principally owned in London; Joseph Richards, Manager. This company have several shafts down, the deepest of which is about 150 feet. They have run numerous drifts and cross-cuts, and have extracted over 3,000 tons of copper ore, and shipped the same to England, that has averaged 25 per cent. They are now working 30 white men and 12 Chinamen, and are extracting about 100 tons of shipping ore monthly.

Buena Vista M. Co.

Tbis company's ground is sitnated about 1,000 ft. west of the Avalanche mine and snpposed to be on a parallel ledge, carrying a very high grade of galena ores, assaying as high as $400 per ton. A tunnel has heen run upon this miue some 300 ft., and an incline of some 200 ft. It is owned by John Mellander and Hon. R. McBeth. At present working six men; running on the extension of this tnnnel. A considerable amount of ore hae heen shipped of a high grade. At this writing ho ore is heing extracted. Between the ahove mentioned locations and the month of the cañon, two more parallel helts exist, with a large nnmber of fine locations upon them, and more or less developed; one is known as Trinity Belt, the other a littlo farther east, is called the Bute Belt. Some five miles west of the town of Galena, is located the

Trenton Mine,

Which has been explored by four shafts from 35 to 108 feet deep, each, aud by two tunnels, aggregating 500 feet in length, and two drifts 182 feet. There have been shipped from the mine some 30 tons of ore, averaging $2.30 in silver, and ten per cent. copper. There are now 150 tons of ore on this company'e dump, valued at some $23,000. They have exposed and in sight a large amount of ore, estimated to be worth $128 per ton. This mine is at present negotiable for, and nt this writing is lying idle. Located just south of the Buena Vista is the

Ledorf Mins,

Ontsining 1,200 feet in the location. It is the property of Frank Drake and Mr. M. Monday; the development on this locstion consists of an inoline shaft snnk to a depth of 110 feet dsep. In sinking this shsft some 10 tons of very choics ore were extracted, that run from 300 to $400 per ton in silver, and from 45 to 50 per cent lead; their shaft was run down following the hanging wall, with no foot wall in sight, so the real width is not known. A tunnsl right is taken up of 3,000 feet, belonging to the same parties.

Trinity Mine.

This mins is located about three-fourths of a mile south-east of ths town of Galena, and is owned by Mr. Thos. Thompson and J. A. Blossom, Esq., of Battls Mouutsin. This location contains 1,000 feet, which runs in the same course and dips with abont the same pitch as all the above mentioned minss. It is dsveloped to a dspth of 163 feet, by a vertical shaft, has three lsvels run upon it, and two winzes, aggregating 400 feet of drifts. 200 tons of ore, of the chloride character, worked from this mine, paid from $93 to $137 per ton in silver, and abont 29 per cent lead, and 30 tons of galena ores worked from this same mine a few months siuce paid $320 per ton in silver, and about the same percentage of lead as above. It is a very promising mine, favorably located for working and drainage.

Cornucopia Mining District,

Located in Elko County, Nevada, has created some considerable excitement lately—so much so that a new route is now in contemplation, from Battle Mountain Station, on the C.P.R.R., shortening the stage travel 25 miles, lessening the time some six hours. Messrs. Tuller & Cluggage, present proprietors of the Austin & Belmont lines, are the projectors. The proposed new route from Battle Mountain will bring you to Cornucopia in 65 miles, running in a northerly direction. The fare from San Francisco to this point (Battle Mountain) is $34.25; and the stage fare will be from $14 to $16 from Battle Mountain to Cornucopia. The through fare from San Francisco to the abovenamed district is about $50, and the distauce 587 miles; *via* Elko it is ahont 100 miles further, and costs about $7 more for fare.

L. P. Mo.

The Proposed Bear River Flume and Tunnel.

EDITORS PRESS:—Your correspondent, "W.," in his strictures on the above enterpise, published in a late issne of your journal, is mistaken in supposing that the flume to be laid down along the bed of Bear river must necessarily have the eame fall as that within the tunnel, and that a grade of less than three inches will he insufficient to carry off the tailings, as well as iu his assumption that, if this stream had ordinary sluice-grade, these tailings would never have accumulated along it to the extent they have done. Now, Benr river, along the portion of it which it is proposed to flume, has a fall of abont 90 fest to the mile, or, ssy 2½ inches in 12 feet, a grade ample to the removal of tailings of the chsracter here to be dealt with, consisting, as they do, mostly of sand, pebbles or fine gravel, nnd wholly free from large houlders. In but few hydraulic mines in the State do we find a steeper grade than this, while in many localities operations have been extensively and successfully carried on with only ahont one-half of this grade. The La Porte Flums, 4 feet in width, carries off the gravel from the mines of Garb & Orr, with n fall of ouly 1¼ inch to the rod. At Ohio Flat, Yuba Co., aud New York Flat, Butte Co., where a heavy bed of barren earth is run off, the gravel paying only on the bed-rock, they keep their flumee clear with a deecent of one inch to the rod, which is about the average fall on Willow creek, near Camptonville, and also along the Slnte creek in Sierra county, where immense hydraulio operations have been carried on for many years. About Quaker Kill, Red Dog nnd You Bet; along Deer creek, Shirt Tail and Indian cañons, and at many other points in Placer and Nevada counties, hydraulic washing has been prosecuted for nearly twenty years with less than an average three-inch grade, the amount of water to he had at the several places being less than one quarter the quantity available for the purpose in Bsar river. It will not, therefore, become necessary for this company to elevate their flume to the hight of 1,500 or even 400 feet above the bed-rock, ss feared hy your correspondent, "W.," in order to run the tailings out of Bear River and its upper tributaries.

The reason that a greater fall has been given to the projected tunnel, and consequently to the flume within it, than to the structure laid along the river above, is, that the passage here being compratively narrow, a greater descent was required to impart to the water and gravel snch velocity as would prevent any material lodging along it, or its ever becoming choked up, there being abundant room for fall, nnd it not being intended to place any gold saving appliances within it. The conclusion that these tailings, because that they have made lodgment aloug the bed of Bear River with its natnral inequalities of surface, and with the water spread ont iu a thin sheet over two or three hundred feet, cannot therefore be carried off in a sluice with the current confined to a narrow channel, is so obviously fallscions as to reqnirs no notics.

Your corrspondent sskslfor the data on which it is estimsted that 400 tons of quicksilver have bsen dsposited in Bsar River and its confinents. As an authority for this statement we have the results of numerons carefol examinations made with a visw to determining the probable quantity of this metsl lodged here and the product gathered from a considerable smount of sluice washing done at differsnt points along the streams, backed by the concurrent tsstimony of the miners who have been at work here for so msny years, and the most of whom cousidsr this estimats an extremsly low ons.

In rsgsrd to the value of smslgam, while it is trne, as "W." obsarves, that it is worth about $8 per ounce when the quicksilver has bsen kept in contact with the gold until it has becoms charged to its fullest capacity, it may again possss less than a tenth of that valus, whsrs, as has been ths cass aloug these streams, it bas been hastily run from the sluices and afterwards beeu mixed up with n vast quautity of sand and gravel.

Whether it would be better for capitalists to invest their money in opening up the deep placers, as asserted by your correspondent, than to embark a portion of it in an enterprise like the one nnder consideration, is, of course, a question about which practical miners may honestly differ in opinion. TAIL SLUICE.

Bear River, Placer Co., Oct. 16, 1873.

Mine Swindlers.

EDITORS PRESS.—Recently some English capitaliste have been communicating with me in order to ascertain my opinion of the propriety of investing in the western mines of the U. S., especially those of Utah, but are skeptical on account of having heard of the many swindles, law euits, etc., perpetrated by a class of vain-glorious thieves, upon several honorable companies, especially English. Notwithstanding, they have at the same time a strong desire to purchase and develop some mineral property which they may deem preferable. My response to each has bsen: Be cautions and do not think of investing until some one visits the location, whose experience cannot be warped hy prejodice, and whose honesty is irreproachable. Many nefarious scoundrels strut about swollen with falsehood, waiting the arrival of a stranger, not only for the capitalist, but even for the poor honest miner whose sole dependence is the mines. There is scarcely a miner in the West who has been fortunate enough to escape their smooth tongue and lying lips. Such beings are known nnd abhorred hy the honest resident; but the foreigner is open to the snare. Each and all of these people deserve expulsion from every mining community such individuals are the greatest drawbacks and the worst enemies that can possibly enter a mining region. The "tin" excitement at Ogden, Utah, was nothing but the failure of a large contemplated swindle. At the start of it, a friend of mine presented me eome of the specimens of "tin," to whom I replied: There'e not a particle of tin in it. Furthermore, another friend of mine was offered a certain sum of money for a stone of tin weighing three ounces that he bronght from Cornwall, which if purchased was to have been used for the promotion of their nefarious scheme. The Welsh & Co., "jumping" a portion of the Wellington Mine; the Illinois Tunnel business; the Left Bower Mine, etc., what were they but projected swindlss? Every good, or prospective good mine has heen moleeted by jumpers, (thieves), and with credit may it be eaid, that the MINING AND SCIENTIFIC PRESS has continually reminded the capitalists and miners to he cautious. The mines of the West are very nnmermerous and unsurpassed for riches; then why should well-meaning gentlemen be trifled with? Why cannot the mines of the West he bought, wrought and disposed of honestly like those iu other countries? The foreigner who visits the Pacific Slope, generally goes in all truth and honesty, and hopes to find the same kind of geutlemen in the West; hut alas, truth bids us remark, many are found otherwise, yot this could possibly be ohviated by puhlio exposure. T. S.

The Proposed Bear River Tunnel.

EDITORS PRES:—I have no desire to trespass upon your columns in the discussion of the merits or demerits of the proposed enterprise. In my commuuication of September 27th, I showed the praotical effect and result of the figures given in the PRESS of August 30, without expressing an opinion one way or the other as to the real merit of the enterpriss. A correepondent from Little York, eiguing his communication "M." saye I did not state the "plan" correctly and asserts that four inches to twelve feet is all the flume in Benr River will require to work the tailings successfnlly. This is one inch more than the miuimum I gave, and is probably enongh grade for a flume of that size. Bear River must have a fall of 146½ feet to the mile, in order to keep a flume on bed rock on four inch grade to twelve feet. Now it is a well knowu fact that Besr River has no such fall for several miles above Colfax. Let "M." give the report of a respectable engineer and he will help his case if he be correct in his "disinterested" statement. W.

Oakland, Oct. 17, 1873.

SCIENTIFIC PROGRESS.

The Fossil Man of Mentone.

The discovery of a human skeleton in one of the grottoes of Mentone, a village on the south coast of France, near Nice, has produced for some time past no small excitement in the scientific world. The cave in which it reposed is hollowed in the garumnian limestone immediately below the nummulitic tertiary deposit so well developed in the vicinity. Some large imbedded rocks, probably post-eocene, gave rise to the natural excavation.

It appears, from the recent investigation of M. Riviere, that, at the upper portions of the caverns examined, remains of instruments and tools were found, belonging to the prehistoric epoch which immediately preceded, in the west of Europe, the appearance of metals. Below the surface, beds abound, remains of human industry indicating a civilization even more primitive than the antiquity assigned them by the superposed masses. In this locality was discovered, at a depth of 21 feet, the famous human skeleton. The earth was evidently in virgin condition, and hence the remains clearly belonging to the geological and palæontological age of its surrounding deposit. While, however, the fauna discovered in connection with the human relics indicate a very ancient palæontological epoch, the bone and stone instruments, and especially the necklace found on the skeleton, seem to point to a more recent period. The presence of cave bears and hyenas, the *rhinoceros tichorinus*, and *bos primogenius*, evidently relate to the most ancient quarternary epoch, the age of the bear; while, on the other hand, the abundance of remains of deer of various species and of small hight (chamois especially), the fact of the multiplicity of bone tools, needles, chisels, and a *baton* of command, together with the peculiar necklace which closely resembles that found on the fossil man Cra-Mango, lead to the conclusion that the series of objects belongs to an age posterior to that of the bear, namely, to that of the reindeer. It is believed, however, says Dr. Garrigon, in *La Nature*, that the original owner of the skeleton existed during the latter age, and was buried in a cave formerly inhabited by men of the preceding epoch.

New Experiments with the Electric Current.

MM. P. and A. Thénard communicate to *Les Mondes* the following conclusions derived from recent electrical researchss:

1. That vapor of water does not hinder the production of the current, which decomposes it into its constituent gases. 2. The current, while determining the combinations of nitrogen and hydrogen, decomposes equally ammoniacal gas; but, in both cases and without absorbent bodies, there is found in the gaseous mixtures a quantity of ammonia quite feeble, but sensibly equal. 3. Nitrogen, under the influence of the spark and the vapor of water, disappears to produce an undetermined body which is believed to be nitrite of ammonia. 4. Gaseous phosphoret of hydrogen is similarly incompletely decomposed by the current, and this decomposition is accompanied with phenomena which prove first, the formation of liquid phosphorus, then solid phosphorus, and, lastly, a body supposed to be the same substance in its amorphous state. 5. The current acting on a mixture of gaseous phosphorus of hydrogen and bicarburet of hydrogen reproduces one at least of the phosphoric akalies. 6. Under its influence, the bicarburet of hydrogen alone condenses rapidly into an odorous liquid, soluble in ether, but insoluble in water. 7. On the other hand, the monohydrate of methylene is transformed in presence of water into marsh gas, into pure hydrogen, into a powerful acid soluble in water, and into a resinous body differing from the viscous substance furnished by the bicarburet.

. SINGULAR EFFECT OF COLD.—A German experimentor, Herr Harvath, in studying the physical effect of cold on frogs, claims to have made the singular discovery that the immersion of the human finger in alcohol at a temperature of 25° Fahr. renders the finger insensible to pain, but not insensible to contact with other bodies. He also claims to have discovered that upon immersing wounds and burns in cold alcohol the pain immediately ceased; this effect being very remarkable in the case of burns, the subsequent progress of recovery being greatly accelerated by this means.

With regard to the accuracy of the statement that tactile sense remains after insensibility to pain has been produced, we have some doubts. It will require very close observation and analysis to establish this fact, as the sense of touch might be communicated to the nerves through the parts rendered insensible by the contract of the anæsthetic.

IN 1867 M. Rabuteau announced that the poisonous power of the metals was greater as their atomic weights were higher and their specific heats lower. He now shows that the atomic weights of calcium and potassium being nearly the same, the toxic effects produced by injecting similar solutions of their salts into the blood are also the same, both acting as poisons to the muscles and causing death by arrest of the action of the heart when administered in sufficient dose.

Peat.

The treatment of peat, and its preparation and adaptation as fuel in an improved form upon its natural state, receives intermittent attention, and we notice three different proposals for processes in development thereof. Two of these relate to the manufacture of fuel from peat, *pur et simple*, and the third to an admixture thereof with other combustible material. Mr. John Fawcett, of Kirton, in Lindsey, Lincolnshire, claims improvements in the treatment of peat as taken from the bog, by effecting the extraction of all excess of moisture, by submitting it to the action of a hydro-extractor; the dried peat being subsequently reduced to a granulated condition, and then compressed into suitable blocks. Captain W. J. Engledue, R. E., of Tavistock, Devonshire, projects improvements in the method of drying manufactured or other peat and artificial fuel, which is to be effected by means of steam or hot-water pipes. He makes a drying shed of special construction, the floor being formed of pipes of iron or metal placed close together, or otherwise, with steam or hot water circulating through the same. On this floor the substances for desiccation are deposited in a moist or liquid state; or they may previously have been dried partially by exposure to atmospheric influences. This apparatus and procedure are applicable also to the desiccation of kaolin or china-clay and similar substances. Mr. Thomas Cadett, of Rosherville, Kent, proposes the composition of an improved artificial fuel, by combining bog peat or turf with oil, or with tar, pitch, resin, asphalte, or with other resinous, bituminous or oleaginous substances. The process consists in first drying the peat or turf by artificial heat or simple exposure, and then immersing it in some one or other of the substances above enumerated. It is then submitted to pressure in moulds, not only to impregnate it thoroughly with the substance used, but also to express any superfluity; and it is subsequently prepared for use by a second drying process. There can be no question about the extent of the industrial resources comprised in the peat bogs of this and other countries, and the problem of their perfect realization is one of great importance, but, on the whole, we are inclined to regard it as yet awaiting solution. These fuel resources are locked up, but we have not yet got the exact key.

WE are indebted to the insect tribe for the invention of chloroform. The ant contains a substance about which old John Ray and Martin Lester corresponded a century ago; and they found that it contained an acid, and this was afterwards called formic acid. It was found to be composed of a compound radical formyle and three atoms of oxygen. Dumas substituted chlorin for the oxygen, and thus obtained ter-chlorid of formyle, which is chloroform. Then it was found that ether was capable of taking away all sensations of the human body, and Dr. Simpson of Edinburg found that ter-chlorid of formyle was better adapted for this purpose than ether. The formula for chloroform indicating its correct chemical composition i C^2 H Cl_3

USE OF MOLASSES AS A FERTILIZER. — The beet-sugar molasses has been ordinarily used for the manufacture of alcohol by distilling it, but of late the tax on alcohol has been made so high that it scarcely will pay to treat the molasses in that way, and it is proposed to use it as a fertilizer. One manufacturer feeds it to his live stock. The composition of 100 kilos. of molasses at 41.13 is given by M. Vivien as follows: Moisture, 27.20; Sugars, 47.72; Potassa, 4.72; Ash, and various acids, 6.71; Organic matters, 13.65; Nitrogen, 0.94. To render it more easy of transportation, and application it is proposed to mix it with slaked lime in the proportion of two of molasses to one of lime.

NEW REDUCING AGENT.— If water saturated with sulphuric acid gas is allowed to act upon zinc-powder, the metal dissolves without the emission of gas, and the liquid becomes of a pale yellow color, and possesses, in a high degree, the power of decolorizing indigo. Schützenberger has lately been investigating this subject, and finds that this decolorization is the result of reduction. The liquid above mentioned, in its free condition is extremely unstable; but if a concentrated solution of bisulphite of soda is allowed to act upon the zinc powder, a soda salt of the new acid is obtained, which possesses reducing powers no less remarkable than those of the free acid itself.

THE application of the bromides in medicine has within late years increased to an enormous extent, the bromide of potassium alone being manufactured by tons and furnished at a low price, whereas years ago it was only the more wealthy who could afford to use it. The combinations of bromide usually employed are those of potassium, sodium and ammonium, and their virtues depend principally upon the extent to which the bromide is taken into the system. This substance can not be employed by itself on account of its very acrid properties.

CONGEALED DYNAMITE.— Nitroglycerine, according to L. Roux, freezes at 7° or 8°, but dynamites well prepared maintain their plasticity at 0° and even below. Once congealed the plasticity returns very slowly, but whether congealed or not they seem to be more and no less dangerous in the one condition than in the other.

MECHANICAL PROGRESS.

The Art of Inventing.

Many persons suppose that the capability of inventing is wholly a natural gift, but such is not the case. It is just as much an acquired art as any other profession. In order to insure success as an inventor, it is necessary for the student to go through a school of inventive studies and to confine his productions to a particular class. If a mechanical inventor, he must understand mechanical movements and powers, as well as metals and timber and how to work them. He must study the relation between causes and results, he must acquire a knowledge of drafting, and must learn what has been accomplished in his particular line.

It is true that some wonderful inventions have been made by persons entirely unacquainted with the particular branch in which they were working, but such instances are rare. The more extended the knowledge which the artisan possesses, the more likely is he to make a valuable improvement. But constant and unceasing study is entirely unnecessary; in fact it tires out the mind, which, like the fatigued body, must have rest before it can successfully pursue its laborious journey. If, therefore, the mind becomes weary and confused, it is better to drop the subject for a time and take it up again.

Nearly twenty years ago, in the city of Boston, a friend of ours, still living, invited us to accompany him to see a model of an invention. We went with him, and a very enthusiastic young man showed us a beautifully made model, mostly of finished brass, of a ship with a revolving mast geared into the paddle wheels in order to propel his ship against the wind. He said that he took the idea from a feed mill, run by wind, near Charlestown bridge. "But," said our friend, "that feed mill is on *terra firma*; but where will your ship be going when afloat? With the wind blowing against the revolving sails, you will have to cast anchor in order to keep it from blowing backwards." He had never studied cause and effect; and he told us that he had spent six months and nearly $2,000 in trying to accomplish an impossibility. Years of precious time and thousands of dollars are annually lost in a similar manner. Many hundreds of men have labored at models and expected to make fortunes by running an overshot or breast wheel in a dead pond by causing it to pump up its own water, and by similar impossibilities.

The educated inventor will never run into such wild cat schemes. But as he becomes more and more acquainted with the arts and sciences, he will find that every step forward must be directed to a practical result; and at last when his life's work is done, he will see that all he has gathered will be only a drop from the ocean of Science, which lies still spread before mankind for other minds than his to continue to explore.—*Scientific American.*

TEMPERING STEEL. — Since, in tempering steel, the colors owe their appearance to the formation of an exceedingly thin superficial skin of oxide, it is evident that the steel, when withdrawn from the fire, does not retain its first color, but there appear other colors in consequence of a subsequent oxidation by the air, until the steel is sufficiently cool. Of a certain color, one can only judge with certainty by examining the conditions under which it occurs. If two pieces of steel are heated until the yellow color appears, and if one is withdrawn, it may become in the air purple, violet, and finally blue, while the other piece assumes the same colors in the fire. However, if both pieces when blue are dipped into water, they assume different degrees of hardness, *i.e.*, the one which turned blue in the air will be harder than the one left in the fire. Hence it follows that proper caution must be observed in this respect, and steel must either be cooled rapidly, when the right color appears in the fire, or it must be withdrawn at a preceding color, if the color is to appear by after annealing. Sometimes it is intended by the process of annealing to give to articles an attractive appearance, and at the same time to prevent them from rusting by the formation of a layer of oxide. In such a case, uniform quality and heating is required.

A WONDERFUL MODEL.—An elaborate model of a harbor ordered by the Senate of Hamburg to be constructed for the Vienna Exhibition has been completed in due course. The model is 17 ft. by 6 ft. in dimensions, and it exhibits the ships moored to the wharves, and the laborers employed on their different occupations. On the side of the dock is a railway with a freight train to receive goods from the ships. The vessels are of all sizes from the huge steamer down to the smallest yawl. The whole represents with pleasing accuracy the busy life of a sea-port.

NEW METHOD FOR PREPARING ALUMINUM.— This consists in mixing charcoal and clay or kaolin together to a red heat; then introducing chlorine gas and by this means subliming off a quite pure aluminic chloride which may be decomposed by a battery.

A Beautiful Industrial Art.

One of the most beautiful productions for which Birmingham has long been celebrated, and to rival which other parties have always unsuccessfully put forth their endeavors, is the japanned ware—baths of all sorts, trays, pails, toilet-sets, and a great variety of other articles known and admired in every part of the world. According to an account now given of some of the processes which pertain to this manufacture in that place, the iron, on being formed into the required shape and size, is rubbed with a peculiar kind of stone until it becomes smooth; it is then handed to a woman, who lays on one or two thick coats of color mixed with varnish, and places the tray in a stove to dry; after which it is varnished three or four times, and again thoroughly dried; then rubbed, smoothed and polished, and prepared to be handed to the printers' room, where it is ornamented according to the design intended.

This last-named operation appears to be decidedly unique and ingenious. The design is engraved upon a copper plate, and the impression is taken by rubbing into the cavities of the engraving an oily composition, which adheres, in the form of the design, to the paper pressed upon it. The printed paper is laid upon the tray and rubbed with flannel, so that the oily substance adheres to it. The paper is now lifted off, and gold, silver and bronze dust plentifully scattered upon the mixture as it stands in the tray. This is rubbed with flannel, and all the details of the design are thus brought out, and as accurately transferred as if the tray itself had been subjected to the ordinary process of printing from the copper plate. The colors are then made fast by varnishing and drying, smoothed by rubbing with rottenstone, and finally polished with the naked hand.

It is stated that the females employed in polishing the best goods never engage in the regular household duties, such as scouring the floor, or even handling the broom, lest their hands should lose the soft touch so necessary to give the last beautiful touch these attractive articles. —*The Cabinet Maker.*

CHEAP DOMESTIC MOTORS. — Through the efforts of M. Fontaine and others, this subject of cheap domestic motors continues to attract a great deal of attention in France. Fontaine's gas engine, of one-man power, has received the gold medal at the Lyons exposition, and a silver medal was given to the constructors; but the general introduction of this motor is checked by legal prohibitions. The type of engine worked out by M. Fontaine has neither safety valve, gange cocks, nor water gange; and the administration, consulting old ordinances, imposes the necessity of providing his engine with all the accessories and surety apparatus generally employed. These complications greatly increase the cost of the machine, and restrict the number of its applications. M. Fontaine observes, however, that his domestic motor constitutes, in spite of this inconvenience, the most advantageous solution of the question, as well from the consideration of first cost as from cost of maintainance. He compares this engine to electric, hydraulic, and spring motors, and proves the advantages of simplicity and economy which the Fontaine engine possesses over all others. Calculations made by the inventor estimate the daily cost of gas, for a one man engine, from 1·12 franc to 1·35 franc, according to the price of gas.— *Iron Age.*

REWARD OFFERED FOR SELF-ACTING COUPLINGS.—The Union of German Railroad Administrations has determined to award prizes —one of 3,000 thalers ($2,250), another of 1,000 thalers ($750)—for the invention of a contrivance by means of which coupling of railroad cars can be effected without the necessity of stepping between the cars. The invention submitted for competition must have been tried practically by one of the railroads belonging to the Union previous to the sending in of papers, and the proposition for the reward of the prize must emanate and be supported by one of the said railroads, The premium does not debar the inventor from patenting the invention and enjoying the benefit of the patent. The papers must so explain the invention by illustrations, drawings, models, etc., that an opinion can be easily formed of its quality, practicability and working; and must be sent in, carriage paid, to the head office of the confederation, Berlin, Prussia, before the 1st of July, 1874. The examination of the competing plans, as well as the decision, whether general or in the form of an award of prizes, will be undertaken and decided by an examining committee, consisting of twelve members, appointed by the confederation.

THE MANUFACTURE OF JUTE.—Jute is principally manufactured at Dundee, Scotland, where there are fifty-nine mills, ranging from four to eight stories high. The largest mill employs 5,000 hands, and works up into fabrics 999,000 pounds of raw jute per week. The weekly wages paid are from $5 to $10 for men, and $2.50 to $7 for women. The principal consumers of burlaps or jute cloth in the United States are Californians, who use them for grain bags. Ten per cent. of the value of the California wheat crop is expended in the purchase of coarse jute, cotton and linen bags. The duty is thirty per cent. on jute cloth, and forty per cent. on jute bags. In view of these facts, the *American Manufacturer* suggests that we should manufacture jute bags ourselves; otherwise we must continue paying the "juty" of forty per cent.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Oct. 22, 1873.

NAME OF COMPANY.	SHARES IN MINE.	FEET IN MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co	300	5000	23½	21	....	½
Alpha Consolidated	3600	....	....	....	....	....
Alta	....	....	....	....	....	....
American Flat	1900	30000	5⅝	4¾	....	4⅜
Arizona & Utah	....	18000	1¼	1⅛	....	3/8
Bacon Mill & Mining Co.	65	24000	....	....	....	....
Baltimore Consolidated	....	54000	8	6½	....	3½
Belcher	1040	104000	70	67	....	1
Best & Belcher	224	22400	7	5⅝	1	....
Bowers	20	5000	1	1	....	....
Buckeye	....	16000	....	....	....	....
Bullion	2500	25000	....	....	....	....
Caledonia Silver M. Co.	5000	20000	18⅜	16¼	....	½
Central	150	10800	16	13	4	....
Central No. Two	100	12000	12	10½	6	....
Chollar-Potosi	2800	28000	42	38	2	....
Confidence Silver M. Co.	130	24960	7¾	6⅞	....	¾
Cons. Gold Hill Quartz	3125	20000	....	....	....	....
Consolidated Virginia	1160	10800	240	47	66	....
Cook & Peyer	1600	24000	....	....	....	....
Crown Point G. & S. M. Co	600	100000	111	106	....	12
Daney	2000	24000	1¼	1	....	⅛
Dardanelles	1200	24000	....	....	....	....
Eclipse	70	25000	4⅜	4½	....	⅛
Empire Mill & M. Co	75	50000	4⅞	3¾	....	....
Exchequer	400	8000	8¼	7½	....	¼
Flowery	3000	12000	....	....	....	....
Franklin	....	....	....	....	....	....
Globe	....	20000	5/8	40c	....	3/8
Gould & Curry S. M. Co.	1200	48000	12	11	....	1⅛
Hale & Norcross	400	16000	26½	24	....	½
Imperial	184	100000	4⅞	23⅝	....	⅝
Indus	....	....	....	....	....	....
Insurance	2000	35000	....	....	....	....
Jacob Little	....	....	....	....	....	....
Julia Gold and S. M. Co.	2000	30000	2¼	1½	....	½
Justice	3000	21000	11	9⅝	2⅛	....
Kentuck	95	39000	15⅜	11	⅜	....
Knickerhocker	1200	24000	3⅜	3	....	⅛
Lady Bryan	....	....	....	....	....	....
McMeans	3600	36000	....	....	....	....
Mint Gold & S. M. Co	1600	50000	....	....	....	....
Nevada	3000	40000	....	....	....	....
New York Consolidated	3600	36000	....	....	....	....
Occidental	3000	21000	....	....	....	....
Ophir Silver Mining Co.	1400	16800	71	69½	1	....
Overman Silver M. Co	1200	37500	19½	10⅜	6⅝	....
Phil. Sheridan	1200	24000	....	....	....	....
Pictou	2000	30000	....	....	....	....
Rock Island	....	24000	½	40c	....	½
Savage	800	16000	45	39½	1	....
Segregated Belcher	150	6000	55	48	5	....
Segregated Caledonia	....	10000	....	....	....	....
Senator Silver M. Co	....	24000	....	....	....	....
Sierra Nevada	....	20000	14½	12	2½	....
Silver Hill	....	54000	12½	11⅛	....	1⅛
South Overman	....	24000	....	....	....	....
Succor Mill and M. Co.	7600	22800	3⅝	1⅜	....	2⅝
Sutro	....	24000	1½	1½	....	....
Trench	20	6000	....	....	....	....
Tyler	2200	33000	71	65c	....	⅛
Union Consolidated	803	20000	1⅞	1¼	⅜	....
Utah	....	20000	3	1½	1	....
Woodville G. & S. M. Co.	1400	28000	1¼	....	⅛	....
Yellow Jacket	1200	24000	51⅜	62½	1½	....
NEVADA.						
Adams Hill	....	50000	....	....	....	....
Alpa Silver Mining Co	800	30000	1¼	1	¼	....
Amador Tunnel & M. Co.	....	....	2	2	....	....
American Flag M. & M.	....	30000	2⅞	2½	....	⅛
Arkansas	300	30000	....	....	....	....
Belmont	....	....	4⅜	2½	....	⅜
Bowers	....	60000	3/8	2/8	....	3/8
Chapman Mill & M. Co.	....	30000	....	....	....	....
Charter Oak S. M. Co.	1000	30000	....	....	....	....
Chief of the Hill	....	30000	2/8	2/8	....	....
Chief East Extension	....	24000	....	....	....	....
Columbus M. & M. Co.	10000	50000	....	....	....	....
Condor	....	25000	....	....	....	....
El Dorado South	....	....	2½	1¼	....	....
Eureka Consolidated	....	50000	10¾	8⅜	....	⅜
Excelsior	....	24000	....	....	....	....
Harper Silver Mining Co	....	30000	....	....	....	....
Hernics	1000	30000	3	2¾	1	....
Home Ticket	....	....	....	....	....	....
Hubn & Kunt S. M. Co.	3600	30000	1⅜	1⅛	....	⅛
Ingomar Silver M. Co.	1000	40000	3/8	27½c	....	2½c
Ivanhoe	....	30000	¼	¼	....	....
Jackson	....	50000	40c	27½c	....	10c
Juniata Consolidated	5000	50000	....	....	....	....
K. K. Consolidated	....	....	4½	4½	....	¼
Kentucky Gold & S. Co	1000	35000	3½	2⅜	¼	....
Kinston	1000	30000	....	....	....	....
Lehigh	1000	30000	....	....	....	....
Lillian Hill	800	30000	....	....	....	....
Louise	2400	30000	35c	30c	....	....
McMahon	1000	30000	....	....	....	....
Marion	....	30000	....	....	....	....
Meadow Valley	24023	60000	16⅜	14	....	3/8
Mocking-Bird	1200	30000	....	....	....	....
Monitor Belmont	....	....	....	....	....	....
Murphy	2000	60000	....	....	....	....
Newark Silver M. Co.	800	32000	4¾	3⅞	....	¼
Pacific Tunnel & M. Co.	....	....	....	....	....	....
Page & Panaca S. M. Co.	2400	40000	3/8	2/8	....	1/8
Peavine	1000	30000	30c	30c	....	....
Phœnix	....	50000	10c	6c	....	15c
Pioche Silver Mining Co.	1000	20000	5¾	5¼	....	¼
Pioche West Extension	....	35000	1	1	....	....
Ploche-Phœnix	....	40000	....	....	....	....
Portland	....	....	....	....	1⅛	....
Raymond & Ely	5000	30000	62	57	....	1
Silver Peak	....	30000	2½	¼	....	....
SilverWest Consolidated	....	....	....	....	....	....
Standard Mill and M. Co	....	....	....	....	....	....
Star Consolidated	18000	50000	....	....	....	....
Starlight	6000	35000	1	1	....	....
Sterling	....	30000	....	....	....	....
Spring Mount	....	35000	....	....	....	....
Spring Mountain Tunnel	....	20000	....	....	....	....
Ward Beecher	....	....	....	....	....	....
Washington and Creole	200	30000	3¼	3¼	....	1¼
Yellowstone	....	....	....	....	....	....
CALIFORNIA.						
Alpine	1200	12000	....	....	....	....
Bellevue	8000	20000	....	....	....	....
Calaveras Gold M. Co	3200	20000	....	....	....	....
Cederberg Gold M. Co.	....	24000	3⅝	3½	....	....
Consolidated Amador	....	....	....	....	....	....
Cottonwood Creek	....	20000	....	....	....	....
Dunderberg M. & M. Co.	....	....	....	....	....	....
El Dorado Ind. Quartz M	....	....	....	....	....	....
Eureka Gold Mining Co.	1680	20000	20	20	....	....
Gillis	....	24000	....	....	....	....
Independent Gold M. Co.	1800	25000	1	....	....	....
Keystone Quartz	....	10000	....	....	....	....
Mt. Jefferson	1500	25000	....	....	....	....
Oakville Quartz M Co.	....	....	....	....	....	....
Rye Patch	....	....	12⅝	7	....	2⅛
St. Lawrence M. & M. Co	....	....	....	....	....	....
St. Patrick	1800	20000	3	1½	2½	....
Tecumseh	3000	30000	....	....	....	....
Yule Gravel	400	10000	....	....	....	....
IDAHO.						
Empire	....	25000	3	2¾	....	¼
Golden Chariot	750	30000	24⅜	22	....	⅛
Ida Elmore	1300	10000	2	1⅜	....	1⅛
Mahogany G. & S. M. Co.	720	10000	7	5½	....	....
Minnesota Gold & Silver	1070	20000	15	12½	....	¼
Red Jacket	....	....	....	....	....	....
South Chariot	660	20000	3⅝	2⅝	....	⅛
War Eagle	1000	10000	....	....	....	....
WHITE PINE.						
General Lee	1000	20000	....	....	....	....
Mammoth Silver M. Co.	1800	36000	....	....	....	....
Noonday	1000	20000	....	....	....	....
Orig. Hidden Treasure	800	21333	4	2	....	3
Silver Wave	....	....	....	....	....	....
Ward Beecher	....	24000	....	....	....	....
UTAH.						
Deseret Consolidated	2400	30000	....	....	....	....
Wellington	....	50000	....	....	....	....
OREGON.						
Virtue	2300	20000	....	....	....	....

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business
American Flag M. & M. Co.	Ely Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K Spinney,	325 California st
Arizona & Utah M. Co.	Nevada	6	50	Sept 8	Oct 13	Oct 31	J. Maguire	419 California st
Alps S. M. Co.	Ely District	5	50	Aug 23	Sept 20	Oct 24	C. F. Balcom,	426 Montg'y st
Belmont M. Co.	Nevada	2	1 50	Oct 14	Nov 15	Dec 5	O. H. Bugart.	411½ California st
Chief of the Hill M. Co.	Ely District	3	50	Sept 11	Oct 16	Nov 7	C. S. Neal,	419 California st
Daney G. S. M. Co.	Washoe	7	50	Oct 9	Nov 14	Dec 15	G. R. Spinney,	320 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Oct 13	Nov 18	Dec 13	Wm Willis,	419 California st
Emerald Hill M. Co.	Utah		25	Oct 2	Nov 11	Dec 3	F. Madge,	Merchants' Ex
Empire M. & M. Co.	Idaho	5	1 00	Oct 7	Nov 8	Dec 2	W. Willis,	419 California st
Equitable Tunnel & M. Co.	Utah	4	10	Oct 7	Nov 10	Dec 1	C. S. Healy,	Merchants' Ex
Gould & Curry S. M. Co.	Washoe	19	1 00	Aug 26	Oct 1	Oct 22	A. K. Durbrow,	Merchants' Ex
Globe M. Co.	Gold Hill	4	50	Oct 14	Nov 17	Dec 8	Joseph Maguire,	419 California st
Huhn & Hunt S. M. Co.	Ely District	7	75	Aug 30	Oct 2	Oct 23	T. L Kimball,	419 California st
Hale & Norcross S. M. Co.	Washoe	41	5 00	Oct 3	Nov 6	Nov 24	J. F. Lightner,	438 California st
Ingomar S. M. Co.	Ely District	5	25	Aug 26	Oct 1	Oct 22	C. S. Neal,	419 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Dec 15	Wm. Willis,	419 California st
Independent G. M. Co.	Cal		50	Sept 29	Nov 3	Nov 24	G. F. Graves,	240 Montg'y st
Julia G. & S. M. Co.	Washoe	16	1 00	Oct 16	Nov 17	Dec 6	A. Nool,	419 California st
Justice M. Co.	Washoe	7	1 00	Aug 30	Oct 3	Oct 24	R. Wegener,	414 California st
Kentuck M. Co.	Washoe.	11	1 00	Sept. 16	Oct. 21	Nov. 11	Frank Swift.	415 Montgomery st
Lady Esten Tunnel M. Co.	Utah	5	10	Oct 7	Nov 10	Dec 1	C. S. Healy,	Merchants' Ex
McMahon S. M. Co.	Nevada.	5	25	Sept. 4	Oct. 6	Oct. 27	Geo. R. Spinney.	320 California st
Mammoth S. M. Co.	White Pine		10 cts	Oct 22	Dec 1	Dec 22	J. S. Kirk	424 California st
New York Cons. M. Co.	Gold Hill		25	Oct 13	Nov 17	Dec 8	H. C. Kibbe,	419 California st
Chi. Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp,	116 Leidesdorff st
Overman S. M. Co.	Washoe.	27	2 00	Sept. 16	Oct. 21	Nov. 8	W. W. Stetson.	414 California st
Ophir S. M. Co.	Washoe	27	5 00	Oct 8	Nov 11	Dec 2.	Jos. Marks,	Merchants' Ex
Phœnix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Dec 10	J. Maguire,	419 California st
Pioche S. M. Co.	Ely District	4	1 50	Aug 13	Sept 26	Oct 23	C. E. Elliott,	419 California st
Phenix Tunnel & M. Co.	Utah	2	20	Sept 29	Nov 1	Nov 20	Chas. S. Healy.	35 Merchants' Ex
Peavine S. M. Co.	Ely District	6	25	Aug 28	Oct 4	Oct 28	C. F. Balcom,	426 Montg'y st
Providence G. & S. M. Co.	Idaho	1	1 00	Dec 6	Nov 6	Dec 4	Wm Willis,	419 California st
South Eureka M. Co.	Nevada	5	20	Aug 30	Oct 6	Oct 27	T. F. Cronise,	438 California st
Silver Peak M. Co.	Ely District.	3	5	Sept. 19	Oct. 27	Nov. 17	G. T. Grimes.	240 Montgomery st
St. Patrick G. M. Co.	Cal		50	Aug 25	Sept 29	Oct 21	D. A Jennings,	401 California st
Trench Gold Hill M. Co.	Nevada	1	1 00	Oct 17	Nov 21	Dec 11	J. Marks	Merchants' Ex
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 6	A. No l	418 California st
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Dec 15	T. B Wingard.	318 California st
Washington & Creole M. Co.	Ely Dist		1 00	Oct 15	Nov 17	Dec 9	F. D. Cleary	Merchants' Ex
Wyoming G. M. Co.	Nevada Co., Cal		25	Sept 13	Nov 18	Dec 8	W. J. Gunn.	410 Montg'y st

Other Companies (not on the Lists of the Boards.)

Adams Hill Con. M. Co.	Nevada.	4	10	Sept. 24	Oct. 28	Nov 20	W. W. Traylor.	419 California st
Buena Vista Petroleum Co.	Kern Co	17	1 00	Sept 20	Nov 10	Nov 25	L Aguado,	430 Jackson st
Bunker Hill Quartz M. Co.		11	10 00	Sept. 10	Oct. 13	Nov. 5	Wales L. Palmer.	19 First st
Commercial Coal M. Co.	Santa Cruz Co		1	Sept. 25	Oct 3	Nov 17	S. B. Hanson,	402 Montg'y st
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	5 3 Montg'y st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C E Elliott,	419 California st
Cincinnati G. and S. M. Co.	Kelsey Dist		50	Sept 18	Oct 20	Nov 10	Wm. Small,	331 Kearny st
Europa M. Co.	Nevada	1	25	Sept 2	Oct 4	Oct 21	E. B. Noyes,	411½ California st
Eclipse Workers & Plato Cons. M. Co		1	50 cts	Oct 17	Nov 20	Dec 10	J. Marks	Merchants' Ex
Gold Run M Co.	Nevada Co., Cal.		25	Sept. 13	Oct. 20	Nov. 10	O. C. Palmer.	Cr. Market & Spear sts
Homestead Farm Ass.	S. F.		7 00	Oct 6	Nov 6	Nov 27	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Cal	1	15	Sept 29	Nov 14	Dec 15	W. H. Knight,	Montg'y st
Homestuera M. Co.	Lower Cal.		3 00	July 29	Sept 5	Oct 27	J. H. Applegate,	729 Montg'y st
Ida & Rhoda Lewis Con. M. Co.			10	Aug. 28	Sept. 30	Oct. 20	C. J. Eaton.	12 Express Building
Leo M. Co.	Washoe		10	Oct 6	Nov 10	Dec 4	C. J. Eaton,	Express Build'g
Lady Franklin M. Co.			50	Oct 14	Nov 22	Dec 13	J. S. Luty.	507 Montg'y st
Lemon M. & M. Co.	Eureka District		50	Sept 27	Nov 3	Nov 24	T. T. Milliken,	608 Merchant st
Name o Kurz Pachuco M. Co.	British Col		1 00	Oct 3	Nov 6	Nov 28	B. B Minor,	411½ California st
North Bloomfield Gravel M. Co.		28	1 00	Oct 17	Nov 24	Dec 15	T. Derby	320 Sansome st
Nicholas Pavement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 28	W. Firderer.	513 Montg'y st
Occident G. & S. M. Co.	White Pine.	3	5	Sept. 14	Oct. 21	Nov. 15	J. A. McClelland.	414 Montg'y st
Prince of the Mountain M. Co.	Nevada		10	July 29	Sept 30	Oct 20	H. W. Coburn,	419 California st
Red Branch G. & S. M. Co.	Cal	1	5	Aug 16	Sept 26	Oct 20	F. D. Cleary,	Merchants' Ex
Revenue Cons S. M. Co.	Arizona	1	25	Oct 11	Nov 12	Dec 10	R. H. Harney,	113 Leidesdorff st
Stanislaus River M. Co.	Cal	1	10	Sept 25	Oct 27	Nov 12	Wm. Stuart,	113 Deidesdorff st
Silver Wave M. Co.	White Pine		40	Sept 20	Oct 20	Nov 25	J. W. Clark,	418 California st
Stevens Pacific S. & M. Co.	Cal		10	Sept 11	Oct 15	Nov 3	J. M. Knight,	320 Montg'y st
Southern Pacific Cons. G. M. Co.	Cal		10	Sept 11	Oct 25	Nov 25	C. A. Eaton,	12 Express Build g
Santa Cruz Coal M. Co.	Cal	3	5	Aug 19	Oct 22	Nov 10	L. Kaplan,	Merchants' Ex
State of Maine M. & M. Co.	Cal	4	5	Oct 1	Nov 4	Nov 24	H. B. Cumsdon,	406 Montg'y st
Sapphire S. M. Co.	Nevada.	2	20	Sept. 5	Oct. 10	Oct. 30	J. F. Lightner.	438 California st
Sun Pioneer	Cal		25	Sept 15	Oct 20	Nov 11	F. J. Hormann.	418 Kearny st
Umpire Tunnel and M. Co.	Utah T	2	6	Oct 21	Nov 24	Dec 15	P. A Eakins,	230 Kearny st
Wellington M. & S. Co.	Utah.	2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener.	414 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Cons. Virginia M. Co.	Washoe.	Called by Trustees.	401 California st	Special	Oct. 18
Emma Hill Cons. M. Co.	Utah	Called by Trustees,	302 Montg'y st	Spec l	Nov 14
Golden Chariot M. Co.	Idaho.	Called by Trustees.	Merchant's Ex.	Special	Oct 20
Giant Powder Co.	San Francisco	J. Hobbs,	606 Washington st	Annual	Nov 5
Las Cruegitas M. Co.		J. F. Lohr.	314 California st	Special	Oct 24
Silver Lick Cons. M. Co.	Nevada	A. K. Dunbar,	Merchants' Ex	Annual	Oct 27
South Chariot M. Co.	Idaho	J. L. King,	411 California st	Annual	Oct 20
Washington M. Co.		T. B. Wingard,	318 California st	Special	Oct 27

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W L. Oliver,	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	F. B. Cornwall. Cor.	Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	3 00	Oct 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Oct 11
Cederberg G. M. Co.	California	D. M. Bolce,	420 Montgomery St.	50	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Derby M. Co.		F. Cunningham,	304 Montg'y st	50	Oct 22
Diana M. Co.		N. G. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M Co.	Grass Valley, Cal.	F. Wegener,	414 California st	2 00	Oct 7
Fairport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex	5 00	Apr. 1
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor,	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	3 00	Sept 10
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Ashley,	312 Montgomery St.	———	Aug 16
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Montgry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor,	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Monider	419 California St.	3 00	Sept 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California,	S. F.	W. C. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r,	Al'nt. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	H. Pichoir,	Cor. Montg. & Wash. sts	1½ per cent.	Oct 15
German Savings & Loan Society,	S. F.	Geo. Leitz,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Hartmann,	16 Geary st.	9 6-10, 8 & 4 per cent.	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No 6 Post st	9.75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. Lennert, Ch'r.	415 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	May 25
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April
Pioneer Land & Loan Association,	S. F.	H. Kofshe, Ch'r.,	405 California st.	1 per cent,	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	C. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		H. White, Ch'r.,	532 California st.	9 6-10 & 8 peroent	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	Oct 14

Our Weekly Stock Review.

THURSDAY EVENING, Oct. 23d, 1873.

Stocks this week have been unusually strong as compared with the hed-rock prices ruling a few weeks since. The Comstocks have been the rage during the past few days, with Consolidated Virginia as the favorite. The movements of this mine have been the puzzle of the street. Two weeks ago $100, the figure steadily maintained for some time previous, was left far behind by advances day after day, which brought the stock to $140, $170, $200, and finally $270, as through so many stations. The split of five to one, made in the capital stock of this company, has increased the number of shares from 23,600 to 108,000. Prices were correspondingly reduced. The two Centrals, Central proper and Ceutral No. 2, sympathized with their adjacent neighbor, Con. Virginia, and touched $16 and $12 respectively, a gain of $4 and $6 upon last weeka' highest quotations. Other Comstock mines have come into favor also. Best & Belcher, Savage and Utah, have advanced $1 each; Ophir, $7; Overman, $6 50; Seg. Belcher, $5, and Sierra Nevada, $2 25. Only the low priced Washoe mines have fallen any, and these but slightly.

In the rush for the Comstocks, other Nevada stocks naturally were neglected, and most fell off slightly. Raymond & Ely, in prospect of the suit with the Kentucky, remains stationery, while Keutucky, which has all to gain and little to lose, does not appear to he appreciated as a good "gamble."

The capital of Goldeu Chariot has been increased from $1,000,000 iu 10,000 shares to $3,000,000 in 30,000 shares. It is proposed, it is said, to give the Minnesota shareholders 5,000 shares of the new stock for their mine. If this offer is accepted, the latter company will be dis-incorporated.

Sales of prominent stocks this morning are reported as follows: Belcher, $68; Crowu Point, $108; Chollar, $45; Con. Virginia, (new issue), $55; Caledonia, $17; Ophir, $64.50; Overman, $17.25; Savage, $43; Seg. Belcher, $53, and Yellow Jacket, $58.50.

The sales of stock at the San Francisco Stock Board for the week ending yesterday, amouuted to $2,493,000; Kentuck and Belmont show the largest number of shares sold, the movement in the former being half the capital stock, 11,700 shares; of the latter 10,400 shares changed hands; 8,900 shares of Baltimore Con.; 8,500 shares of Overman; 6,650 shares of Ophir; 5,600 shares of Justice; 4,700 shares of Imperial, and 4,300 shares of Julia were sold. The large numbers of shares changing hands and the marked increase in value of some of these stocks, prove the assertion so often made, that mining stocks have touched bottom and that the recent dullness and prostration is virtually over. We may look for startling flights soon from some of the stocks, from speculation if not on more solid grounds.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

AMADOR COUNTY.

AMADOR CANAL.—Amador *Dispatch*, Octoher 18. We are gratified to be able to announce that work has at last been resumed ou the great Amador canal in good earnest, and that it will certainly be complcted about the middle of the present wiuter—probahly about the middle of January. There are only about nine miles yet to be completed, and the new company have already commenced work on the lower end, and have let out a contract for finishing five miles on the upper end to some parties, who are now engaged in erecting sheds for their workmen, and will commence work on that end of the ditch on next Monday. We are assured that the new company have ample means to finish the work, and have determined to put it through as soon as possible. We understand that the parties who have tsken the contract on the upper end contemplate finishing their contract by the middle of Decemher.

The recent rich strike in the Alpine mine at Plymouth, Amador county, is turning out much better than was at first expected. The ledge is some 3 ft. in thickness, with a solid granite wall—a sure indication of permauency. The rock will pay $100 per ton.

ALPINE COUNTY.

OUR MINES—Alpine *Miner*, October 11: Judge Blair, of Reno, visited Monitor this week, and expresses his belief that we have one of the richest mineral deposits on the coast. This is the universal opinion of experienced miners, and every development that is now being made proves their theory to he correct.

I. X. L.—From Silver Mountain we learn that Mr. Chalmera has a full force at work upon the Exchequer and I. X. L. getting out ore, and that he hopes to make another run hefore winter closes in. The indications in the mines are good, but it has become necessary to increase the steam power for clearing the shaft of water. For this purpose a boiler of larger capacity than the one formerly in use is now being put up.

THE SCHENECTADY MILL has not been running the past week, Superintendent Hunter having been below to see about some necessary repairs. The minera are sending some rich looking rock to the ore house.

THE MI. & N. W. dam is undergoing some repairs, and the Silver Glance shaft is receiving timbers, preparatory to starting the hoisting worka aud again commencing the downward movement. Every now and then rich specimena of ore are brought out hy the miners from the shaft, and quartz with rich sulphurets from the face of the weat drift.

RESUMED WORK.—After "a rest" of ahout ten years, work has this week beeu resumed on the Silver Cloud claim, near Silver Mountain. We learn that it is the intention of the Compauy to have a few tons of their ore worked at one of our minea.

CALAVERAS COUNTY.

GWIN MINE.—Calaveras *Chronicle*, October 18. The little disturbance among a portion of the hands employed in the Gwin mine that interrupted operations for a few hours, Monday last, has been quieted, and work ia being energetically pressed in the levels and shaft. Good

rock is coming in from the 700-ft. level, and the ledge is rapidly increasing in thickness as the shaft goes down. Experienced hands, men who have worked in the mine for a number of years, tell us that the indications are almost positive that before the sinking of the one hundred feet below the 700-ft. level is completed, the ledge will show wider and richer than at any other point where it has been uncovered. We also learn from good authority that the end of the "break" in the 700-ft. level has been reached, and that the ledge is coming in handsomely. No one at all acquainted with the history and characteristics of the lode upon which the Gwin mine is located is surprised at a "break" at the depth of between six and seven hundred feet. It has occurred wherever a shaft has been sunk upon the ledge. Those connected with the mine, from the proprietors down to the humblest employé, never had greater faith in its assured success than at present. Mr. James Gleason, of our town, a man of indomitable energy and push, and a thoroughly practical miner, has been appointed Superintendent of the mine and is now directing operations.

WEST POINT DISTRICT.—The Atlantic, a mine but little known, realized $3,243 last week, the yield of 16 tons and 300 pounds of ore, or at the rate of $153.33 per ton. The Atlantic, Stevenson & Co. and Last Chance are on the same vein, including some 2,000 linear feet. The last ore taken from the Last Chance yielded at the rate of $119 per ton. Stevenson & Co have ore on dump worth about $60 per ton.....Good ore has been struck in the main shaft of the Ohio Consolidated; new hoisting works are in course of construction .....The Harris mill has been running on Bartolo ore.....The main shaft of the Good Faith is down 70 feet, with fine walls nearly 8 feet apart. Ten feet deeper will bottom the old works.....O. Mentzel & Co. are taking out rich honey-comb ore, some 150 yards southwest of the Good Faith.....F. Williams & Co. are stoping in their mine near the Atlantic .....Joe Griggs & Co.'s tunnel is within a few feet of the nearest of their veins, which formerly yielded well but were abandoned on account of water.....The Henry tunnel is being extended without interruption.....The Harris mine, at the Butcher ranch, continues to yield fine milling ore, improving as developments are extended.....The Lone Star has temporarily suspended work.....Zacatero sinking.

FRESNO COUNTY.

STARTED UP.—Fresno *Expositor*, Oct. 11: From Wm. Berry, Esq., of Panoche Valley, we learn that the Flint Quicksilver Mining Company, whose mine is situated about three miles south of the valley, has started a large number of men at work about the mine, making furnaces, roads, houses and other necessary improvements, preparatory to commencing to extract quicksilver from the ore. The mine has been sufficiently developed to satisfy its owners that it is extensive and good. The work is being pushed forward with great energy, and it will not be a great while before a stream of quicksilver will be pouring into the market from that quarter. Over forty workmen are now employed, and others will be put at work as soon as they can be obtained.

INYO COUNTY.

SYLVANIA DISTRICT.—Inyo *Independent*, Oct. 11: Sylvania district, of which we last week promised an account, was organized June 14th, 1873. It is situated 12 miles southeast of Piper's ranch, Fish Lake valley, and about 15 miles west of Lida mining district. It is easy of access, and has fine facilities for reduction works, wood and water, two very important items, being plentiful. The State line run by Von Schmidt cuts the district through the center, leaving the mines pretty equally divided between the two States, but the reduction works, and consequently the principal business place, will be in Inyo county. The ores are principally smelting, and are found in fissures in a quartzite belt with lime outcroppings interspersed, traceable for several miles. There are, besides, quite a number of rich silver locations. The chief smelting mines are the Liberal, Gladiator, the two Emmas, Transit, Eugenie, Mountain View, Last Chance and the Metallic, with a number of later discoveries further south but on the same belt. Prospecting is going on with a vim, and the district is happily blessed with the right sort of miners, who are determined to see that their ledges have *depth* to them—sufficient to satisfy the most exacting of mining experts, and the ledges have almost universally presented at the bottom of the 40, 60 and 80 foot shafts a better appearance than on top. The owners of some of the most important developments are Shaw & Manser, Halsey & Hubbard, Morati & Bersy and W. F. Kincaid. Scott & Fitzgerald of Lida have recently purchased a valuable interest in the district.

THE ECLIPSE.—There are prospects that Capt. Endey, of whom we spoke a week or two since, will make a systematic effort in London toward the re-inauguration of operations on the Eclipse. The mine in question is a mammoth ledge of low grade gold ore, and in our belief there is no question but what it can be made to pay, and largely, too, by placing it in the hands of an honest, competent and judicious manager.

KERN COUNTY.

LIME.—Havilah *Miner*, Oct. 18: Mr. James Grant, of South Fork, has discovered a fine mine of lime and will soon commence getting it out, when he will be able to supply the market.

IMMENSE BLAST.—Sucker Flat, Oct. 11: At six o'clock this evening, a blast of 300 kegs of black powder was exploded in the Pacntolas claim doing great execution.

MARIPOSA COUNTY.

MINING PROSPECTS IN THE COULTRILLE DISTRICT.—Mariposa *Gazette*, Oct. 17: Reports from the North side of the Merced river represent the quartz mining interest of that section as decidedly improving in prospect. On the North Fork last Friday a rich strike was made in the Banderita mine. The ore is said to be fully equal to any ever taken out of that locality. The mine was formerly owned by the Goodwin Brothers, and was very valuable. The company now feel confident that they have one of the richest lodes in this section of the State. Flannagan and Keyes have a very good prospect on an extension of the Hasloe mine, and indications are favorable for a resumption of specie payments all along that line.

THE BEAR VALLEY MINE.—The discovery of a rich quartz vein near Bear Valley, the report of which we published two or three weeks ago, is likely to prove of some importance. The prospect is said to be good for a permanent and valuable mine. A road from the mine to the Benton Mill is in process of construction. Forty Chinamen are now engaged at this work.

RICH STRIKE.—The Mariposa Land and Mining Co. have recently cleaned up the result of the crushing of 16 tons of rock which yielded exceeding $25.00 per ton. This rock which was crushed at the Bentou Mills was to test a vein which had long been known, but had never been tested to any practical purpose. The vein is situated on the right hand side of the back-bone road to the river and is about midway between the Pine Tree mine and the mills or 3,000 feet from the mouth of the river tunnel. The vein matter is 5 feet thick and all its contents from wall to wall were crushed without selection. It consisted of the cropping and surface rock. It is rumored on good authority that some of the casing rock will assay 50 cents per pound. The vein is difficult of access for the purpose of transportation, but if the result is equal to the promise, a good road to the mine will cost but a nominal sum.

RICH STRIKE NEAR HORNITOS.—A party of Mexicans, who have been working in the Jerome Brown mine, near Hornitos, struck a rich pocket a few days since and took out over 100 ounces of gold.

STILL ANOTHER.—Mr. James Harlow, while prospecting near French Gulch, on the head waters of the Fresno, struck a rich prospecting vein. The gold is coarse, and several very fine specimens have already been taken from it. This is considered by old miners to be the vein that has supplied the adjacent gulches with the rich, heavy deposits found in other years.

NEVADA COUNTY.

MAGENTA MINE.—Grass Valley *Union*, Oct 15: The Magenta mine some weeks ago struck a rich ledge in the shaft, the rock of which ledge would pay, as estimated by good judges, all the way from $60 to $100 per ton. On Monday last another ledge was struck in the shaft. This second ledge is about two feet in thickness, which is larger than the upper one. The new found ledge shows rich in free gold and has plenty of galena all through it. The Magenta folks are jubilant, and Mr. Superintendent King wears a smiling face.

MINING AT LOWELL HILL.—Nevada *Transcript* Oct. 15: Quite an excitement was recently created in that section, by the report that the Swamp Angel Company had struck a back pay channel in their claims, obtaining very rich prospects. The strike was made in running their main tunnel; but as a new lead has been struck, deeper than the one they were working, the company have gone back and commenced blasting and cutting the tunnel down to a sufficient depth to work the new channel to the bottom. They have 226 feet of tunnel to cut down, and by January 1st, 1874, will have it completed. A full force of hands are employed, day and night, in driving the tunnel; the Swamp Angel Company had a clean up the other day, for the month of September, which averaged $12 per day to the hand. An application for a patent to the ground has been made. "Back pay" is the order of the day at Lowell Hill, and all the claims on the line of the Swamp Angel are running bed rock tunnels for the new channel.

J. HILL & Co. are "pushing things" as fast as they can, night and day, with giant powder and muscle. They have only sixty feet further to go.

THE East New York and Wild Cat Companies are making arrangements to start up their claims this Winter.

BED ROCK.—Skehan is driving a bed rock tunnel in his claims, and expects to strike the pay gravel in about two weeks.

THE PROVIDENCE MINE.—This mine is becoming celebrated, not only for the immense size of the ledge, but also the richness of the rock. Within the past few months the mine has increased in value to such an extent, owing to the richness of the quartz and the mammoth size of the ledge, (being forty feet thick) that it was rumored on the street the other day that one million of dollars had been offered for the Providence and refused. The last clean up, made a week or ten days ago, although not generally known what the exact amount was, must have been "big," as we were informed on good authority, that it was "four times as much as they expected," judging of course from the previous clean up, which was very good.

LOCAL ITEMS.—Grass Valley *Union*, Oct. 19: Grass Valley District has materially improved within the past month as regards the mining situation. Prospecting is active and most of the prospectors have good reasons to rejoice in their success. The Idaho mine has been running steadily all through the month with good results. About $80,000 for the last four weeks is the result. The Eureka mine has run steadily for the last four weeks. The product has been about $27,000. Another small vein of rich ore has recently been struck in the New York mine. The Empire mine yielded $15,000 in September. The new shaft in the North Star is down 400 feet, and has a ledge which yields $32 per ton ore. The yield of September was $20,000. The ledge in the bottom of the shaft of the Kentucky mine shows rich rock with free gold and heavy sulphurets. Copper ore is being taken out of the Well lode near Spenceville. A new shaft has been put down a distance of 150 feet, and in the bottom the ledge is 70 feet wide. The ores work 11 per cent. of copper, and it takes 3 per cent. to pay expenses. At the Zinc House some fine gold bearing quartz has been taken out. The rock of the Magenta mine mills from $60 to $100 per ton. The Omaha continues to show a rich and large ledge in the shaft and in the drifts.

THE prospects are that the Ooe mine will resume operations on or about the first of November. The mine is a good one, but the San Francisco part of the arrangement seems to be tardily managed.

PLUMAS COUNTY.

CRUSHING.—Plumas *National*, October 18: The ledge spoken of last week as having been discovered by Mr. W. W. Kellogg, near Cherokee, has been tapped at considerable depth by a tunnel and a ledge developed which looks and prospects well. The owners intended to commence crushing on Monday last.

SHUT DOWN.—We are sorry to learn that the Greenville Co.'s (Union) quartz mill has been compelled to shut down for a time. We hope, however, it will be but a temporary stoppage.

GOOD YIELD.—About ninety tons of rock (for a test) from the Green Mountain ledge, owned by Hon. Geo. C. Perkins, were run through the Dixie mill, recently, and paid about $20 per ton. It is reported that Mr. P. intends building a new mill near the mine. There is an abundance of $6 and $8 rock in the Green Mountain, which can then be crushed at a profit.

REPORT.—It is currently reported that the Indian Valley mine is to soon change owners. A St. Louis (Mo.) Company contemplates purchasing. The Indian Valley is undoubtedly one of the best and most extensively prospected ledges in the county.

STRUCK IT.—Cap. Kohler informs us that one of the drifts in the Baker mine (Compton's) near Cherokee, broke into the ledge the other day, developing a 15 ft. vein of quartz which prospects splendidly, and has every indication of being a permanent mine. We are always glad to chronicle a rich "strike" in our mines.

SIERRA COUNTY.

IOWA MINING COMPANY.—Mountain *Messenger*, Oct. 18: This company intend resuming work in their mine as early as practicable, next year. They have a large amount of wood and other supplies on hand, left over when labor in their tunnel was discontinued.

TUOLUMNE COUNTY.

A FRAUD.—Tuolumne *Independent*, Oct. 18: There is a suspicion of fraud in the test rock from the new silver mine. The assayer who made the return had orders to test 1200 lbs. and reserve the other 800 for trial by another assayer. On a demand for the balance, reply was made that it had been thrown away. Although the rock was proved to pay splendidly, the boys have reason to believe, from suspicions circumstances, that the half was not told them, and that the rock was much better than represented.

THE GARIBALDI MINE has just developed an extensive chute of rock that will average $15 to the ton. The ledge is seven feet in thickness, and was struck in the north end of the 100 ft. level, on Tuesday last.

YUBA COUNTY.

A MINING DITCH.—*Appeal*, Oct. 18: J. L. Gibson is building a canal from Lost Creek to New York Flat, in New York township, for the purpose of supplying himself with water for mining purposes. The canal when completed will be fifteen miles in length, four feet in width and two in depth, which dimensions it is estimated will afford a capacity of 800 inches of water. There are engaged on the work of excavation at this time, over 100 Chinamen, and the work when completed will cost about $12,000.

Nevada.

WASHOE DISTRICT.

CONSOLIDATED VIRGINIA.—Gold Hill *News*, Oct. 18: Daily yield, 100 tons of ore, which is being extracted through the Gould & Curry shaft. The Mariposa mill has been running steadily on ore from the mine during the week, and the Bacon mill was started up day before yesterday. The body of ore opened on the 1167-ft. level has been breasted out 7 sets of timbers in width and 3 in hight, and continues to improve in quality as the development proceeds. The third compartment of the shaft is completed. The daily yield of ore will be increased as fast as mills to crush it can be obtained.

BALTIMORE CONSOLIDATED.—The main northwest drift, at the third station, is still being driven energetically ahead, the face of the drift in a mixture of clay, quartz and porphyry, with occasional spots and streaks of fair grade ore. The cross-cuts in the southwest drift from the main west tunnel, at the second station, which have cut the ledge, showing it to be about 20 ft in width, with 6 or 8 ft. of fine looking ore, the rest being considerably broken up and mixed with clay and porphyry, with spots and streaks of ore intermingled.

DAYTON.—The northwest drift at the second station, to connect with the winze from the old works of the first station, is being driven rapidly ahead. When the mine was first opened, an incline shaft was sunk on the ledge 100 ft. in depth, then a tunnel run from the north side of the hill which connected with the bottom of the incline, after which the incline was continued on the line of the ledge 120 ft. below the level of the tunnel, and a drift run northward which struck and developed the top of a chimney of fine paying ore. The level of this drift has always been known as the first station, and is 220 ft. below the croppings of the ledge. The first station in the shaft (second station of the mine) is 100 ft. below this drift and 320 ft. below the croppings. The ore-body at the second station has been breasted out 40 ft. in extent, and shows finely.

AMERICAN FLAT.—The main southwest drift, at the third station, has been extended 150 ft. south from its junction with the main west tunnel. Fifty ft. south of the Baltimore line a cross-cut west has penetrated the ledge 10 ft., showing a body of fine ore; 50 ft. further south another west cross-cut has tapped the ledge to the extent of 8 or 9 ft. Both of these cross-cuts are narrow drifts, barely wide enough for a single miner to work in and wheel out the rock excavated, and were run for the sole purpose of ascertaining the exact location of the ore-vein.

ELY DISTRICT.

MEADOW VALLEY.—Pioche *Record*, Oct. 19: In incline No. 3 have reached 120 ft. below the 9th level. At a further depth of 10 feet a new station, the 10th, will be made. The west drift from the 9th station is in 173 feet; the east drift 265 feet. The east drift from the 8th level is in 373 feet.

WASHINGTON AND CREOLE.—Three winzes, all of which are in ore, are being sunk on the ledge. Two of these are between 80 and 90 feet deep, and the third, which has lately been commenced, is about 12 feet in depth. When the winzes shall have reached a depth of 100 feet, which will be about the latter end of next week, drifting will be commenced from the bottoms of them.

PIOCHE.—The ore is again accumulating at the old works. There are now 25 tons on the dump.

CHIEF OF THE HILL.—A progress of 16 feet has been made in the west drift. At the bottom of the shaft a cross-cut has been commenced, and a progress of 7 feet has been made in it. The station has also been made at the same place.

AMERICAN FLAG.—The station at the 8th level, 800 feet below the surface, has been completed, and workmen are still sinking the shaft. Drifting from the new station has been commenced, east and west.

SPRING MOUNTAIN TUNNEL.—There have been no new developments to note since last week.

CAROLINE.—The sinking of the shaft continues. The contract which is now being fulfilled will be completed shortly.

RAYMOND & ELY.—The daily ore product is now 100 tons. There are 210 men employed in the mine at present.

PORTLAND.—The shaft has been completed to a depth of 300 feet.

SILVER PEAK.—The incline is completed to a depth of 330 feet. There are now about 50 tons on the dump.

CHIEF EAST EXTENSION.—The sinking of the main shaft has been resumed below the 225-foot level.

SPRING MOUNT.—The sinking of the shaft, and drifting continue.

HUHN & HUNT.—Work has been stopped in order that the engine and engine bed may be repaired.

AMADOR.—The men are still at the work of sinking the shaft.

LOUISE.—The workmen are getting some very good ore in the raise from the 200-foot level.

PAGE & PANAOA.—A winze is being sunk from the 360-foot level. It is now down 230 feet.

NEWARK.—Ore being crushed by the Amador mill.

STILL SINKING.—The Pioche Phenix and the Ivanhoe are sinking their respective shafts.

New Incorporations.

EL DORADO HILL GRAVEL M. C.—Oct. 22—Location: In Placer County. As Directors—G. S. Dodge, William Willis, J. F. Boyd, Charles E. Scott and G. M. Grayson. Capital stock, $2,000,000.

Meetings and Elections.

EXCHEQUER M. Co.—Trustees—S. Heydenfeldt, A. K. Green, F. G. Smith, L. Leavitt and D. T. Bagley.

AMADOR TUNNEL AND M. CO.—Trustees—James Morgan, N. C. Fassett and H. Myers; Secretary, Louis Kaplan.

SOUTH CHARIOT M. CO.—Oct. 20—Trustees—Hill Beachy (President), George S. Dodge (Vice President), A. P. Minear, T. J. Shackleford, John F. Boyd; Secretary, Frank Swift; Superintendent, C. S. Miller.

ATLANTIC AND PACIFIC M. CO.—Trustees: Isidor Burns (President), W. Holden (Vice President), J. J. Houseman, Daniel McCloud, S. Solomons, James Curtis, John Crocker, James O. Wright, H. Kosminsky; A. Noel, Secretary.

THE Bingham Cañon Railroad has been completed 12 miles from Salt Lake and commenced operations on the 16th inst. There are now only five miles of stageing between Salt Lake City and Bingham.

Quicksilver Extraction.

EDITORS PRESS:—At the risk of exhausting your good nature and patience, I venture to address you again on this important branch of metallurgy, hoping that before we are done with the subject some truth may come from the disoussion that the public may be safe in receiving and acting on as facts established. It is nothing new for scepticism to doubt new theories and improvements. Galileo only saved his neck by recanting the truth, and had I lived in his days I might have heen a head shorter, but, happily, in this day every man has the privilege of setting forth his discoveries or inventions to the world, which is the jury to try all propositions that are presented as facts; and as they decide, so must he atand or fall. Divine wisdom does not permit any one man to monopolize knowledge to such an extent that another individual may not also have a little; and that little may he as true, practical and important as the great learning of a man who has published a book. What I know about quicksilver, I have a good right to, for I learned it from practical working, from mining the ore to its final reduction, having devoted to the business twelve years of my life, during which time I have, with my own hands, manipulated every branch of the business; beginning the reduction with retorts, following them with what is usually known as the Almeden furnace, and finding objections to both, I determined to try something new, the result of which was the Knox-Osborne furnace. This, Mr. Editor, is my excuse for the impertinence of assuming to know something of the reduction of mercury for its ores, notwithstanding it mey he new to some one; and that Mr. "G.K." should dissent from the results of an operation he has never seen, and which is quite different from previous operations in the same line, does not surpise me.

"G. K." insinuates still that we lose some large amonnt of mercury in our process of reduction, which I deny, and offer him large inducements to prove the facts, whatever they may he. I want him to prove his theory, if he can. That will effectually upset mine. He also objects to my way of proving my complete reduction. Now, Mr. Editor, I never take second class evidence when I can get that which is first-class.

G. K. says my refusal to accept assays might as well he applied to copper, silver and other ores, and it gives me great pleasure to say I fully agree with him. Suppose for instance, a new invention for working silver ore, which it is claimed will save 99 per cent., or all the metal. I work some ore by the new apparatus, which the assayer certifies to its containing $100 silver per ton. During the working a competent chemist is hy to see that no metal passes away during the operation, and when completed, examines all parte of the machinery to see all hae heen properly cleaned up; examines the tailings remaining and finds not a trace of silver in it. He next weighs and assays the silver product, and finds he has $80 only. Now will you say that the sample assayed, which, (when taken fairly from a large pile of rock), at the best is but a guess, or estimate of an average, was an absolutely correct sample of the lot of ore worked? I choose to take an absolute certainty rather than an absolute uncertainty.

Now I put it to the oommon sense of your readers which is the most reliable, a sample guessed at hy regular sampling from a ton or a hundred tons, or the actual working of a ton or one hundred tons, where by daily, or if you please, hourly tests, you know you are saving all your metal? Assays are valuable when a working test connot he had, and to that extent only. G. K. thinks "it might he a good hint to millmen to retort their amalgam in similer furnaces," and here I agree with him, provided they have from ten to twenty tons per day, and I will hind myself to teturn them as much mercury as they get now and at about one-tenth of the expense, and never have a man affected with the vapors of the mercury, which is more than they can do with a retort, and the repairs on the furnace will he vastly less than the repairs of retorts for the same work.

G. K. quotes a numher of the reasons I give in support of my theory; all of which are true, and instead of attempting to answer them, quotes a part of two other sentences to show my hungling composition, which I take to be pretty good evidence he has no reasons to give and thinks a little dust thus thrown in the air, will settle the matter. G. K. also wants to know "how near" the truth the assay of 1 to 5 ponnds (cinnabar) will come? In reply I say, if done as done as a sample of a largerlot, 5 pounds will come nearer than one, and one pound nearer than an ounce, and an ounce nearer than a grain and either would only be approximate. Having above referred to the main points in Mr. G. K's. article, I will come right down to business. I assume that the public so far as they are in, or contemplating going into the reduotion of mercury, want to know the real facts about the 99 per cent claim, and it is of no small importance to true science to know whether it ia true or not. Your friend G. K. ia a very acientifio man, haa published a scientific hook or two quoted as authority everywhere, been to the World's fair at Vienna, to the Idra miñes and has seen the new reduction works of Mr. Patera, and with all the knowledge of Freiberg and the old world at his tongue and fingers snd—skeptical of the 99 per cent. claim; who was so compstent as he to test this thing and to insure the profits of enterprise, (for who is there that wants to work without pay)? Myself and partner will bind ourselves that when G. K. has constructed for us an attachment to, or an improvement of our present machiuery for reducing cinnabar, that will save one flask of mercury from our coke chimney, the debris, or what we lose from any and all parts of the furnace, while we save one hundred flaske—(in other words save one per cent. of the product of our works), we will bind ourselves to pay him $10,000 in gold coin. He may save it from anything we waste. If there is the large waste he assumes, it will not be difficult for a scientific man to save one per cent on the amount we get. I think you will agree that this ia a liberal proposition, and it is made in good faith, and not intended as a bluff, or for any other purpose than to have the 99 per cent theory proved or disproved. Thanking you for your indulgence heretofore, I remain yours, etc. R. T. KNOX.

Neglected Colorado Mines.

A correspondent of the Denver *Tribune* writes as follows: In passing through the various mining districts, on a tour of inspection, the singular feature of a great many deserted holes in the ground attracts attention. Some have been sunk to a considerable depth, fifty or sixty feet perhaps, while others are hut ahallow excavations. That these holes were dug in search of the precious metal is evident, hut the question—why there is nothing heing doue with them naturally arises.

In some cases an unusually inferior quality of ore is fouhd near the surface not exceeding fifty dollars in value per ton. After a few tons have heen taken out, a shipment is made and from the returns it is learned that the yield of the ore was only enough to pay for hauling and working; the expenses of each ranging from twenty to thirty dollars per ton, leaviug the miner a zero for the reward of his toil. Although every evidence ie manifest that the lead contains rich quartz in large quantities if opened to a required depth, the poor miner is forced to abandon his discovery for want of means to develop it.

In other instances where the mine hae been opened to a considerahle depth, and is turuing out good pay, a formidahle barrier makes its appearance and the miner finds his shaft rapidly filling with water. He hrings to his assistance all the availahle means which he is pecuniary ahle to procure—endeavoring to take out the water and prosecute his work. He is compelled to employ much extra help, and after having expended his limited capital in this way, he is forced to desert his enterprise.

It is no exaggeration to say that over a hundred valuable mines, rich in gold and silver, within half the numher of miles from Denver, are laying idle, which might he worked with large profit, if properly managed.

When the ore is of a low grade machinery is needed to dress and separate it at the mine ohviating the hauling of worthless rock long distances over steep roads; and where water is the barrier machinery is necessary to profitahly contend with the ohstruction.

A small engiue of about ten or twelve horse power would he of sufficieut size to run machinery for dressing the quartz, work the shaft and keep pumps in operation, if necessary. Such an engine, together with the machinery and pumps, could be put on the ground and set up ready for use at an outlay of $3,000 to $5,000, and in addition to its service in working the machinery, would save the lahor of two or four men on the shaft—an expense of two to four thousand dollars per annum.

In every instence where an experiment has heen made with machinery for these purposes, it has proven a complete success. The mining company of Nederland, at Carihoo, have beoome so well convinced of the invaluable aid of machiuery that arrangements have heen made for putting up a hundred horse-power engine at their mine. Thie is a subject of much oonversation in the mining districts, hut the question is how are men of meaus to be made interested, aud capital brought to the assistance of experience and labor, in developing our untold wealth of mineral resources.

The field is open, the harvest is waiting. Come forward, men of enterprise, invest your money and success will crown your efforts with the golden wreath of wealth.

TROY DISTRICT.—The White Pine *News* saye: Mr. Edward Davies, Superintendent of the Troy Silver Mining Company, limited, was in town during the early part of the week. He brought up a har of hullion of the value of about $600, produced at the company's mill. The oharaoter of the ore has heretofore proved so difficult to work that the bullion has been very low, and was scarcely worth shipping. The recent workings have been more successful, aud the Superintendent is quite confident of producing in future bullion of approved fineness. That brought to thia place runa to about 600 fine. Dr. Steward, of the Board of Directors, arrived from Lancashire, England, has gone to Troy to make an examination of the company's property, with the view of reporting on the same to the stockholders at homs. The problem hss hesn as to the practicability of getting ths silver contained in the ores, and as this seems to hs in a way of satisfactory solution, we apprshend that operations will he inaguated upon an extensive scale so soon as the report is submitted to his associates. The quantity of ore in the mines helonging to the company is demonstrated to be abundant to supply the mill and furnace for yesrs.

The Refining Works at Black Hawk.

The smelting center of the mines is not in Denver as yet, and judging from the general looks of things, will not be for some time to come, though in the end it is as sure, we helieve, to locate itself *somewhere* upon the plains as the night follows the day. In the meanwhile none of the mountain cities present so many advantages for the erection of extensive metallurgical works as Black Hawk. Its location, in the heart of a great mining district; its railroad connectiou, which, in a few months, will be direct with the east, and is at present so with most of the prominent coal fields of the Territory; all favor a cheap and advantageous treatment of the complex ores of Colorado. In addition, the Gilpin County mines furnish an unlimited quantity of that nece-sary article to all smelters—finx—not only at low cost, hut at an ahsolute profit.

No estahlishment that has bid for our ores, has heen so uniformly euccessful with every class as the Boston and Colorado Smelting Works. Nothing carrying silver or gold, or both, has ever heeu refused, providing the seller hes heen willing to accept the prices offered; and while these have often heen the subject of criticism and diesatisfaction, that is a matter entirely separate from the question of successful reduction. Prof. Hill has bought Clear Creek zinc and heavy lead ores when no one else would touch them, aud is uow handling daily tons of Boulder county rock that can be profitahly smelted hy no other works iu the country. His establishment has furnished a market for refuse tailings from the hed of the creek, and his furnaces have held ores from uearly every mining camp on the eastern slope of the Range. While perhaps the rates and prices at Black Hawk are fit subjects for criticism, it cannot he denied that the works have proved of immense heuefit to miners all arouud them.

The erection of works to refine the copper matte, now shipped to England, will vastly increase the usefulness of the establishment and inaugurate a new industry that may fairly he expected to grow to huge proportions hefore a dozen years are past. The primary works can be and have been duplicated in other districts, as the Whale snd Swaneea Mills and those at Alma and Dudley, hut there are many reasons why the final separation of the metals can most profitahly he performed under one management. The present enterprise contemplates all that will be necessary for Colorado for some time. Its success can hardly he doubted, as apparently every element has been carefully considered hefore the project was finally determined upon. That times are rapidly changing as regards the comparative cost of lahor and work in the United States aud England is well shown by the fact that the difficult operation of refining a complicated copper matte, can he nearly as cheaply performed in Colorado as in Swansea, what additional expense there is, being much more than balanced by the saving of shipping and handling costs hetweeu here and Europe.

Within sixty days, probably, the refining works will he in operation. Their first successful run will mark a new era in the mining industry of Colorado.—*Colorado Mining Review for Sept.*

WHITE PINE BASE ORES.—We remember that with the more sagacious and well informed of those who came early to White Pine, the prediction was common that the ores of the hase range would ultimately prove the more solid foundation of prosperity to the district. At that time the wonderful richness of the chloride ores of Treasure Hill carried off in a whirl of excitement the capitalists who swermed to the "poor man's paradise," and left almost unnoticed this extensive field of operations. The hase ores failed to arrest the retiring wave of population, and still lie unwrought in their natural deposits, over the Babylon and White Pine mounteins. There ledges are numerous and have been partially prospected. The orees are found, in addition to large percentages of copper and lead, to carry variously from $30 to $300 per ton in silver The attempts at smelting made in the early days of the district were conducted without that skill and kuowledge of the business which has been obtained since that time, principally in the districts of Eureka, and in Utah. Attention is now being given to the neglected hase mines here, and we may reasonahly expect to see them sought for and utilized as this branch of mining industry becomes better understood. Gentlemen of skill who have examined the subject and are well acquainted with the value and aspects of the base veins of the country, express the opinion that those of White Piue yield ore of a higher percentage in silver than ore found generally in this State or in Utah. The fact is indisputable, that ores very inferior to onrs are energetically worked in other parts of the mining region. A profitable field of enterprise in this department invitea men of skill and capital to this district.—*White Pine News.*

The Seraing Works in Belgium.

An English newspaper gives the followiug account of this great industrial establishmsut:

"The Seraing works extend over an arsa of 200 acres, and are interssoted in all directions hy a total length of 34 kilometres of railway. A canal also runs through the works communicating with the Meuse. At present there are 9,000 persons employed in and about the worke, and the company still require about 1,500 more hands, hut there is some difficulty in ohtaining them, as all the availahle labor of the surrounding districts is already absorhed. The first locomotive for the first Belgian railway was constructed at their works iu 1834, and afterward they supplied all the engines for the early railways.

The inspection occupied several hours, during which all the departments were visited in turn, the chiefs of each department, who are engineers of high qualifications, giving to the visitors detailed explanations of the several branches of the works. The working of the estahlishment comprises coal and iron mining, the reduction of the ores, the manufacture of cast and wrought iron and steel, the construction of machines and engiues of every kind, boilers, hridges, ships—in fact, all classes of engineering work. There are offices for the direction, a special engineering department for the study of construction, a library, a lahoratory and eleven special divisions for the practical working, which are managed hy the chief engineers alluded to. Nothing can exceed the cleanliness, order and precision which prevails throughout the estahlishment, which was a matter of euvy to many of the manufacturers and ironmasters from our own land.

It is almost impossible to realize the magnitude of the worke; a few facts and figures, however, respecting their administration may serve to indicate their extent. They employ nearly 260 steam-engines, of ahout 8,000 horse-power in the aggregate, and the wages paid amount to 8,500,000f. per annum. The annual consumption of fuel is 350,000,000 kilogrammes, and the value of the yearly produce is estimated at from 25,000,000f. to 30,000,000f. The company have an infirmary on the hights of Seraing, in a very healthy situation, which is kept hy nuns. A special physican ie attached to it, and an orphan asylum, containing at present 41 children of hoth sexes, adjoins it. The estahlishment also possesses a dispensary, which furnishes medicine gratuitously to the persons attached to the works and to their families. To each division a refectory is attached for the workmen's meals; some kitchens are added; haths are also fitted up at the collieries for the miusrs, of whom there are about 2,000. A society for relief and pensions has also heeu estahlished for the workmen, hut memhership is not compulsory. The company also accords out of its own funds temporary relief and pensious to non-subscribers to the relief society. Up to the close of last year the Seraing Works had constructed 2,100 steam engiues of from 4 to 600 horse-power for all manufacturing purposes; 900 locomotive eugines; 31,540 pieces of mechanical apparatus for manufactories, mining, the reduction of ores, the manufacture of metals, huilding, sugar works, plate-glass manufactories, paper mills, spinning mills, besides girder and suspension hridges, and irou-clad turrets, etc."

"THE SAME KIND OF ROCK."—The Tulare *Times* under the head of "Fine Cahinet" gives the following: Since there has heen so much excitement about the new mines, and nothing ia talked of on the street but "feet," our young friend Mack (with Jacob and Einstein), in order to keep up with the times has collected some fine specimens, principally from ths back alleys and Mill Creek hed, with which he hae heen "fooling the hoys." One fine semple of ore laheled "Cinnahar from Humhng District," was pronounced by a well known sheep man to he the richest piece of cinnahar ore he ever saw. He will be surprised to learn that nearly all our stores are huilt of such "specimens," that it was picked up in the hrick yard. A piece of cohhle stone, granite, sand stone or any kind of rock laheled from "Roorback District," or "Sham Ledge" was eagerly pounced on hy "knowing ones" who explained to admiring friends how this was rich in snlphurets, that in free gold and the other in virgiu silver. One old bone, the crevices of whioh had heen stuffed with leef gold was recognized by many as "just tha seme character of rock we mined in Nevada Co.," "for all the world like the finest specimens of Comstock," etc., etc. We verily believe an old hoot top or a hoop-skirt would be pronouuced some new sample of ore. What a Golconda of wealth Visalia must be huilt on, if its back alleys yield such rich specimens!

A NEW CAR, intended for railway coustructiou and hallasting purposes, has been introduced into the United Statee. The floor is composed of a series of trap doors, which, when open, make a kind of grating, and when closed form a level surface. Being loaded with ballast, and removed to any required spot, the oontents, by simply loosening a bolt, drop through npon the track, and an arrangement beneath securea their distribution between and outside the rails, which are kept clear. The invention is claimed to coet but little above an ordinary platform car, and it evidently saves much time in shoveling.

Useful Information.

Resistance of Woods to Strain.

Professor R. H. Thurston, of the Stevens Institute of Technology, communicates to the *Journal of the Franklin Institute* a description of an apparatus devised by him for determining the torsional resistance of materials, and also the result obtained by submitting specimens of different woods to experiment. By mechanism the force producing torsion is transmitted through the test-piece, and moves a pencil which traces upon paper a curve, the ordinates of which are proportional to the torsional moment, while its abscissas represent the amount of torsion to which the specimen has been subjected, thus indicating the relative stiffness, strength, and resilience of the material experimented upon very perfectly. The test-pieces were seven-eighths of an inch in thickness at the middle or smallest part. Some of the conclusions drawn from the results are as follows: White pine yields quite rapidly as the torsional moment increases. The maximum strength of the test-piece was 15¼ foot-pounds, and it was twisted completely off at a total angle of torsion of 130°. The substance is thus shown to have little resilience. Yellow pine has much greater strength, stiffness and resilience. The sap-wood is equally stiff with the heart-wood, but sooner passes its limit of elasticity. Spruce is less stiff than white pine oven, but possesses greater strength and resilience, its moment of resistance reaching 18 foot-pounds and twisting through a total angle of torsion of 200°. Ash seems to be weaker and less tough than is generally supposed. Its most striking peculiarity is its very rapid loss of strength after passing its limit of elasticity. Spanish mahogany is very stiff and strong. It is deficient in toughness and resilience, losing its power of resistance very rapidly after passing the limit of elasticity. White oak has less torsional strength than either good mahogany, locust, or hickory, but is remarkable for its wonderful toughness. It passes its limit of elasticity at 15°, but loses its resisting power very slowly. The latter remains unimpaired to a torsion of 70°, and yields completely at 253°. Millwrights are evidently correct in holding this wood in high esteem for strength, toughness, and power of resisting heavy shocks and strains.

Ice for Keeping Fruits and Vegetables.—A correspondent of *The Field*, an English journal, relates his experience in keeping fruits and vegetables in an ice-house. He says: "I lay them upon cotton, in tin boxes (biscuit boxes will do) without any packing about them, shut down the lid, and set the boxes on the ice, not buried in it. Peaches I have kept quite a month in this way after they were dead ripe, and nectarines six weeks. I place them in shallow tin boxes, putting a piece of cotton between the fruits, but otherwise leaving them uncovered. After they have been long on the ice they should not be brought out long before they are used, as they do not keep long afterwards with out showing specks. Tender-fleshed melons, that will not keep a week in the fruit room in summer, will keep three or four weeks in the ice-house. Cucumbers will keep a very long time, and I have known the autumn and winter supplies greatly prolonged by storing them away in boxes in the same way as fruit. French beans should be packed in bundles and set on their ends in boxes. I am sure those who try the plan once will resort to it again."

Economical Scents.—As cheap perfumes are often required to fill little fancy bottles, such as are sold at the bazaars, toy-shops, arcades, and other places, the following recipes for their manufacture will be found of service:

1. Spirits of wine, one pint; essence of bergamot, one ounce.

2. Spirits of wine, one pint; otto of santal, one ounce.

3. Spirits of wine, one pint; otto of French lavender, half ounce; otto of bergamot, half ounce; otto of cloves, one dram.

4. Spirits of wine, one pint; otto of lemon grass, three-fourths ounce; essence of lemons, half ounce.

5. Spirits of wine, one pint; otto of petit grain, quarter ounce; otto of orange peel, half ounce.

Varnish for Labels.—Never varnish a label for acid bottles, but use paraffine instead. The only thing necessary is to brush the paraffine on as hot as possible, so as to get a thin, even coating. It looks as well as varnish, and stands a great deal better. It saves a great deal of trouble in sizing and varnishing, and five minutes after the bottle has been brushed it is ready for use. Instead of sealing the tops of bottles—sample bottles of bleaching powder, and for other purposes—it is very convenient to have a small porcelain dish with paraffine always ready, which can be placed upon a lamp, and, as soon as warm, dip the top of the bottle in it, which gives as good a sealing-wax, or better, and causes very much less trouble.

Mucilage of Gum Arabic.—According to R. Rother, the following formula affords a mucilage which will keep in the hottest weather:—

Gum-Arabic	12 troy ounces.
Glycerine	8 fluid ounces.
Water	16 fluid ounces.

Enamel for Copper Cooking Vessels.—To enamel the inside of copper cooking vessels in which acid fruit and vegetables are cooked, and thus prevent the formation of the so-called "verdigris," the following method is recommended: Twelve parts of white fluor spar, twelve parts unburnt gypsum, and one part borax are finely powdered, intimately mixed, and fused in a crucible. The fused mass is then poured out, and after cooling is rubbed up to a paste. The copper vessel is to be coated inside with this preparation, applied by means of a brush, and the vessel placed in a moderately warm place, so that the coating may dry uniformly; after which it is subjected to a gradually increasing heat, till at length the preparation fuses. On cooling, the vessel is found to be protected internally by a white, opaque enamel, adhering very firmly to the copper, not chipping off by ordinary knocking and rubbing, and impervious to vegetable acids.

Oil-Cloth Made from Carpet.—The following recipe is communicated to the *Cultivator and Country Gentleman*, by a correspondent, who signs herself "Daisy Eyebright:" Nail the old Brussels carpet loosely to the floor, in a large attic or wood-house chamber not in use. Then paint it over with a thick coat of linseed oil and burnt umber. Let it dry in thoroughly; add a coat of good varnish. Let that dry for a week or two, and it can be scrubbed and washed with milk and water like any oil-cloth. Paint it on the wrong side, and nail it down closely, for it need not be taken up for many years. As the varnish and paint wear off, renew them, and thus it will last four times as long as common oil-cloth. If "B" chooses, he can ornament it with a border of scarlet, green or blue lines.

Preparation for Lacquering Brass Castings.—Take of seed lac, 6 oz., amber of copal, ground on porphyry, 2 oz., dragon's blood, 40 grains, extract of red sandal-wood obtained by water, 30 grains, oriental saffron, 36 grains, pounded glass, 4 oz., very pure alcohol, 44 oz. To apply this varnish to articles of brass, expose them to a gentle heat and dip them into the lacquer. Two or three coatings may be applied if necessary. The lacquer is durable and has a beautiful color. Articles varnished in this manner may be cleaned with water or a dry rag.—*Cabinet Maker.*

Good Health.

Twenty Rules for Health.

1. Remember, the Author of the laws which govern the human body is the author of the Ten Commandments.

2. Infidelity to the laws—established that mankind should be healthy and happy—is the greatest sin of the present generation,

3. Be cheerful, trustful of others, and faithful to your own best conception of duty. Never brood over troubles that you have, and be sure you never borrow any.

4. Be much in the sunlight, and prefer light-colored clothing.

5. Drones must die. Exercise liberally and live. Be out-doors all you can while the sun shines.

6. Breathe pure air. Live with open windows, and the windows of heaven will be more likely to open for you.

7. Pray with a pure heart and a clean skin. Bathe often.

8. Avoid stimulation by spirits of all kinds, strong coffee and tea, opium and tobacco.

9. Keep the head cool, feet and heart warm, hopes heavenward, and finger nails clean.

10. Eat only three times daily, and never between meals—not a nut or an apple. Drink nothing while eating.

11. One hearty meal of meat per day is sufficient. The other two should be spare.

12. Avoid late, hearty suppers, pork, spices and pepper, rich pastry, and imperfectly cooked beans.

13. Wheat, oat and barley meal, with beans, peas, lean meats, fish and wild game are the best articles of food.

14. Fruits are cooling to the blood, and specially adapted to warm weather.

15. Eat slowly, masticate your food well, and eat nothing for three hours before retiring.

16. Let the time spent at table be happy. Encourage pleasant, cheerful conversation; joke, but do not argue. Rest a half-hour after every hearty meal.

17. Sleep eight hours of each day.

18. Brain, bone and muscle are built of different material, and the brain-worker should have food different from the muscle-worker. He is not thoroughly educated who cannot select food adapted to his needs.

19. Avoid corsets, and suspend no article of clothing from the waist. Protect every part of the body from chill and exposure.

20. Study hygiene, attend health lectures and read health literature. As you are ignorant or intelligent in physiology will your habite be wise or otherwise.

About Children.—Dress children warmly, woolen flannel next their person during the whole year. By every consideration, protect the extremities well. It is an ignorant barbarism that allows a child to have bare arms, legs and feet, even in summer. The circulation should be invited to the extremities; warmth does that; cold repels it. It is at the hands and feet we begin to die. Those who have cold hands and feet are never well. Plenty of warmth, plenty of substantial food and ripe fruits, and plenty of joyous out-door exercise, would save millions of children annually.

Artificial Fibrine as Food.

Pertinent to the subject recently discussed in the article entitled "Chemical Food for Men and Animals," we find in the *British Medical Journal* a communication from Dr. John Goodman upon artificial fibrine, as food, in which he strongly recommends it as a diet for sick persons, and gives the following directions for its manufacture and use: "As a member of the British Medical Association, and in the common interests of humanity, I have pleasure in calling attention to my discovery of this new dietetic substance. So far as I have employed it, it promises fair to be invaluable in medical practice, especially in cases of feeble alimentation and deficient nutrition, and second to none in those cases where rejection of food forms a prominent feature, or where the appetite and digestive powers are reduced to a minimum. As fibrinous material, it is of course highly nutritious, and eminently adapted to all cases where there is a deficiency of fibrine in the blood. It is, perhaps, unparalleled in its qualities of lightness and digestibility, and is, moreover, a great delicacy. In many urgent cases of rejection of food, etc., it not only remains where an egg otherwise cooked would not be tolerated, but its presence in the stomach has been found to create a feeling of want rather than of superfluity, and to promote rather than decrease the appetite for food.

"The production of this substance is within the reach of every sick room, and is effected with great facility. It is formed by exposing albuminous material to the operation or influence of cold water, for a given period; and on account of its great plenteousness we employ the ordinary hen's egg for its production. When the shell is broken and removed, and its contents are immersed in cold water for twelve hours or so, they are found to undergo a chemico-molecular change, and to become solid and insoluble. This change is indicated by the assumption, by the transparent white of the egg, of an opaque and snowy white appearance, which far surpasses that of an ordinary boiled egg. The product, and the fluid in which it is immersed, must now be submitted to the action of heat to the boiling point, when the fibrine will be ready for use."

About Clothing.

The underclothing—we mean its deepest strata in immediate contiguity to the body—has quite as much to do with a person's comfort, health and good looks, and consequently with his or her success in life, as the outside apparel, public opinion to the contrary notwithstanding. It is pertinent, here as elsewhere, to look beneath the surface to form our judgement of the individual.

Cleanliness we take for granted. "Foul linen," and healthy skin are incompatibles. Falstaff himself, whose stomach was not easily turned, could not abide the "rank compound of villainous smells," which he suffered in the buck-basket.

The first quality demanded in the articles which come next the skin is, that they be soft and comfortable. They must not irritate, nor be chilly or heating. To our mind, one of the most dreadful penances of convent life is that mentioned by Victor Hugo in *Les Miserables*. He says that the nuns of a certain order are obliged to clothe themselves in harsh woolen cloth next the skin. The irritation is so distressing that they are not unfrequently thrown by it into a fever, and break out in an eruption from head to foot.

The amount of clothing should be carefully adjusted to the temperature. When too scanty, the skin is chilled and is liable to crack; when too abundant, the excessive warmth may cause an eruption and itchiness.

Cotton, linen, wool and silk are the prevailing materials employed. Of these cotton is the cheapest and commonest. It is a good conductor of heat, and is the best adapted of any of them for warm climates and the hot season. Its fibers, however, are coarser and rougher than those of linen, and there are persons so sensitive to this slight difference that they cannot wear it. Such must have recourse to linen.

For cold weather, wool or silk is preferable. Both these have one objection. That is, that on the slightest friction they disturb the electricity of the skin, cause a determination of blood to the surface, and sometimes lead to cutaneous eruptions. This holds good, more particularly against silk, which, in point of texture, is much more agreeable than even the finest wool, and is also a worse conductor of heat. The latter is an advantage in winter.

Ingrowing Toe-Nail.—In bad cases the following course is recommended to surgeons and others: If a small, thin, flat piece of silver plate be bent at one edge into a slight deep groove, and, after the toe has been poulticed twenty-four hours, slipped beneath the edge of the nail, so as to protect the flesh from its pressure, and the rest of the thin plate bent round the side and front of the toe, being kept in position with a small portion of resin plaster passed round the toe, a speedy and almost painless cure will take place, and the patient, after the first day, has the additional advantage of being able to walk.

Domestic Economy.

Plants in Rooms.—The reason why plants fade so soon, is because due attention is not paid to them. The mere supplying with water is not sufficient. The leaves should be kept perfectly clean. "If as much washing were bestowed, in London," says Dr. Lindley, "upon a pot-plant as upon a lap-dog, the one would remain in as good condition as the other. The reasons are obvious. Plants breathe by their leaves; and if their surface is clogged by dirt, of whatever kind, their breathing is impeded or prevented. Plants perspire by their leaves; and dirt prevents their perspiration. Plants feed by their leaves; and dirt prevents their feeding. So that breathing, perspiration, and food, are fatally interrupted by the accumulation of foreign matter upon leaves. Let any one, after reading this, cast an eye upon the state of plants in sitting-rooms, or well-kept greenhouses; let him draw a white handkerchief over the surface of such plants, or a piece of smooth white leather, if he desires to know how far they are from being as clean as their nature requires."

How they Cook Beans in Maine.—I wish some of your readers who stew beans would try the following receipt for baking them. This is the way the down-east lumbermen cook them, who eat them twice a day for four or five months each year: Take one quart of beans; first soak, if pea beans, until they are swelled full; it will take over night certain; if yellow-eyes, par-boil until the skins crack open when blown on with the breath; drain off the water, put about two-thirds of the beans in the pot; put in about one and one-half pounds of salt fat pork, then the rest of the beans; bake not less than twelve hours, first covering the beans with hot water.

These are genuine Yankee pork and beans. The way they are cooked in the woods is this: A hole is dug at the foot of the fire, filled with hot coals, the bean pot put in, filled around with coals and covered with hot ashes, where it remains from 3 p. m. until breakfast the following morning—about fourteen or fifteen hours. There are probably more beans eaten in Maine than in the whole State of New York. —*New York World.*

To Clean Lamps.—Bronzed lamps should be wiped carefully; if oil be frequently spilled over them, it will cause the bronzing to be rubbed off sooner than it would disappear by wear. Brass lamps are best cleaned with crocus, or rotten stone and sweet oil. Lacquered lamps may be washed with soap and water, but should not be touched with acid or very strong lye, else the lacquer will soon come off. When lamps are foul inside, wash them with potash and water; rinse them well; set them before the fire, and be sure that they are dry before oil is again put into them.

Lamps will have a less disagreeable smell, if, before using, the cottons be dipped into hot vinegar, and dried.

Directions for Carpets.—Carpets should be taken up and shaken thoroughly, if in constant use, as often as three or four times in a year, as the dirt that collects underneath them wears them out very fast. Straw kept under carpets will make them wear much longer, as the dirt will sift through, and keep it from grinding out. Carpets should be taken up as often as once a year, even if not much used, as there is danger of moths getting into them. If there is any appearance of moths in carpets when they are taken up, sprinkle tobacco or black pepper on the floor before the carpets are put down, and let it remain after they are laid down. When the dust is well shaken out of carpets, if there are any grease spots on them, grate on potter's clay very thick, cover them with a brown paper, and set on a warm iron. It will be necessary to repeat this process several times to get out all the grease.

Boiled Beef Plate or Flank.—Take a piece of beef flank, six or eight inches wide, and as long as you can get it. Sprinkle salt on, if fresh; prepare stuffing as for fowls, and spread over it; roll up very tight, and tie with strings to keep in place, as the heat will cruel it. Then tie or sew it up in a cloth, and drop into rapidly-boiling water; cook several hours; the larger the piece the longer it will take. Try with a fork. When done, lay between boards or in a pan, and put a weight on it, keeping the cloth on it still. When cold, it will slice beautifully and is excellent.—*Germantown Telegraph.*

Tapioca Cream.—One quart of milk, four tablespoons of tapioca, one cup of sugar, a little salt and three eggs.

Soak the tapioca over night in one-third of the milk. In the morning let the rest of the milk come to a boil, then stir in the tapioca, sugar and yolks of eggs, boiling about five minutes. Beat the whites to a stiff froth, add at the last moment and place on the ice. Flavor with almond.—*Mass. Ploughman.*

Indian Baked Pudding.—Take two quarts of sweet milk, and boil one quart, and while boiling stir in it as much fine Indian meal as will make a very stiff batter; add a tablespoonful of salt, and make very sweet with molasses. Butter a pan, and pour the remaining quart of milk over it. Cut little bits of butter and put on the top, and bake two hours in a moderate oven. Any person who has never eaten of it before, will think they are eating custard.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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Saturday Morning, Oct. 25, 1873.

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TABLE OF CONTENTS.

GENERAL EDITORIALS.—Krom's Dry Ore Concentrator, 257. American Mines; The Lick Observatory; New Map of California and Nevada, 264. Mitchell's Patent Heater; Spectrum Analysis, 265.

ILLUSTRATIONS.—Krom's Dry Ors Concentrator, 257. Mitchell's Patent Heater, 265.

CORRESPONDENCE.—Notes of Travel in Lander County, Nevada; The Proposed Bear River Flume and Tunnel; Mine Swindlers; The Proposed Bear River Tunnel, 258.

SCIENTIFIC PROGRESS.—The Fossil Man of Mentone; New Experiments with the Electric Current; Singular Effect of Cold; Peat; Uses of Molasses as a Fertilizer; New Reducing Agent; Congealed Dynamite, 259.

MECHANICAL PROGRESS.—The Art of Inventing; Tempering Steel; A Wonderful Model; New Method for Preparing Aluminum; A Beautiful Industrial Art; Cheap Domestic Motors; Reward Offered for Self-acting Couplings; The Manufacture of Jute, 269.

USEFUL INFORMATION.—Resistance of Woods to Strain; Ice for Keeping Fruits and Vegetables; Economical Scents; Varnish for Labels; Mucilage of Gum Arabic, Foams for Copper Cooking Vessels; Oil-Cloth Marks from Carpet; Preparation for Lacquering Brass Castings, 263.

GOOD HEALTH.—Twenty Rules for Health; About Children; Artificial Fibrine as Food; About Clothing; Ingrowing Toe-Nail, 263.

DOMESTIC ECONOMY.—Plants in Rooms; How they Cook Beans in Maine; To Clean Lamps; Directions for Carpets; Boiled Beef Plate or Flank; Tapioca Cream; Indian Baked Pudding, 263.

MISCELLANEOUS.—Quicksilver Extraction; Neglected Colorado Mines; The Refining Works at Black Hawk; The Seraing Works in Belgium, 262. Gold Movements; American Mines and British Owners Ohsmicals in Pan Amalgamation, 266.

American Mines in London.

The sharp tricks of a few swindlers and world-be capitaliets in pntting worthlees American mines on the English market has done more harm to legitimete mining enterprisos on thie coast than can well be calonlated. Fully as mnch, if not more, injnry to these intereste has been done by pntting really good mines on the market at a price far heyond even their prospective velues. Plenty of good mines havo been floated there, which, if worked economically by private individuals, after having been bonght for snch a price as private individuals wonld be likely to pay, wonld have proved good investments. Bnt when these properties are first bonded for a emall sum to partiea who put them on the market through other individnals, all of whom want to make a large enm ont of them, by the time etockholders buy their eharee they have to pay ahont ten times as mnoh as they are worth. These evils, however, effect their own cnre, the question being only one of time. Burnt children dread the firc, and swindled stockholders bny no more mines. A correspondent writes that "A man in London will almost knock yon down, if you mention an American mine to him," and thinke that "a mine which tnrned out gold twenty-dollar pieces wonld not sell in London to-day."

Of course it wonld not; the better the mine the more money the Directors and "floatere" wonld make. A mine which turned out twenty-dollar pieces wonld never pay any one of ite stockholders, except the immediate managers themeelves. They would have caves, firee, overflowe and accidents of all kinds to prevent the mine being worked, and would at the same time be taking out the twentiee, privately from an "old shaft" or "deeerted tunnel." When all the twenties were gone, as they soon would be, they would eell out themselvee and wouldn't even pay the bille, but leave them to be paid by assessments. Then, with an air of injured innocence, they would deny everything on general principles, or, with Tweedish effrontery, aek: "What are yon going to do ahout it?"

That is just the difficulty: "What are we going to do ebout it?" Of all the barefaced swindles and ealted mines of which we have heard, we have yet to learn that punishment hes been meted out to those connected with them. The larger the swindle, the lese denger of tronble. A poor devil of a miner who steele a bucketful of rock from a "specimen mine" will be driven from camp, while a "promoter" who hange aronnd honest men, bonding mines, selting mines, eelling holes in the ground at exorbitant prices and swindling right and left, is looked up to ae a smart chap, and his society cnltivated.

These individuals generally are smert cheps, who are too lazy to work and too cowardly to steel ontright, but hesitate at nothing where money cau be made. They do more herm than the moet practiced burglar. The people who bny mining sharcs are to a great extent, particnlerly in London, those individuals who heve smell incomes and who desire to increase them more than legitimate interest will do. They are allnred by fleming prospectuses and *ex parte* reporte over the namee of men of cepital well known among them, and of their own nationelity.

And here is one of the worst evils. We have no desire to shield the Americans who attempt to swindle onr cousine over the water, hut any candid mind must admit thet much of this thievery is enconraged and fostered by Englishmen themselves. In this they are worse than our own countrymen. The people who take these properties to London to sell are generally men of no meens, but who hope to realize a fortune without labor or capital invested; in fact they invest nothing but their time, which ie worthless. When they arrive in London they are powerless nnlese they obtain the nemes, ae directors, of men of meens known in the community. To their sheme be it said plenty are to he found who in coneideration of certain shares and promises of money, will allow their names to appear as commending property of which they know nothing. The English pnblic in seeing English names as promoters think they ere secure in investing and do invest accordingly. Nine times out of ten the directore don't know anything about the mine, and only have a vague idea of even its locality. When a large nnmber of sheres ere sold they get their money, then sell their own sharee end get ont before the crash. Fortunately for them they are not blemed. It all falls on the "swindling Americans," who are publicly denounced not only by etockholders bnt by the directors who assisted them to floet their mine.

Now these men went at leest 100 per cent, and eometimes 1,000 per cent more then the valne of the mine for the bese use of these names without any investment at all. This is a eermon in itself. For certein snms of money and stock they lend themselves to cheating their own countrymen and theu lay the blame on othere. Any one familier with the eubject will know that there is not the elightest exaggeretion in what we heve eeid. We wish it were possible to get hold of all the Americans who heve practiced these infamons operations, put them down the deepeet shaft on the coast and oover them up with the worthless shares they have sold end the salted rock they heve exhibited. The Amerioan name abroad ie one not to be envied, end we are credited with the faculty of cheating whenever we get a chance. Thus the acts of a few thieves have tarnished the name of a people. Let the Englishmen look well into the anteoedents of those of their own conntrymen who float theee mines, before they inveet. Let them ask what has been done in the same line by them before. Let them denounce, high or low those, people who have lent their namee to assist in ewindling shareholdere and have nothing more to do with any property where their names appear. The general pnblic of our coast deplore the facts that fraude have been perpetrated more than any oue elee, as there are plenty of *good* mines which only want capital to be developed, and we have not any capital to spare at home. We need some from England and hope our English friends will uot condemn the mining commnnity wholesale on account of the presence among them of a few thieves.

New Map of California and Nevada.

The State Geological Survey has just completed a new map of Californuia and Nevada, which will be issned to the public in a few days. The map is on the scale of 18 miles to an inch, and is about 44x38 inches in size. In the compilation of this mep the following material has been used. For California, the work of the State Geological Survey and that of the United Statee Coast and Land Survey. For Nevada, the work of the Fortieth Parallel Snrvey, under Clarence King; the U. S. Engineer Explorations, under Williamson and Wheeler; the Central Pacific Railroad Survey, under Butler Ivee; and the work of the California Survey, by Wackenrueder, Craven, Wilson and Loehr, from 1863 to 1872.

The new map is finely executed and every trouble hes been taken to make it absolutely correct. No other meps heve yet been made with the same correctnees of topography. The maps heretofore made of California are crude compared with this, and that of Nevada far excele anything yet published. All of the ground hes actually been gone over and cerefnl snrveys mede. The monntein ranges and spnrs have been carefully given and a view of the map gives a eplendid idea of the topographical eppearance of both Celifornia and Nevade. Altogether the map is a handsome one and reflects credit on the State Geologicel Survey. The mep delineating the geology of the country with gravel ranges, etc., is not yet complete, but it will not now be long before it is finiehed. A glence at thet will give people away from here a better idee of the extent of our mineral conntry then they cen possibly get from any other source.

The James Lick Observatory.—A Generous Gift to Science by a Californian.

In a peper reed at the last meeting of the California Academy of Sciences by the Preeident, Prof. George Davidson, he made an announcement which will be read with pleesure throughout the scientific world. It is in effect that JAMES LICK Esq., one of San Francisco's wealthiest citizens, will erect at some point on the Sierrae an estronomical observetory, which ehall eclipse any thing of the kind ever mede. The full text of Professor Davidson'e peper will be found in another column. The telescope will be the largest thet American skill cen devise, and every variety of apparatue commensurate therewith will be eupplied, together with all neceesery fnnds to meintein an institntion of the kind hendsomely. In the encouraging words of Prof. Devidson, "There will he no let or hindrence in cerrying out his views; the amplest meens are provided; the rarest skill has been invoked and the plans are teking definite and practicel shape.

It must be a source of gratificetion to every Californian, whether a lover of science or not, to known that there is in the State en individual public-spirited enough to furnish the means to erect and meintain an observatory of the kind, and to know that the young State of California will heve the honor of heving within ite bonnderies a scientific institution which will excel any other of like charecter in the world. As Ma. LICK's generoue endowment will no donht allow the Trustees to employ the most eminent scientific men to teke charge of the observatory, the results attained will redound to the honor of our nation end onr State as well ae to the benefactor through whose liberality the researchee are carried on.

The deteils of the plan are not yet mede public, hnt MR. LICK is quietly perfecting his errangemente, and even now a surveyor hae gone to the mountains with a view of reporting on the different mountain peake. The site of this observetory shonld, however, not be chosen without mature deliberation. Altitude is not the only reqnisite. The geology and meteorology of the choicest locatione should be carefully compared, and the most prominent scientific men of the country should be conenlted with reference to the matter. Somé peaks, which would be accessible and prominent, might be, like Teneriffe, cloud-capped so mnch of the time, that few nights of tho year would he available for observation. Then, again, it would be advisable to locate the observatory iu a place eaeily acceseible from the prominent linee of travel, ae it will no doubt become, like Yosemite and the Geysers, one of California's wouders.

The crest of tho Sierras, say three or four miles sonth of the Summit, might be a fine place for a locstion, for at thet distance are eeveral high peaks from which a road conld be built to connect with the trans-continental railway. North of the old Placerville road acrose the Sierra and overlooking Lake Tahoe and the whole valley of the Sacramento, are several maghificent peaks snitable for such a site. The clearness of the atmosphere at high pointe on this coast has beeu fully established, and snch would be the attractiveness of a large building of this kind that touriste would visit it, even if it were 15,000 feet up on the mountains. In fact it would be one of the points of interest in California for visitors to see, and everybody would make a pilgrimage thither.

Ma. LICK's praiseworthy ambition leade him to desire that the teleecope shall be the largeet in the world or rather the most powerful and effective. That of Lord Ross is two feet in diemeter, hnt it ie a reflector and loese helf its light hy reflection. The glass in the teleecope in Weshington, mede by Clark, is actually 27½ inches in diemeter, bnt when in ite cell efforde only 26¼ inches working aperture. The large one in Cambridge is a refractor of 15 inches clear end givee an area of 180 sqnare inches. Snppose that American skill can produce ore of thirty-five inches in diemeter, we would then have a surface of 962 eqnere inchee, or nearly double thet of the Weshington telescope. If MR. LICK can get Clark to promiee a telescope of forty inches in diameter, it would equal 1,257 squere inchee. Either one of these instruments would collect more light—he more epace-penetrating—thsn that of Lord Rose. As to the cost, it would be difficult to eet a price on an instrument of this character, ae much would depend on the experiments with the glass. The Waehington telescope, whioh, hy the way, will ehortly be in working order, was to have cost $50,000, bnt it only cost abont $30,000. The reason of thie was that the experiments were very snccessfnl. It will take probably three years to complete a telescope snch es MR. LICK intends having constrncted.

MR. LICK has hed this object in view for some time, bnt with characteristic modeety has refreined from making it public, and it was only after considerable solicitetion that he allowed Professor Davidson to mention the matter. This action will make his neme known and remembered throughout the world for years to come ae a noted benefactor of ecience. The proposed obeervatory is not hie only gift to Science, for after giving the California Academy a valuable lot, it is probably his intention to erect the building es well. The Acedemy will no donbt become trnstee of the new obeervatory, and in future years the name of the California Acedemy of Science will be femous emong eimilar hodies thronghont the world. The neme of JAMES LICK, its noble benefactor, will be remembered by generations yet unborn, while the meed of praise will be ewerded to him by the whole Americen people. Californiene will be prond to eey "He was a Californian," and to know that their yonng State wee the home of a man who did more to foster hroad, enlightened viewe aud encourege scientifio reeearch in its highest branches then any other American has done. Nor does he wait nntil hie weelth is of no uee to him. No chence for probete troubles, graeping heire or mercenery lawyere. He give freely and munificently while in the flesh, end will see that hie wishes are cerried ont to the letter. All praise then to the generous donor, who bringe not only honor to himself, but to the State in which he resides. The observatory will be an everleeting monument, and ite founder's name go down to posterity amoug thoee of the great benefactors of his rece. In the fervent lenguage of Profeesor Davidson, "a thonsand yeare hence the name of JAMES LICK's observatory, endowed with perpetual growth, will continue to unfold the mysteries of the cosmos, and search for new worlds to conquer."

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIO PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., October 17th, 1873.

FOR WEEK ENDING OCTOBEN 7TH, 1873."

DEVICE FOR DETACHING HORSES.—Samnel Sykes, Portland, Oregon.

SHOE-FAETENING.—George L. Fitch and Henry M. Jonee, Little Lake, Cal.

ORE-STAMP.—Lewis D. Webh, Greenville, Cal.

BURIAL-CASE.—Jerome B. Cox, S. F., Cal.

SOFA-BENSTEAN.—Samnel M. Winn, and Sylveeter A. Winn, S. F., Cal.

HOEE-COUPLING.—Wells Kilburu, Napa, Cal.

REISSUE.

COMBINEN WATER-WHEEL AND SEWING MACHINE.—Isaac Hyde, aesignor to Oscar J. Backus.

———"The patents are not ready for delivery hy the Patent Office until soms 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than hy any other agency.

A REMEDY for emoky chimneye ie advertised in another column. The principle upon whioh this chimney top ie formed is to create an artificial draft. Six or more apertnres are so contructed at the mouth of the top ae to carry off the smoke from all sidee; a top cover ie fastened upon it to prevent air pressure from above. These chimney tops are quite ornamental and said to be very effeotive.

Mitchell's Patent Heater.

The accompanying cnt represents Mitchell's patent heater, which may be nsed for attaching to steam-tables, hot-closets, plate-warmers, tea and coffee tables, lanndries for washing and ironing, confectionery purposee, etc. It may also be nsed with the improved antomatie steam washer and rinser, and is adapted for heating schools and churches by water or steam. It can be set either in brick or made portable and bo nsed with wood or coal as desired. The arrangement of the heater is such that it is capable of driving a three-horse power engine for pumping, washing, making hntter, etc. The main object of the improvement is to concentrato the heat from the fire-place against tho top of the stove, so that the greatest possible benefit can ho derived from it before allowing it to eecape up tho stove-pipe.

The fireplaco inside of the stovo is made in the form of an open topped box, which is smaller than tho outside iron shell of the stove. The grato is placed in the usual manner. The sides of tho box-shaped fireplace, slope ontwardly toward the top, and extend upward to within a short distance of the top of the stovo-shell inside, whero the back and rear half of the two sides aro extended outward at a greater angle so as to meet the upper edges of the sides of the shell, thns leaving an opening on each sido at the front of the stovo, through which the products of combnstion will pass on their way to the draft pipe, which communicates with the space between the fireplace and stove shell at the back of the stove.

By constructing the stovo with only two side openings at the upper front of the stove, through which all the products of combustion mnst pass, all of the heat will neeessarily strike the top of tho stove before passing into the space or jacket between the box and shell, thus obtaining the greatest possible benefit from the heat. The heater can be attached either to a tank or common water boiler. If it is desired at any time to have steam for any purpose, the attachments shown can be used. In that case the lower cock on the pipes at the right of the drawing is closed entirely and the upper cock is opened sufficiently to allow a certain quantity of water to flow. An upright glass tube connectiog with this pipe, shown in the cut, indicates the hight of water in the coils aronnd the fireplace. By regulating the upper cock properly, just enongh water will flow into the fireplace, as the fire converts into steam. The glass tube enables one to see the hight of water and the little safety valve shown at the top of the pipe over the steam chamber, precludes the possibility of an explosion in ease the pipes were out of order. The steam collects in the little steam chamber, on the left of the stove, and may be led off in pipes for any purpose that may be desired.

If steam is not needed, the water is heated in the nsual way, and may be led over the honse to bath rooms, etc. Mr. J. H. Mitchell, recently patented the invention through the Scientifio Press Patent Agency. Arrangements have heen made with Messrs. Locke & Montagne, No. 112 Battery St., to mannfscture these heaters on this coast.

Academy of Sciences.

A very interesting meeting of the California Academy was held on Monday eveuing laet, and part of the proceedings at least, will be known all over the land. The proposed observatory in the Sierras will be one of world-wide benefit, and after its completion the proceedings of the Academy will probably attract as much attention as those of any other scientific body in the eonntry. The President's paper on "Spectrum Analysis," which we give in another column, will be read with interest, and the conclnsion more than hints at a great scientific work abont to be commenced.

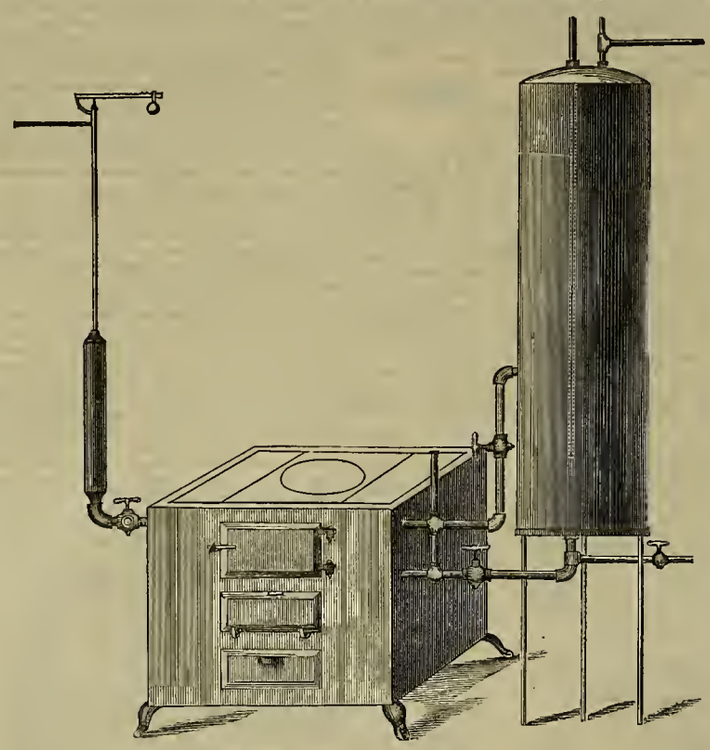
The following new members were elected at the last meeting: Andrew B. McCreary (life member), Dr. H. Behr, Wm. W. Russel, Isaac E. Davis, Philip Cadno, C. H. Whitesides and Stephen Powers (corresponding members). A large specimen of the devil fish (*octopus punctatus*), was presented by a member. Also a qnantity of minerals and ores from the Geysers and Clear Lake, together with petrified wood and bark from the petrified forest at Calistoga. A piece of charcoal, taken from one of the Rocky Mountain Coal Company's mines, was donated by D. D. Colton. The specimen was a very peculiar one. At the conclnsion of the President's paper on spectrnm analysis, Henry G. Hanks read a description of the spectroscope and the method of using it. He had a fine instrument in the room, and after adjournment gave illustrations with the spectroscope, which were of mnch interest to the members and visitors. We regret that want of space forbids our publishing Mr. Hanks' paper, which was very instructive.

Resume of the Experiments, Deductions and Application of Spectrum Analysis.

At the regular semi-monthly meeting of the California Academy of Science, held on Monday evening last, the President, Professor George Davidson, of the U. S. Coast Survey, read a paper on Spectrum analysis, giving a resnmé of the experiments, dednctions and application of spectrum analysis, which is of great general interest. The conclnsion, particnlarly, will be read with pleasure by all lovers of science, showing as it does that the marmoth observatory of the world, will shortly be erected by the mnnificence of ono of the members of the Academy—James Lick. The President's paper was as follows:

The new branch of astronomical science which the Spectrum Analysis has developed, rests upon the clearly established fact that matter having characteristics common to that of the earth, and subject to laws similar to those prevailing upon the earth, exists throughout stellar space; so that the laws of terrestrial physics are included among the other phenomena of cosmical bodies.

When solar light is directed throngh a prism of glass, it is dispersed into gradations of color which pass imperceptibly from one to another, but the seven principal groups are known as the prismatio colors, which we see exhibited in the rainbow. This colored image is termed the eolar spectrum; as viewed by Newton's method, it appears continnous; but as seen by the slit



A PATENT WATER HEATER.

introduced by Wollaston, it is interrnpted by almost innnmerable dark lines of different breadths and intensities, and apparently without regularity of distribution. But in reality each dark line maintains an almost invariable position, breadth and intensity with regard to all the others.

These dark lines, although carefully mapped, to the nnmber of 576, with the greatest precision, by Fraunhofer, remained a mystery, nntil Kirchoff, in 1859, discovered and annonnced their wonderful meaning. The brilliant experiments since made have been so numerous and well verified that the calculns of probabilities assures us that by the coincidence of only sixty of the hundreds of lines of iron, since verified, there are millions of millions of chances to one that the law announced by him is trne.

To readily understand this law and its resnlts, we must first state the characteristics of each of the the three orders of spectra.

I. The spectra of solid and liquid bodies are contiuuous, and embrace every shade of color.

All incandescent solid and liquid bodies—carbon, lime, platinum, magnesium, etc.,—emit white light whieh is dispersed by transmission through the prism into its colored components that succeed each other without the slightest interruption by dark lines. The limits of the individual colors are not sharply defined; they rather blend by infinitely small gradations one into the other, and thus form an unbroken and continuous spectrum which presents the same general appearance as the solar spectrum, although the various groups of color are not always distributed in exactly the same proportion in the spectra of different substances. According to the kind of light employed, sometimes the red group and sometimes the violet gronpe predominates; only in rare instances do incandescent snbstances emit, with any pre-eminent strength, and isolated set of colored rays, as in the case of the very rare substance, Erbia.

II. The spectra of glowing or luminous vapors or gases exhibit series of distinct, sharply defined, bright colored lines or bands separated from each other by dark spaces.

These brilliant lines are "the handwriting on the wall" by which Kirchhoff so completely interpreted the marvellous story which the dark lines of the solar and stellar spectra held concealed. They will be exhibited to you to-night: each element has its particular lino or lines, apparently irregularly arranged and exhibiting a want of continuity or blending in the succession of the colors, but of invariable color or colors, breadths and position, and holding a constant relation notonly to similar spectra of all other snbstances, bnt to the dark lines of the solar and stellar spectra.

Hence, simple substances glowing in a state of gas may be nnerringly distinguished from each other by their spectra; and every compound substance or alloy that can become luminous in the gaseons state, without suffering decomposition, is distinguished by the bright lines of the two or more metals forming the compound; but the characteristio line or lines of each hold their invariable colors and position as if each metal was separately incandescent. Thus, when brass is heated to luminosity, we have exhibited a magnificent bnt discontinnous spectrum in which the red line and three blue lines of the zinc, and the three green bands of the copper appear. But the compounds of such metals as sodium, calcinm, etc. —for example, chloride of sodinm, nitrate of lime, etc—do not exhibit the spectra of both elements. The spectra of the vapors of the metals alone appear; why the spectra of the nonmetallic elements with which they are in combination do not appear, is not yet explained.

From this statement of the conditions attending the non-continuous spectrum, or spectrum of bright lines, or gas spectrum, as it is variously designated, it is obvious that if the group of lines characterizing the different terrestrial substances be known, a comparison of these, as standard spectra, with the spectrum of light from an unknown source will determine whether any of these terrestrial substances exist in the source of that light.

III. The spectra of incandescent solid or liquid bodies surrounded by an atmosphere of lower temperature, containing (on account of the extreme heat of the nucleus) the vapors of many or all of the substances of which the bodies are composed, are colored bands, in which the continuity of the light is broken by dark lines.

Without the use of the slit, through which the light is admitted, these dark lines are not visible. The aperture which Newton used prevented further discovery for many years, and upon so trifling a device do great advances in knowledge frequently hinge.

In the spectrum from any given incandescent body, the number, breadth, intensity and position of the dark lines, are invariable if the body be unchanging, or not receding and approaching the observer, and if viewed by prisms of the same dispersive power.

These dark lines are not produced directly by the souree of the light, bnt they specify the vapors through which that light has passed, and which have, by absorption, neutralized certain definite colors or rates of vibration of the light.

These spectra are formed by the light of the snn and the stars; and the dark lines, amid so much light, are the mysterions symbols which Kirchoff so completely interpreted by the brilliant spectra of the luminous vapors or gases.

Having as compactly as practicable stated these three orders of spectra, let us briefly recount the nniqne experiments of Kirchhoff in their logical sequence and deduction.

It had been remarked by Fraunhofer that the position of the two dark lines in the solar spectrum, designated by him D, were coincident with the two bright yellow lines shown by the light of a lamp, now known as the sodinm lines. To pnt this coinoidence to the most direct test Kirchhoff obtained a tolerably bright solar spectrnm, and then bronght the sodinm flame in front of the slit of the spectroscope. The dark lines instantly changed into bright ones of unexpected brilliancy. In order to ascertain how far the intensity of the solar spectrnm conld be increased without impairing the distinctness of the sodium lines, he allowed direct sun-light to pass through the sodinm flame before falling npon the slit of the spectroscope, and saw the dark lines, D, corresponding to the sodinm lines, stand ont with extraordinary clearness. Sunlight was then replaced by the Drnmmond light, the spectrum of which, as of every other incandesent solid or liquid body, contains no dark lines, and when the salt flame was interposed, the dark lines, D, again appeared. Similar resnlts were reached when platinnm wire waa bronght nearly to its melting point. These were the most wonderfnl experiments of this century, and fortunately for science, Kirchhoff was equal to the task of following them to their logical conclusion. He conld no longer doubt that the existence of the dark lines, D, in the solar spectrnm was due to the presence of vapor of sodinm in the sun's atmosphere, and that they mnst be produced by the absorption or nentralizing of the sodinm spectrnm of the snn's nucleus in a manner similar to that shown in the foregoing experiments.

He then commenced the laborious undertaking of comparing the spectra of numerous terrestrial substances to determine whether any and which of the bright-colored spectrum lines of the substances coincided with the dark lines of the solar spectrum. To do this he allowed the light of the sun to fall directly into the spectroscope upon the first large prism, through the lower half of the slit, whilst the upper half was covered by the small priem for comparison. The rays from an artificial source of light placed at the side were then reflected by this prism into the instrument, so that whilst the solar spectrum, with its dark lines, was seen in the upper half of the field of view in the (inverting) telescope, there appeared below, and in immediate contact with it, the spectrum of the artificial light. [Illnstrated on blackboard.]

In this manner of experimenting the positions of the bright lines of this spectrum could be compared with great accuracy with those of the dark lines of the solar spectrum. By these and many other comparisons, Kirchhoff arrived at the surprising result that the bright lines of several metals were entirely coincident with the same number of dark lines in the solar spectrnm. Even in the part of the spectrum first published by Kirchhoff, there are some sixty bright lines of iron, all of which coincide accurately with as many dark lines of the solar spectrum.

The complete coincidence of so many bright lines in the spectrum of one and the same substance with the same nnmber of dark lines of the solar spectrnm, shows conclusively that it cannot be the effect of chance, but justifies the deduction that those dark lines are to be ascribed to the absorption or neutralizing effect of the vapor of iron present in the vapor of the sun, and that the metallic iron was incandescent in the body of the sun. The likelihood that such a coincidence of only sixty lines is a mere chance, bears a proportion to the snpposition that these lines really make known the presence of iron vapor in the snn's atmosphere, according to the law of probabilities, of one to a million of millions of millions. These experiments, confirmed by mathematical law, were seized by the comprehensive grasp of Kirchhoff and reduced to a general physical law, embracing all that had been done and what has since been accomplished.

This law he enunciated in the celebrated sentence: "The relation between the power of emission and the power of absorption of one and the same class of rays, is the same for all bodies at the same temperature."

Angström in 1853, Foucault in 1849, and Euler a century earlier, had expressed nearly the same priuciple from isolated and uncorrelated facts.

The continnation of the experiments by Hofmann, gave thirteen additional very striking coincidences, and Angström and Thalén, who volatilized iron in the electric arc, fonnd coincidences of more than 460 bright lines of the iron spectrum with an equal number of the dark lines.

The most striking coincidence between the bright spectrum lines of terrestrial elements and the dark lines of the solar spectrum are also exhibited by potassinm, calcicum, magnesium, manganese, chromium, nickel, hydrogen, titanium, etc. The spectrum lines of these substances not only agree exactly with the dark lines in position and breadth, but proclaim their relationship by a similar degree of intensity. The brightor, for instance, a spectrum line appears, so much darker does its corresponding line show in the solar spectrum. Thalén's ipvestigationa extend over 45 metala,

(Continued on page 268)

American Mines and British Owners.

A correspondent of the London *Mining Journal*, writee as follows to tbat paper:

History, we are told, repeats itself; so does the fluctuation (only with far greater frequency) in price of the useful metals of commerce, notable amongst wbich may he mentioned those of tin and copper. It will he no sufficient counterpoise to this fact to allege that mines of gold and silver are lese permanent and reliahle in their general characler than are those of the common metals, hecauee no sncb position can be established. The erratic character of some of the limestone formations, aud tbe capriciousnees of their produce, merely apply to such individual formatione, and do not extend to minee of gold aud silver in most of the other classes of rocks. There can be but little, if any, douht tbat foreigu mining has heen largely prejudiced from time to time by the promoters basing their calculations ae to tbe future from eccentricities of the moment, and which were but superficially outliued. If the same kind of husiness acumien had heen exercised in the selection and purchase of miues in the Western States of America as is usually done in respect of other enterprises, mining in those States would now be as popular as to many individuale it is repuleive; and instead of bewailing their misfortunes and losses, those interested would be jubilant in their success and prosperity. The history of mining throughout tbe world goes to show that no mine, in whatever country or in what manner soever it may have heen worked, wbetber by slave or free lahour, was ever worth 1,000,000*l.* sterling. Foreign as well as home mines, to become succesfnl and satisfactory investments, must he purchaeed at reasonable rates, as well as subsequently worked on tbe soundest principles of ecouomy. That foreign miues, as a rule, are very much richer tban those of European countries no one, I think, would tske upon bimself to dispute; yet it cannot he denied but that mines as poor—or sections of ground miscalled mines—as those of any European country may he eubstituted, with certaiu decoratioue, for good minee, and as such may he regarded and worked for comparatively lengtby periods, to the great discredit aud loss of mining. The past ought to be a sufficient warning, at least for tbe present, against heedless speculations. Rushing into investments with an impetuosity akin to that with which people excited hy the prospect of imminent danger usually run tberefrom may he in consouance with the times, hut appears to he sadly at variance witb sound common sense.

Ou visiting London soon after my 'return from Nevada, about nine months siuce, and in conversation with a gentleman there respecting a large silver mining property which I owned in Nevada, and was desirous of baving it worked on lease, I was somewhat surprised on bearing him remark that "he feared the comparatively small amount of capital required would give it a correspondingly emall appsarance in the estimation of the investing public, and make it appear as too little a thing to attract any notice in these fast times." I could hut uot deplore a condition of things wbich gave rise to such a remark, and deeply regretted that a community which had heretofore maintained a universal reputation for prudeuce sbould for even the briefest period he found oommitted to sensationalism. I was also informed hy more than one individual that their decided opinion was that no company could be formed in Londou to furnisb the uecessary funds to work a miue on lease, however assnring its prospecte migbt he. What will the output of your mine be per day, and of wbat value and at what cost per ton, and what will he tbe profits? Satisfactory answers will he required to all these questions, aud subsequently confirmed by some expert popularly known in London. Would it be out of place to say here that men were reputed expert in this business of miniug who know nothing whatever themselves conceruing it, and wbose sole information was derived from newspapers and hooks, and tbe siftiug of working miners and others who might he found verdant enough to afford tbem any information? But is to he hoped that the past is past and done witb, except for reference analogically for future guidauce. The best use which can he made of errors which cannot he recalled is to erect them as heacons to guard against tbeir recurrence in future timee.

The euccess of mining, like that of every other euterprise, depends as much ou the first as on current costs, and upon either or both, as upon tbe gross revenue of its developed resources. However rich mines may be, the pecuniary euccees of tbe ownere ie derived from the proper adaptation of means to tbe end. The resources of rich mines, like those of individuals, may he frittered away to little or no purpose. It needs only iuatteution to the avenues through whicb wealth circulates, and such channels become increasiugly wide, uutil the streams hy indefinite expansion hecome more aud more attenuated, until tbey suhside eventually in utter dissipation. To look upon mining as some evidently do, as a speculation akin to gamhling, may he a very convenient, but I am sure an equally improper way of regardiug it. Tbere ie, however, a feature common to botb which has very much to do witb their snccese, aud that is experience, and it shonld never be forgotten that the most epecious pretenaious of the most plausible theoriste can uever supercede practical experienae. Itie a matter of great importauce to this country whether milliene sterling are gained or lost by foreign euterprises. There is an immense difference whether money in mining is successfully spent in tbe country or out of it, as, in the oue case, considerable revenue may accrue to the country at large by the development and increase of its material wealth, whilst at tbo same time considerable losseemay he entailed upon industrial adventures. But if English capital is unsuccessfully spent in developing the resources of other countries, whatever the amount may be, it ie au entire loss to this country, because no equivalent in material valne bas been rendered in exchange therefor, and tbe money thue expended, instead of passing from one persou to another in this country, has passed out of it.

Tbe rigid observance of abstract or arhitrary notions by one party in business affords the other party an opportunity to concert measures to circumvent thom.

So soon as it hecame known that highly-spiced minea were hest relished, and most acceptable to moneyed parties in England, steps were immediately taken to prepare and preseut the article most agreeable to the taste. Exactly what wae required for the coming and, submitted witb great apparent liberality and candor, which, unfortunately, was esteemed as being highly commendable, as well of the mines as tbe parties recommending them. Whenever it hecomes known in what direction a person's proclivities tend in business it ie generally an easy matter for the opposite parties to secure all the advantages on tbeir side, aud mining is no exception to other pursuits in this respect, and, therefore, laxity in any of ite different parts, whetber in its practical working or its financial arrangements, can no more fail of being attended by ill consequences than can any other enterprise, many of which do not envolve such multifarious details as mining, every part of whicb in its healthy and proper working is vital and indispensihle to tbe proper working and futl success of the whole.

Gold Movements.

We have more than once alluded to a peculiarity in the gold movements of the present year which appears to us moet significant, namely, the unusual proporlion of the imporl from tbe uou-producing countriee. This is, we believe, an unmistakable sign of the exhaustion of the stocks of gold throughout the world, and corroboratee the evideuce of exhaustion furnished by otber facts, such as the monetary panic in South America. Tbe whole subject has now become so important that we think it will be useful to extract in full, from the Bosrd of Trade returns for last montb, tbe accouut of our gold imports for eight months of the present year then past, as compared with the corresponding eigbt montbs of 1872 and 1871:

	1871.	1872.	1873.
Russia	£415,463	£38,300	.....
Germany	856,569	160,423	£43,133
Holland	11,705	8,009	7,353
Belgium	495,583	233,355	7,500
France	135,217	441,383	411,749
Portugal, Azores and Madeira	.....	1,500	.....
Spain and Canar'a	4,004	9,260	18,947
Gibraltar	88,600	36,597	50,525
Malta	97,756	67,683	68,880
Turkey	28,961	700	7,340
Egypt	41,937	5,912	1,067,942
West Coast Africa	95,992	67,139	61,687
BritishPossessons in South Africa	200	200	1,460
China, including Hougkong	1,500	.....	65,816
Australia	4,625,142	4,082,831	6,215,549
British N. Amer'a	370,224	35,000	2,756
Mexico, S. America (except Brazil) and West Indies	790,695	442,458	1,649,802
Brazil	129,256	83,966	37,846
United States	6,377,458	7,187,681	3,111,147
Other countries	366,060	114,580	205,555
Total	£14,855,311	£13,021,184	£13,015,907

It will he eeen from tbie tbat, although we have this year imported ae much as in 1872, tbe eources of supply have been very different. In the first eight months of 1872 we received—

From Australia	£ 4,083,000
From America	7,188,000
Total	£11,271,000

and less tban £2,000,000 from all tbe rest of the work beeides; hut this year we have received:

From Australia	£ 6,216,000
From America	3,111,000
Total	£ 9,327,000

—the receipts from otber parts of the world heing nearly $4,000,000. Analyzing the account still further, we find that this year we have received £1,068,000 from Egypt, a country which doee not produce gold, and which we usually supply, and £1,650,000 from Soutb America, Mexico and the West Indies, chiefly, we believe from South America—as compared witb much smaller imports from these couutries in 1871 aud 1872. Another peculiarity in the return, it will be noticed, is that the direct supply from Russia has wholly ceased, and that this year tbere have also heen no imports at all from the coutinent, in spite of the high rates of discount prevailing at oue time here, althoug as late as 1871 we imported more than £1,300,000 from France and Germany. The largest increase of supply from Australia aud decrease of tbe aupply from America are also remarkable, the explanation, we helieve, being that the American demand for gold, owiug to the peculiarities of the American bauking law, has iucreased, and that, stocks being small, tbe curreut supplies have been used to replenish them; while Australia, as the effect of the high rate of intereet, has eent us all her exports directly, no part of them being diverted at Galle for India and the East, as happens in some years. As it is, however, Australian stocks have apparently heen drawn upon also, and the excessive import from Australia during the present year rather diminishee the probability of our receiving so much in another year, unlese the produciug capacity of the mines sbould he greatly increased.—*London Economist.*

Chemicals in Pan Amalgamation.

The following article appears in the last Report of the United States Mining Commissioner.

The attention of the mining puhlic has, witbin late yeare, been largely attracted to the existenco of uumerous veins aud deposits of eilver ore, the beneficiation of wbich was, however, apparently impracticahle, as the ores they furnish canuot be worked with auy degree of success hy the ordinary amalgamatien process, and are not sufficiently rich to bear the expense of roasting, even after the improved aud cbeaper methods now in vogue. An over-confidence in the adaptahility of the ordinary Washoe process to tbe workiug of ores of the most different characters has led to numerous failures, wbile, on the other hand, tbe caution bred of experience causes many properties to lie idle which would prove remunerative under a method of treatment equal in thoroughness to the ordinary process, without greatly exceeding it in expense. The demand for sucb a process hae within the last three years heeu practically filled, hut the suspicion witb which all innovations are regarded, and tbe uninvestigative spirit of the "practical" millman, have preveuted this new mcthod from heiug more generally known and adopted. Tbe facts now set forth should demonstrate its usefulness heyond a question. A test of its merits cau he readily made. Simple ae it appears, it can he made to solve many metallurgical and financial problems in tbe way of working ores to a fair percentage of their value, and with profit, wbich hitherto have, by tbeir apparent rebelliouenese, proven only sources of loss.

Tbe first successful attempt at amalgamatiug rehellious silver-minerals in pans, and without roasting, was made on the Comstock slimes. By far the greater portion of these slimes was in former years allowed to run to waste. This loss was probahly looked upon as an evil unavoidahle in wet-crushing mills, and was partially excused by tbe fact that not more than 35 per cent. of their gross valuo could he extracted hy the then known methods of treatment. Tbere wae consequently but little inducement to millmen to save slimes assaying $40 per ton, or thereahout, as they could harely be worked to a profit. Thonsande of tons were thus lost, whicb at the present day would yield an enormous fortune to tbeir owner.

Some three years ago a series of experiments were made, wbich clearly proved that these slimes could he worked to a bigh perceutage at a cost whicb, tbough greater tban tbat of ordinary milling, still left a good margiu for profit. Mill-owners were induced to savo aud sell what they had hitherto allowed to rnn to waste, and, sbortly after, the working of slimes becsme a distinct feature of milling on the Comstock.

All tbis was effected simply by adapting to the Wasboe pan-process certain featnres of the Mexican patio, namely, the nse of sulphate of copper aud salt in sufficient quantities to decompose the rehellious silver-minerals and leave tbem in a favorable state for amalgamation. The successful application of these cbemicale to the ordinary Washoe process was entirely novel. It is true that in former years many millmen had tried these cbemicals amoug a host of otbers, but their experimente were invariahly carried ou with sucb a want of knowledge that failure was inevitable. Some used bluestone without salt, and others salt without bluestone. When the two were used eimultaneously, the amount was so small that the effect could not be appreciated. At the time referred to it was a maxim among millmen that no benefit was to he derived from tbe use of chemicals. Mr. Kuslel, in his hook on the Washoe process, after giving a list of the different chemicals employed or recommended—noue of which were probahly ever largely adopted—expresses strong doubls ae to the efficacy of any or all chemicals; and in a later article, after admitting the extraordinary effecte obtained on slimes, etates that the same process would not be applicahle to sands. So much to vindicate the practical originality of this process. It will he shown further on that it can he applied witb equal advaulage to the working of sands and tailings. Tbere is uo certainty as to the formulæ in obedience to wbich tbe chloride of copper—wbich is formed by the mutual action of salt and eulpbate of copper—effects its purpose. Chemists are not agreed as to tbe various re-actions, aud the subject is still under diepute. Its theoretical comprehension is, however, not essential to the practical operations which will be described.

We will first consider the application of chloride of copper to tbe working of slimes, and, later its extension to the treatment of sande or pulp.

[To bc continued.]

The San Diego *Union* says: The exteusion of tbe Ready Relief and the Hubert mill bas been sold to Mattison and Woodruff, of Juliau, for some $11,000. Those gentlemen intend to put ou a full shifl of hands to finisb their tuunel to the lodge, and are refittiug lheir mill, wbicb is a forty-foot overshot wheel.

Singularly enough, the *Iron Age* argues that paper is to hecome tbe general, if not uuiversal substitute for wool, leather and india ruhber, ae also, to some extent, for copper, tin, and zinc, aud that eveu iron is not adopted to usss so widely variouе—it being practicahle, indeed, to bring paper pulp to such a state of toughness and solidity, by pressure as to he almost as fire proof and indestrnctible as iron, and thus our railroad cars may be made of paper, instead of iron, thereby preventing tbe dangere now incurred in case of accidents. It is claimed tbat, iu proportion to ite weight, paper is, probably, the strongest material of construction known, combiniug more perfectly than any other substance tbe qualilies of strength, lightness, flexihility, durability, and cbeapness. So many and various, too, are the articles which can he made, tbat it can he manufactured in quantities practically unlimited in every civilized country, and, as long as plants continue to grow, paper manufacture will be eustaiued. It is, also, under all circumstances, an easy material to work and handle. The fact is probably well kuown that the paper wheels which have been used wilh success on some of the palace-cars are formed of compressed paper fitted into a steel tire; iron platea are then adapted to each side of the paper, and holted together to prevent any displacement of the filling.

New Mines.—The Visalia *Delta* states tbst Vicalia was tbrown into quite a furor of excitement by tbe return of several of the citizens from the region of the new mines. They report tbe regiou to he up to the main hranch of tbe Kaweab river, and about sixty miles in a south-easterly direction from tbie place. They report quite a numher of prospectora ou the gronnd, aud a numher of valnable ledges discovered. Some specimens exbibited show free gold in considerable qnantity. There are also indications of silver, copper and lead; the latter, perhaps, in the greatest ahundance. The lodos are said to be large, and some of them would he easily worked. Several companies have been formed, and further proceedings are heing discussed. Already tbe aharps are talking of building a town up there, and making a road. We are likely to have lively times in consequeuce, at the openiug of the spring Some talk of making another trip, though the season for work has passed, and tbe dangers of winter are near.

Australian Goln.— Tbe value of the gold imporied from the Australian Colonire has increased this year to a rather sensible extent, the value of tbe receipts to August 31st being estimated at £6,215,649, as compared with £4,082,731 iu 1872, and £4,625,142 in 1871. In these totals the month of Augnst in each year figured for £1,040,737, £571,122, and £570,089, respectively. Queensland is now producing gold at the rate of 210,000 ouuces per annum. Quartz reefs at Yam Creek, 90 miles south of Port Darwin, in the nortbern territory of South Australia, are spokeu of as rich. The gold fields of Auckland, New Zealand, have presented an improvement of late. The Hellver diggings, in Tasmauia, have heen almost deserted, owing to stormy weather. A rich discovery ie said, however, to have been made ou Bullock Creek, at tbe hack of the Malahide estate, in the district of Fiugal, Tasmania.—*London Times, September 28th.*

A Valuable Invention not Patenten.—The cheapest, most simple, aud practical fire-alarm for ordinary household purposes is a small weight of lead or iron made to adhere to the ceiling of each room with a piece of wax. When the temperature hecomes elevated above that of the ordiuary atmosphere, the wax will lose its adhesiveness and allow tbe weight to drop. The weigbt can he attached by a wire to all the bells in tbe house, or to sound any alarm extemporized for the purpose. The weights should be kept away from stove-pipes and out of the sun, and one should be placed in eacb room and ballway. They will not fail to give the alarm when tbere is an excessive increase of temperature, and no bouse should be with out them. This alarm ie not patented, and is free to be used by all witbout money and without price.—*Manufacturer and Builder.*

Fluming Enterprise.—The Fresno *Expositor* has tbe annexed: We areiuformed upon raliable autbority, that tbe fluming enterprise we noticed some weeks ago, is now being put into practical operation; and tbat the work of grading has already commenced; tbe survey having heen finisbed from the mouutains to tbe plains. The difficulty in relation to the water righte of Big Creek having heen amicably settled hetween the old and new claimauts, it is the intention of the proprietors to get all possible work done at the head of the works—to get tbe sawmill in full operation by spring—and by the opening of summer, to bave a sufficient supply of lumber on hand to meet the demands of the community, furnisbing a superior article at a more reasonable rate than is now possihle. We wish the enterprise all succese.

Frequently tbe surface of car-wheels blietere just uuder tbe chilled coating, or about three-sixteentbs of an iuch from tbe surface. Tbe scale of chilled coating breaks off in a ahort time, leaving a flat place on the wheel. Tbe angle of this flat surface strikes the rail precisely as a hammer would strike it, and iu the case of a heavily loaded car, running at a rapid speed, the force of tbe blow ie sufficient to break any except tbe strongeet of rails.

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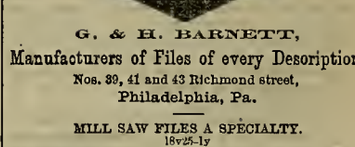

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(Continned frcm page 265)

and fnlly confirm tbe observations of Kirchhoff and other eqnally able experimenters.

Tbe conception of this law of the interrelation of the spectra of tbe different orders enabled Kirchhoff to arrive at a new theory of the physicsl constitntion of tbe sun, which he regsrded as consisting of a solid or psrtially liqnid nuclens in the highest stste of incandescence, and emittiug, as do all incandescent solid or liquid bodies, every possible variety of light. Snch a body would of itself give a continned spectrum, witbout any dsrk lines, bnt this incandescent body is snrrounded by an atmosphere of lower temperature, containing the lnminons vapors of msny or all of the substances of which the body of the snn is composed. The rays of light emitted by the incandescent body mnst therefore pass through that atmosphere to reach tbe earth, and in that passage each vapor neutralizes, extinguishes or absorbs from the white light of the body those rays wbich it wonld itself emit when in a glowing state.

It is evident from this statement that if we conld obliterate the light from the snn's nnclens, and receive in the spectroscope only that of the luminous vapors of its atmosphere, a componnd spectrum wonld be obtained composed of the actnal spectra of the gases or vapors; in other words, the solar spectrnm wonld not appear, and bright-colored lines wonld be seen in the exact places of the dark lines of the solar spectrum. Fortunately, the occnrrence of a total solar eclipse affords an opportnnity of applying a crucial test to this tbeory of Kirchhoff, because in tbat phenomenon the snn's disk is for a short time completely bidden by the interposition of the moon, and all light from tbe snn's body intercepted, whilst the light from the glowing vapors of the snn's atmosphere is alone received. The observed resnlts have verified tbe dednction, and dnring the total solar eclipse of 1870, Professor Yonng saw all the dark, or Fraunhofer lines reversed or bright; the moment of obscuration, and for one or two seconds later, the field of the instrnment was filled witb the bright, colored lines of non-continuous spectra on a dark grownd.

This gasoons envelope of tbe sun yielding tbe non-continuons spectrum of colored bright lines has received the name of chromosphere. Under the chromospbere lies tbe lnminous, cloud-like vaporons, or nebulous photosphere, which contains all the snbstances of which the specturum lines appear as absorption lines in the solar spectrum. These substances — among which iron, magnesinm, and sodium are especially prominent—often burst forth in a state of incandescence, and are carried np to a certain beight into the chromosphere and into the bases of prominences, or sun-flames, thongh uot in general to any considerable elevation.

I have not time to even mention the many wonderful results which have been derived from observationa npon the snn spots, the flames, etc.; and can only briefly advert to what has been done in stellar investigations by means of the spectroscope.

Before its use, the stars had been believed to be snns, each snrrounded by a dependent gronp of planets; but this opinion rested only upon a possible analogy with onr own system; for the pecnliar constitution of these points of light in space, and of wbat snbstances they are composed, the nnassisted telescope has yielded no information. In the largest instruments the stars remain diskless, and appear simply as relatively brilliant points of light. By adding tbe spectroscope to the telescope we secure tbe means of reading in the light emitted by these heavenly bodies, not only the indications of their trne nature and physical constitntion, but wbither and how rapidly they are moving throngh space. By this combination of instruments we now have telegraphic communication with every solar system, for the spectrum lines are the cosmical alphabet of which we possess the terrestrial key.

Tbe spectra of the stars are analogous to tbe solar spectrnm, being continnous and crosed by black lines, which have been compared with tbe bright-colored lines of terrestrial substances, volatilized in the electric spark; and the complete coincidence of the cbaracteristic bright lines with the same number of dark lines in the stellar spectrum justifies the conclnsion that the substances giving these bright lines are present as glowing vapor in the atmospheres of the stars.

In tb brilliant spectra of *alpha* Tauri and *alpha* Orionis, the positions of about eighty dark lines, lying in that part of each spectrum between the Frannhofer lines, C and F, have been accurately and repeatedly measured by Huggins and Miller, and are exhibited in the large illustrationa. These measured lines, are however, bnt a few of the innnmerable fine lines which are visible in the spectra of these stars. As in the experiments with the solar spectrum, these spectra of terrestrial elements are made to appear in the spectroscope as bright lines npon a dark baokground exactly in justaxposition with the spectrum of the star, so that it can be determiued with the greatest accnracy whether these bright lines are co-incident with the dark lines of the star.

Wbilst the faintness of the stellar light as received by the best instrnments for such iovestigations, limits the comparison to the stronger lines of each terrestrial snbstance, yet the certainty of their presence in the stars does not rest npon the the coincidence of one line, but upon the coinoidence of groups of two three or more lines, in different parts of tbe spectrum; and we can apply the oalonlus of probabilities to thesecsses as is done to the observations of the coincidences of the solar spectrnm.

Notwithstanding the stars have a physical constitntion similsr to that of the snn, tbere is a grest differeuce in tbe constitution of individual stsrs. Tbe groupings of tbe vsrious lines wbicb indicate the presence of certain elements is peculiar and cbarscteristic for each stsr; generally speaking, we may say thst in the white stars the spectrum is sometimes crossed by very numerons and mostly very fine, dark lines, but always by four broad and very dark liues, dne to the presence of bydrogen. These brosd, dsrk lines seem to indicate that the absorptive atmosphere of these stars mnst be very tbick, nnder considerable pressnre, and at a very high temperature. Tbe yellow, red and blue stars bave also their peculiar characteristics. Tbe constitution of the variable stars remains yet nnexplained. The new or temporary stars exbibit a compound spectrnm, wherein, it is snpposed, that one is the nsnal stellar spectrum upon which is snperposed tbe spectrum of bright lines, which, from their great brilliancy, stand in bold relief npon the fainter, darker backgronnd of the former. This latter fact indicates the presence—possibly the combustion — of an intensely luminons gas. Tbe drawing gives a good idea of this effect in the star *tau* Coronæ, which, in May, 1866, snddenly increased in brilliancy from tbe eighth to tbe seoond magnitnde; and gradnally subsided to its former condition.

Besides learning this and much more of the physical constitntions of the stars, the spectroscope affords the means of measuring their rate of proper motion tbrough space. As the position of the spectrnm lines depends upon their wave length, it is readily nnderstood that the displacement of any one of the lines, toward the violet for instance, will indicate that tbe wave length of tbe ether causing that particular line has been shortened in its passage to the earth, and therefore the star is approaching ns. On tbe contrary, a displacement of the ssme line towards the red will indicate tbat the ether waves bave lengthencd, and that the star is receding from ns. By observation and calculation the rate is dednced. Sirius is approaching the snn at the rate of twenty-six miles a second; Arcturus, fifty miles; Vega and *alpha* Cygni, Pollux and *alpha* Ursæ Majoris, witb velocities varying from forty to sixty miles. Rigel, Castor, Regulns and many stars of the Great Bear are moving away from us.

By a modification and special application of the spectroscope, we will procnre more certain results concerning the time of rotation of the sun on its axis.

Tbe spectroscope has also partially revealed the nature of the light of comets, so that we may assert that at least the nucleus is partially self-lnminous, and is composed of gas in a luminous condition; whilst tbe continuous spectrnm proves that the light of tbe tail and some of the light of tbe coma is reflected sunlight. Tbese resnlts are from observations upon small, faint comets; tbe appearance of a large, brilliant comet will afford much better means of ascertaining their pbysical constitution.

Of the pure nebulæ composed of cosmical matter in which there is no ceutral point of condeusation, and whicb has not become sufficiently dense to form a celestial body, in the ordinary sense of that term, the spectroscope gives a spectrum of bright lines, indicating the presence of volnmes of lnminous gas, of wbich nitrogen and hydrogen form the cbief constituents, which exist nnder sligbt pressure and at a low temperature, in comparison with tbat of the sun. The observations of this class of heavenly bodies, as of comets, are extremely difficult with the present instrnmental means. Tbe largest telescopes had failed to solve tbe question whetber tbe unresolved nebulæ are portions of primeval matter; but with the spectroscope as an adjunct, we can now say with certainty tbat luminons nebulæ actnally exist in space as isolated volumes of glowing gas. More astonishing still, by observations npon large numbers of pure nebnlæ in many forms, we are able to study the phases througb wbich our snn and planets have passed in their process of development from similar matter,

This instrnment has revealed a part of the physical history of the meteors. It is unraveling the nature of lightning. It has given a spectrum of the Aurora Borealis not coincident with any of the known spectra of gases of our atmosphere, because it is of an order that has not yet been artificially produced.

It has shown that the planets shine by reflected light, because we receive from them the solar spectrnm. The results of different observers agree in establishing the complete accordance of the lunar spectrum with that of the sun; and from this entire absence of any special absorption lines it must be concluded that there is no atmosphere aronnd tbe moon. Satnrn, Jupiter, Mars and Venus afford evidence of an atmosphere containing aqueons vapors. The spectrum of Uranns is very remarkable, and the physicist has been compelled to ask whether the planet is self-luminous, and whether it has attained that degree of condensation and development possessed by the earth and the nearer planets. The feebleness of its light renders observetions difficult and comparatively nndecided. The spectrnm of Neptune bears a strong resemblance to that of Uranus. A peculiar interest attaches to this spectrnm from the coincidence of the dark bands with the bright lines of certain comets and with the dark bands of the stars of Secchi's fonrth type, wherein the spectra besrs a very close resemblance to the spectrum of carbon.

Notwithstanding the high thougbts with which these discoveries fill ns, and the suggestions they force upon the mind, there are other results tbst come directly home to the capitalist, the jurist, the physician, the chemist, the workman. With one or two illustrations, I must close this already too extended resume.

Millions of dollars are invested in Europe and America in tbe production of cast-steel by the Bessemer process. The proces s of conversion is one of anch extreme delicacy tbst s mistake of ten seconds before or after the instant when tbe carbon is consnmed, ruins the five tons of each melting. Even with the most skilled workman watching tbe appearance of tbe flame issuing from the mouth of the converting vessel, the average loss was one melting in three; bnt by tbe application of tbe spectroscope to the luminous vapor rising from the incandescent iron and its impurities, the changes in the vividly bright liues of the gas spectrum are watched, and at tbe moment when the carbon spectrum disappears the combustion is stopped, and the production of steel by tbat melting assnred.

In medicine the spectroscope has been employed to determine what time various substances reqnire for absorption by different parts of the body; the nature of cataract; and the character of bloodstains. A bloodstain so small that it contains only 1-1000 part of a grain is perfectly easy of detection, and has been recognized in stains after a period of fifty years. When we recollect that the eighteen-millionth of a grain of sodium, the six-millionth of a grain of lithium, the one-millionth of a grain of strontinm, etc., yield their inevitable spectra, it is readily foreseen how tbe presence of poisons in the human body can be made known, as has already been done in cases of poisoning by cbarcoal fumes. It will open new views upon the curative energy of drugs, when we correlate the wave motions of the ether excited by one or more of their elements with the lifewave motions of tbe ether propagated tbrough nerves and brain.

It immeasurably extends the field of chemical analysis, and has made us acquainted witb four new metals previously nnsuspected, and the universality of otbers.

Spectrum analysis is in its infancy, as tbe telescope was in the hands of Galileo, and to predict an equally great advanoe within this centnry will not be rash. It dawned when Newton decomposed solar light; the sun appeared on the horizon when Fraunbofer mapped the fine, dark lines, and Kirchhoff revealed the glory of tbe risen sun.

With a telescope of tbe largest size and most consummate workmansbip that American skill can devise, properly located ten thousand feet above the sea in the clear skies of the Sierra Nevada; with every variety of apparatus commensurate therewith; with masters of observation and ingenuity in researcb; with ample funds reserved to devise other instruments and methods which those instrnments and tbe bigbest genius must suggest, we hope at no distant day to see solved tbe migbty problems of croation that are yet beyond onr grasp.

Sucb an outfit, and such provision, have been the life-long objects of James Lick; and after mnob earnest solicitation, I have overcome his shrinking from what he considers vain-glory, and obtained his permission to announce to tbe Academy his intentions, which I have faintly sketched in the preceding sentence. There will be no let or hinderauce in carrying out his views; the amplest means are provided; the rarest skill bas been invoked; and the plans are taking definite and practical shape.

In tbe many conferrences whicb I have had with him, I have been deeply impressed witb the breadth and practicability of bis views in the futnre of original research in cosmical physics, and of his deep patriotism that would have America lead in the sublimest science. Much would I like to tell you of his mnnificent plans, of his modesty as great, and of the deptb of human nature in bis soul, bnt be bas placed a seal npon my lips. The Academy and the Pioneers may at no distant day have again to tbank him for means to erect their buildings; whilst tbe former may become the frustee of the proposed observatory.

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Mineral King District, the seat of a late mining excitement, is in Tulare County, Cal. The boundaries of the district are as follows: Commencing at a point in Tulare County, State of California, where Hockett's trail crosses Little or West Kern river, running from thence east to the center of the dividing ridge between the waters of Little or West, and Big Kern rivers; from thence along said ridge in a northerly direction to the point or ridge that divides the waters of Sonth Kings river and North Kaweah; from thence westerly along said divide fifteen miles; thence southerly to the point where the said Hockett's trail crosses the South Kaweah; thence easterly aloug said trail to tbe place of beginning. The claims are located nnder the new mining laws of the United States.

Sympathy.—To find one who has passed through life without sorrow, you must find one incapable of love or hatred, of hope or fear—one that hath no memory of the past and no thought of the future—one that hath no sympathy with humanity and no feeling in common with the rest of the species.

The *Evenement* estimates tbe number of industrial establishments in Frsnce at 150,000, employing two millions of hands and steam power equal to 650,000 horses. The business done amounts to twelve thousand millions of francs.

Asiatic Cholera in China.

ALMOST EVERY CASE CURED WITH

PAIN-KILLER!

Dear Sirs: During a residence of some ten years in Siam and China, as a missionary, I found your Pain-Killer a most valuable remedy for that fearful scourge, the Cholera.

In administering the medicine, I found it most effectual to give a teaspoonful of Pain-Killer in a gill of hot water sweetened with sugar; then, after about fifteen minutes, begin to give about a tablespoonful of the same mixture every few minutes until relief was obtained. Apply hot applications to the extremities. Bathe the stomach with the Pain-Killer, clear, and rub the limbs briskly. Of those who had the Cholera, and took the medicine faithfully, in the way stated above, eight out of ten recovered.

Rev. R. TELFORD, Missionery in China.

Dear Sirs: During a long residence in China I have used your valuable Pain-Killer, both in my own family and among the Chinese, and have found it a most excellent medicine. In the summers of 1862 and 1863, while residing in Shanghai, I found it an almost certain cure for cholera, if used in time. Indeed, using it in a great many instences, I do not remember failing in a single case. For three years I have been residing in this place, more than fifty miles from a physician, and have been obliged often to fall upon my own resources in cases of sickness. The Chinese come to us in great numbers for medicine and advice. Though without medical knowledge ourselves, the few simple remedies we can command are so much in advance even of their physicians, that we have almost deily applications. We ellow them to come, because it brings us in contact with them and opens a door of usefulness. In diarrhea, colic, vomiting, cholera, coughs, etc., your Pain-Killer has been my chief medicine. Yours, very truly,

Rev. T. P. CRAWFORD, Tungchow, China.

Those using Pain-Killer should strictly observe the following directions:

At the commencement of the disease, take a teaspoonful of Pain-Killer, in sugar and water, and then baths freely across the stomach and bowels with the Pain-Killer clear. Should the diarrhea and cramp continue, repeat the dose every fifteen minutes. In this way the dreadful scourge may be checked and the patient relieved in the course of a few hours.

N. B.—Be sure and get the genuine article; and it is recommended by those who have used the Pain-Killer for the cholera, that in extreme cases the patient take two (or more) teaspoonfuls instead of one.

The PAIN-KILLER is sold by all the Druggists and Dealers in Family Medicines.

☞ Price, 25 and 50 cents and $1.

PERRY DAVIS & SON,
Manufacturers and Proprietors, 136 High street,
oct1 Providence, R. I.

Leather Market Report.

[Reported for the Press by Dolliver & Bro.]

Wednesday M., Oct. 22, 1873.

French stocks of all kinds are in urgent request, especially medium weights. There is also more inquiry for Eastern kinds. Sheep linings are active. The trade generally much more prosperous than of late. We quote as follows:

City Tanned Leather, ₱ lb	28@29
Santa Cruz Leather, ₱ lb	28@29
Country Leather, ₱ lb	25@28
Stockton Leather, ₱ lb	26@29
Jodot, 8 Kil. per doz	$50 00@ 84 00
Jodot, 11 to 19 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 16 Kil. ₱ doz.	55 00@ 70 00
Cornellian, 12 to 16 Ko	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumerville, 15 Kil	60 00@ — —
Simon, 18 Kil., ₱ doz	61 00@ 63 00
Simon, 20 Kil. ₱ doz.	65 00@ 67 00
Simon, 24 Kil. ₱ doz.	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₱ lb	1 00@ 1 35
California Kip, ₱ doz	40 00 to 60 00
French Sheep, all colors, ₱ doz	8 00@ 15 00
Eastern Calf for Backs, ₱ lb	1 00@ 1 25
Sheep Roans for Topping, all colors, ₱ doz	9 00@ 13 00
Sheep Roane for Linings, ₱ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 4 50
Best Jodot Calf Boot Legs, ₱ pair	5 00@ 5 25
Good French Calf Boot Legs, ₱ pair	4 00@ 4 75
French Calf Boot Lege, ₱ pair	4 00@ — —
Harness Leather, ₱ lb	30@ 37½
Fair Harness Leather, ₱ doz	48 00@ 72 00
Skirting Leather, ₱ lb	34@ 37½
Welt Leather, ₱ doz	30 00@ 50 00
Buff Leather, ₱ foot	19@ 22
Wax Side Leather, ₱ foot	17@ 19
Eastern Wax Leather	—@— —

San Francisco Metal Market.

Wednesday, M., Oct. 22, 1873.

Iron.—			
Scotch Pig Iron, ₱ ton	$52 50	@	— —
White Pig, ₱ ton	52 50	@	— —
Refined Bar, bad assortment, ₱ lb	— —	@	3¾
Refined Bar, good assortment, ₱ lb	— —	@	4
Boiler, No. 1 to 4	— 05½	@	06
Plate, No. 5 to 9	— 06½	@	07
Sheet, No. 10 to 13	— 07½	@	—
Sheet, No. 14 to 20	— 8	@	7
Sheet, No. 24 to 27	— 08	@	09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 8	@	— —
Other Irons for Blacksmiths, Miners, etc.	— 5	@	— —
Copper.—			
Brazier	— 35	@	38
Copper Tin'd	— 50	@	— —
C.Nicle Pat	— 55	@	— —
Sheathing, ₱ lb	— —	@	25
Sheathing, Yellow	— —	@	25
Sheathing, Old Yellow	— —	@	12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
Tin Plates.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₱ lb	— 40	@	— 42½
Steel.—English Cast, ₱ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
Zinc	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
Nails.—Assorted sizes	— 8¾	@	— 8
Quicksilver, per lb	— —	@	1 10

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Bunker Hill Quartz Mining Company.---

Location of works, Amador, Amador county, Cal. Location of principal place of business, 19 First street, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 11) levied on the 10th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wales L. Palmer	113	20	$200 00
Wales L Palmer	120	20	200 00
Wales L Palmer	121	20	200 00
Wales L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmer	125	20	200 00

And in accordance with law, and an order of the Board of Directors, made on the 10th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 19 First street, San Francisco, Cal., on Monday, the third day of November, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, Cal. oc18

Buena Vista Petroleum Company.--Location of principal place of business, San Francisco, State of California. Location of works: Buena Vista, Kern county, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 26th day of September, 1873, an assessment (No. 17) of one dollar per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 320 Jackson street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 7th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 25th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

L. AGUAYO, Secretary.

Office, No. 430 Jackson street, up staire, San Francisco, California. se27

Commercial Coal Mining Company of San Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 402 Montgomery street, room No. 23, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

S B. HANSON, Secretary.

Office—No. 402 Montgomery street, room No. 23, San Francisco, California. oc18

Cincinnati Gold and Silver Mining Company. Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 8th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ayer, W, Trustee	56	500	$250 00
Boynton, A A W, not issued.		680	340 00
Bruce, Donald, Trustee	7	100	50 00
Bruce, Donald, Trustee	8	50	25 00
Bruce, Donald, Trustee	9	50	25 00
Bruce, Donald, Trustee	10	50	25 00
Bruce, Donald, Trustee	11	50	25 00
Bruce, Donald, Trustee	46	100	50 00
Clapp, R W	27	100	50 00
Clapp, R W	28	50	25 00
Cuthbert, Wm	12	100	50 00
Cuthbert, Wm	38	200	100 00
Gates, Geo W, Trustee	19	750	375 00
Gang & McLaren	50	250	125 00
Gang & McLaron	51	50	25 00
Gang & McLaren	59	100	50 00
Gang & McLaren	60	100	50 00
Gang & McLaren	61	100	50 00
Gang & McLsron	62	100	50 00
Gang & McLsren	63	100	50 00
Gang & McLaren	64	100	50 00
Gang & McLaren	65	100	50 00
Gang & McLaren	66	100	50 00
Gang & McLaren	67	100	50 00
Gang & McLaren	68	100	50 00
Gang & McLaren, not issued		5	2 50
Hane, C W	52	100	50 00
Hsne, C W	53	75	37 50
Hinckley, G E	36	25	12 50
Hinckley, G E	54	300	150 00
Hinckley, G E	55	25	12 50
Hndson, G B, Trustee	24	100	50 00
Hudson, G B, Trustee	42	400	200 00
Hudson, G B, Trustee	45	250	125 00
Hudson, G B, Trustee (not issued)		530	265 00
Kennedy, Frank	43	150	75 00
Penniman, Mrs M	57	50	25 00
Penniman, Mrs M	58	50	25 00
Small, W, Trustee	32	1400	700 00
Small, W, Trusteo (not issued)		434	217 00
Whitney, Jacob	35	500	250 00
Woods, A	44	1000	500 00

And in accordance with law, and an order of the Board of Directors, made on the 18th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office, of the company, No. 331 Kearny street, Room No. 14, San Francisco, Cal., on the 10th day of November, 1873, at the hour of 1 P. M., of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office, 331 Kearny street, Room No. 14, San Francisco, California.

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the seventh day of October, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the tenth day of November, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc11

Hayden Hill Mining Company—Location of works, Hayden Hill, Lassen County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 1) of Fifteen Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 321 Montgomery street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 14th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 13th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. KNIGHT, Secretary.

Office, No. 331 Montgomery street, San Francisco, Cal.

Caution.—Ida and Rhoda Lewis Consolidated Mining Company.

The following certificates of stock were sold this day to pay delinquent assessment, No. 1, levied August 28th, 1873:

No. Certificate.	Names.	Shares.	Sold.	Left.
76	John Clarcey, Trustee	200	200	
79	John Clarcey, Trustee	100	100	
98	John Clarcey, Trustee	20	20	
102	John Clarcey, Trustee	10	10	
255	John Clarcey, Trustee	100	100	
257	John Clarcey, Trustee	100	100	
258	John Clarcey, Trustee	50	50	
142	John Cody, Trustee	100	100	
143	John Cody, Trustee	100	100	
144	John Cody, Trustee	100	100	
146	John Cody, Trustee	50	50	
148	John Cody, Trustee	50	50	
150	John Cody, Trustee	25	25	
151	John Cody, Trustee	25	25	
267	A E Davis	300	300	
170	Wm Cory	113	113	
271	Wm Cory	100	100	
273	Wm Cory	100	100	
135	L A Johnson, Trustee	50	50	
137	L A Johnson, Trustee	50	50	
138	L A Johnson, Trustee	50	50	
139	L A Johnson, Trustee	50	50	
140	L A Johnson, Trustee	50	50	
277	L A Johnson, Trustee	25	25	
281	L A Johnson, Trustee	25	25	
284	L A Johnson, Trustee	25	25	
291	L A Johnson, Trustee	50	50	
157	F B Lewis, Trustee	100	100	
159	F B Lewis, Trustee	100	100	
38	J de Sta Marina, Trustee	100	100	
41	J de Sta Marina, Trustee	100	100	
44	J de Sta Marina, Trustee	100	100	
46	J de Sta Marina, Trustee	100	100	
210	J de Sta Marina, Trustee	20	20	
218	J de Sta Marina, Trustee	100	100	
219	J de Sta Marina, Trustee	100	100	
220	J de Sta Marina, Trustee	100	100	
179	A C Morse, Trustee	10	10	
180	A C Morse, Trustee	10	10	
182	A C Morse, Trustee	10	10	
183	A C Morse, Trustee	20	20	
184	A C Morse, Trustee	20	20	
189	A C Morse, Trustee	50	50	
191	A C Morse, Trustee	50	50	
193	A C Morse, Trustee	100	100	
235	Charles Spencer	100	100	
236	Charles Spencer	100	100	
241	Charles Spencer	500	375	125
296	W H Smith, Trustee	100	100	
298	B F Scott	250	250	
299	B F Scott	250	250	
300	B F Scott	2 0	200	
301	B F Scott	300	300	
302	George Scott	1000	1000	

The public is hereby cautioned against negotiating any of the above mentioned certificates.

C. J. EATON, Secretary.

San Francisco, October 20, 1873. 1t

Lady Franklin Gold and Silver Mining Company. Location of principal place of business, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office, No. 507 Montgomery street, San Francisco, California. oc18

Lemon Mill and Mining Company—Principal place of business, San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors held on the 27th day of Septemb r, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 608 Merchant street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the third day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal. oc4

Lady Esten Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors held on the 7th day of October, 1873, an assessment (No. 3) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. oc11

McMahon Silver Mining Company—Location of works, Schell Creek District. White Pine County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Brush, R G, Trustee	148	100	25 00
Brush, R G, Trustee	149	100	25 00
King, Jos L, Trustee	151	100	25 00
Richardson, E A, Trustee	103	200	50 00

And in accordance with law, and an order of the Board of Directors, made on the fourth day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the salesroom of John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on the twenty-seventh day of October, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEORGE R. SPINNEY, Secretary.

Office—No. 320 California street, Room 5, San Francisco, California.

Jacob Little Gold and Silver Mining Company—Location of works, Virginia Mining District, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on Monday, the 29th day of September, 1873, an assessment of One Dollar per share was levied upon each and every share of the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at his office, County Recorder's office, Court House Building, Virginia City, Nevada.

Any stock upon which this assessment shall remain unpaid on Thursday, the 30th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

By order of the Board of Directors.

R. H. HARNEY, Transfer Secretary.

Room No. 1, 113 Leidesdorff street, San Francisco, Cal.

Ohio Consolidated Gold Mining Company.

Principal place of business, San Francisco, California. Location of works, West Point, Calaveras County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifteen cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 116 Leidesdorff street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 18th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 8th day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

THOS. KNAPP, Secretary.

Office—No. 116 Leidesdorff street, San Francisco, Cal. oc18

Phenix Tunnel and Mining Company----

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 2) of 20 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the first day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Thursday, the 20th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc1

Revenue Cons. Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of October, 1873, an assessment, (No. 1) of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary at the office of the company, room No. 1, 113 Leidesdorff street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 12th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 10th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. H. HARNEY, Secretary.

Office—Room No. 1, 113 Leidesdorff street, San Francisco, California oc18

Silver Wave Mining Company—Principal place of business, San Francisco, California. Location of works, White Pine Mining District, White Pine County, Nevada.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of September, 1873, an assessment of Forty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of said Company. Any stock upon which this assessment shall remain unpaid on Thursday, the 30th day of October, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Tuesday, the 25th day of November, 1873, at the hour of 2 o'clock P. M., at the office of the Company, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. W. CLARK, Secretary.

Office, No. 418 California st., San Francisco, Cal.

Southern Pacific Consolidated Gold Mining Company. Principal place of business, San Francisco, California. Location of works, Kern County, California.

Notice is hereby given that at a meeting of the Board of Directors of the above named company, held on tha 11th day of September, A. D. 1873, an assessment of ten (10) cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the company, room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the twenty-fifth (25th) day of October, A. D. 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Tuesday, the twenty-fifth (25th) day of November, A. D. 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California. sep13

State of Maine Mill and Mining Company—Principal place of business, San Francisco, California. Location of works, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of October, 1873, an assessment (No. 4) of Five Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 4th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office—306 Montgomery street, San Francisco, Cal. oc4

San Francisco Co-operative Land and Building Association. Office and principal place of business, 306 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co-operative Land and Building Association, up to, and including those of the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale. By order of the Board of Directors.

H. B. CONGDON, Secretary.

San Francisco, September 20, 1873. se20-1m

Stevens Pacific Smelting and Mining Company—Location of principal place of business, No. 320 Montgomery street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Holt, Thomas H	150	5	$ 50
Holt, A L	57	55	6 60
Holt, A L	58	66	5 50
Irelan, L	50	500	50 00
Irelan, L	51	500	50 00
Irelan, L	52	500	50 00
Irelan, L	63	500	50 00
Irelan, L	64	500	50 00
Irelan, L	55	500	50 00
Irelan, L	56	500	50 00
Irelan, L	57	50	5 00
Irelan, L	68	50	5 00
Irelan, L	59	50	5 00
Irelan, L	70	50	5 00
Irelan, L	71	50	5 00
Irelan, L	72	50	5 00
Irelan, L	73	50	5 00
Irelan, L	74	50	5 00
Irelan, L	75	50	5 00
Irelan, L	76	50	5 00
Irelan, L	77	25	2 50
Irelan, L	78	25	2 50
Irelan, L	79	25	2 50
Irelan, L	80	25	2 50
Irelan, L	81	25	2 50
Irelan, L	82	25	2 50
Irelan, L	83	25	2 50
Irelan, L	84	25	2 50
Irelan, L	85	25	2 50
Irelan, L	86	25	2 50
Irelan, L	87	25	2 50
Irelan, L	88	25	2 50
Irelan, L	89	25	2 50
Irelan, L	90	25	2 50
Irelan, L	91	25	2 50
Irelan, L	92	25	2 50
Irelan, L	93	34	3 40
Irelan, L	94	300	30 00
Irelan, L	146	25	2 50
Irelan, L	147	25	2 50
Irelan, L	148	25	2 50
Knight, J M	95	100	10 00
Knight, J M	97	100	10 00
Knight, J M	151	95	9 50
Murphy, Daniel	138	33	3 30
Murphy, Daniel	139	33	3 30
Murphy, Daniel	140	33	3 30
Murphy, Daniel	141	34	3 40
Stevens, Levi	47	500	50 00
Stevens, Levi	48	500	50 00
Stevens, Levi	49	500	50 00
Stevens, Levi	50	500	50 00
Stevens, Levi	51	500	50 00
Stevens, Levi	52	500	50 00
Stevens, Levi	53	500	50 00
Stevens, Levi	54	500	50 00
Stevens, Levi	55	500	50 00
Stevens, Levi	56	500	50 00
Shackelford, R M	33	667	66 70
Vanderhurst, Wm	11	166	16 60
Vanderhurst, Wm	12	167	16 70
Vanderhurst, Wm	13	133	13 30
Vanderhurst, Wm	14	34	3 40
Vanderhurst, Wm	15	10	1 00
Vanderhurst, Wm	16	10	1 00
Vanderhurst, Wm	17	10	1 00
Vanderhurst, Wm	18	10	1 00
Vanderhurst, Wm	19	10	1 00
Vanderhurst, Wm	25	25	2 50
Vanderhurst, Wm	26	25	2 50
Vanderhurst, Wm	27	25	2 50
Vanderhurst, Wm	28	25	2 50
Vanderhurst, Wm	30	25	2 50
Vanderhurst, Wm	31	25	2 50
Vanderhurst, Wm	33	50	5 00
Vanderhurst, Wm	34	50	5 00
Vanderhurst, Wm	35	50	5 00
Vanderhurst, Wm	36	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 320 Montgomery street, San Francisco, California, on Monday, the third day of November, 1873, at the hour of 3 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. KNIGHT, Secretary.

Office, 320 Montgomery street, San Francisco, California. oc18

Virginia Consolidated Mining Company.

Principal place of business, San Francisco, State of California. Location of works, Kearsage Mining District, Inyo county, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of October, 1873, an assessment of five cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary at the office of the Company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street, (Room, No. 13,) San Francisco. oc18

Wyoming Gold Mining Company—Location of Principal Place of Business, San Francisco, California. Location of Works, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the eighteenth day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the eighth day of December, 1873, at 1 o'clock P. M., to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. J. GUNN, Sec'y.

Office, 410 Montgomery street, San Francisco, California.

Umpire Tunnel and Mining Company—

Principal place of business, No. 230 Kearny street, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of October, 1873, an assessment (No. 2) of Six Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States currency, to the Secretary, at the office of the company, No. 230 Kearny street, San Francisco, California, or to W. A. Beal, President.

Any stock upon which this assessment shall remain unpaid on the 24th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

SHAREHOLDERS, TRUSTEES, and SECRETARIES of ALL MINING COMPANIES,

Should see to it that their Notices are advertised legally in the **MINING AND SCIENTIFIC PRESS,** at much less cost than the usual rates of daily publications. Every person interested in the prosperity of legitimate mining enterprises should favor such practical economy. Send for circular of convenient dates for advertising, free blanks, and a copy of the New Code Corporation Assessment Law.

A NEW BOOK ON MINING.

The Explorers', Miners' and Metallurgist's Companion; Comprising a Practical Exposition of the Various Departments of Exploration, Mining, Engineering, Assaying, and Metallurgy. The Most Practical and Comprehensive Work on Mining Subjects Extant. Comprising 640 Pages, and 81 Engravings. By J. S. Phillips, M. E. Price, bound in cloth, $10 (in coin); in leather, $12. Forwarded by mail, in cloth, $11.40, currency; in leather, $13.75 Issued and for sale by DEWEY & Co., Patent Agents and Publishers Mining and Scientific Press, S. F.

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

☞ Particular attention paid to Jobbing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

THE RISDON
Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1863.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure), All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:
Joseph Moore, Jesse Holladay, O. E. McLane,
Wm. Norris, Wm. H. Taylor, J. B. Haggin,
James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC
Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

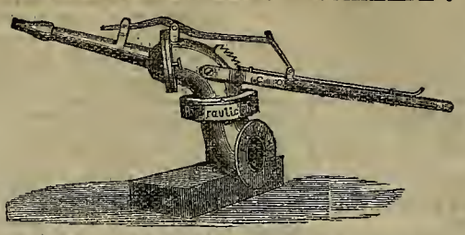
CO-OPERATIVE,

First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.
9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th, F. H. FISHER.

CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

JOS. WAGNER,

113 and 115 Mission Street.....SAN FRANCISCO

MANUFACTURER OF

FRENCH BURR MILL-STONES

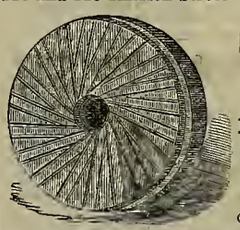
—AND—

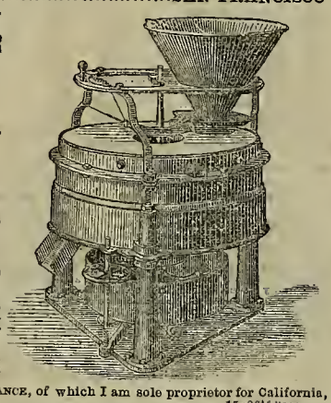
Portable Mills.

—ALSO—

MILLS

Especially adapted for GRINDING QUARTZ.





AGENT FOR DUFOUR & CO.'S CELEBRATED

Dutch Anchor Bolting Cloths.

BOLTING CLOTHS MADE UP.

Eureka Smut Machines, Bran Dusters, Mill Irons, Spindles, Bails, Drivers, Steps, Regulating Screws, Silent Feeders, Pulleys, Proof Staffs, Hoisting Screws, Bails and Pins, Conveyor Flights, Plaster and Leather Belting.

Mill Picks, Mill Picks Dressed, Mill Stones Repaired and Rebuilt.

Mill Stones Balanced with FELLENBAUM'S PATENT BALANCE, of which I am sole proprietor for California, Oregon, and Washington Territory. 15v26tf-2am

SACRAMENTO FOUNDRY,

N. E. corner N and Front streets.....SACRAMENTO,

Steam Engines—all Kinds of Mining Machinery.

SHIP, AGRICULTURAL, STOVE, RANGE AND HOUSE CASTINGS.

Iron Railings and Ornamental Work of every description

At the Lowest Rates.

13v27-1y WM. GUTENBERGER.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna, SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

☞ BUY BARBER'S BIT BRACE. ☜

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.

MANUFACTURERS OF

Sledges, Hammers, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

13 and 15 Fremont street, near Market, San Francisco
16v14or

Gravel Claims and Hydraulic Mining.

Special attention given to the development of this important interest in California.

SURVEYS AND REPORTS MADE—COMPANIES ORGANIZED.

Mills, Mines, Mining Machinery, Wood and Timber Lands.

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Best of References.

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JOS. THORNHILL, 1612 Mason Street, near Green.
C. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

Machinery.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.
Dutch Flat, August 1, 1873. 6v27-2m

LEFFEL & MYERS,

MANUFACTURERS OF

Leffel's American Double Turbine WATER WHEELS,

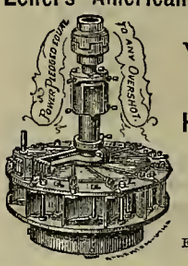
SPHERICAL AND

Horizontal Flumes,

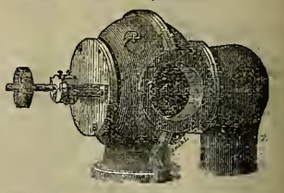
AND ALL

MILL GEARING

Especially adapted to our Wheels.



Also, THE "HUBBARD" COMBINED REAPER AND MOWER.



Having established our selves in this city, we will give personal attention to our business, and thereby hope to give better satisfaction than we have been able to give heretofore through agents.

We will also do a commission business in

Millers' and Miners' Supplies.

Our reputation as Mining Engineers is sufficient guarantee of our ability to give entire satisfaction. We can furnish anything that our patrons may desire, on the shortest notice. Please remember that we give personal attention to our business.

Address or call on

LEFFEL & MYERS,
306 California street, San Francisco,
au2-1m3p or Salem, Oregon.
☞ Send for new Illustrated Pamphlet—sent free. 3p1m

Parshall's Lubricator for Steam Engines.

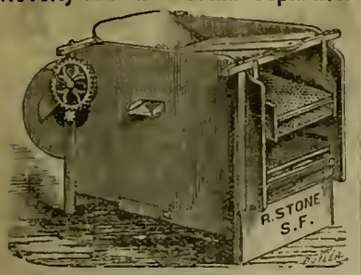
These Lubricators are suited to all steam Engines, delivering the lubricant, whether tallow or oil, to every kind equally well. They are subject to be placed in the steam pipe, steam chest cover or the cylinder head, as is desirable. They admit the steam freely to the lubricant, which is constantly saturated with it and kept thereby in a free liquid state. When condensation of the steam begins, the water settles below and raises the oil to the top. The oil is fed from the top of the cup, through a tube which passes down through its center. All sediment in the oil settles to the bottom of the cup, and the oil, on going to feed the engine, is always pure. By simply turning a screw in the top of the cup, the flow of oil is regulated to suit the requirements.

We have numerous testimonials from Railroad Engineers and others, speaking in the highest terms of their superiority. The first one put in use on this coast is at the Pacific Saw Manufactory in this city. Parties desiring further information will please send for descriptive circular and price list, or call at our office.

WIESTER & CO.,
General Agents for the Pacific Coast,
17 New Montgomery street,
Grand Hotel Block, San Francisco.

PURCHASERS please say advertised in Scientific Press.

THE PATENT
Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to

R. STONE,
3v6-3m-eowhp 422 Battery street, San Francisco.

CROCKER'S PATENT
TRIP HAMMER QUARTZ BATTERY.

This machine, complete, weighs 1,500 lbs. Has an iron frame, five steel arms with stamps weighing 17 lbs. each, which strike 240 blows per minute, in a mortar provided with screens on both sides, and crushes FINE 600 lbs. per hour, requiring one-horse power to drive it. Has been thoroughly tested, and is guaranteed to give good satisfaction. PRICE, $400.

G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

The New Wilson
SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast.
337 Kearny St., S. F.

PRICE, $50. 2v27eow-hp-1y

STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

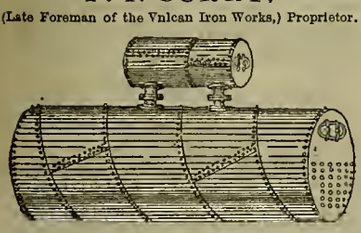
10v27tf No. 32 FREMONT STREET.

San Francisco Boiler Works,

123 and 125 Beale Street.....SAN FRANCISCO

F. I. CURRY,

(Late Foreman of the Vulcan Iron Works,) Proprietor.



High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTORERS OF THE CELEBRATED

SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

Oregon street, below Front, San Francisco.

All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

San Francisco Cordage Company.

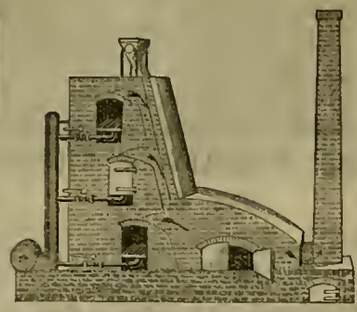
Established 1856.

We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.

TUBBS & CO.,
17v26-tf 611 and 813 Front street, San Francisco.

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.
Austin, Nev., July 15, 1873. 6v27-tf

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,

Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v26-tf JOHN TAYLOR & CO.

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

CONSIGNMENTS OF GOODS.

4v16-3m

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,

(Opposite the U.S. Branch Mint.

SAN FRANCISCO CAL. 7v21-3m

G. W. STRONG. W. L. STRONG.

C. W. STRONG & CO.,

Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

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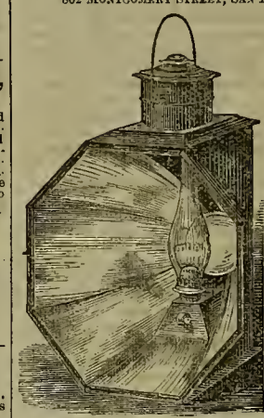

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Quicksilver Metallurgy.

EDITORS PRESS:—When at your request I entered upon the subject of quicksilver extraction in your paper, I did so, not with any desire of being personal, or uttering invectives against any one, but that the matter might have free ventilation, for as your correspondent "Novel Plan" truly remarks, "Progress can only be made by an interchange of ideas;" nor will I now enter into an argument with one who abuses the privileges accorded him in the columns of a public journal, by the outpouring of such scurrilous ribaldry and vituperative personalities, as Mr. Riotte has thought fit to give vent to; they only go to prove that he who can descend to such is wanting in all the attributes and finer sensibilities that constitute a gentleman and place him on a scale far below that class, which he so glibly describes as "native born scientific cusses." What his object is I know not, (for he has never been near me,) unless it is anger; because the works of the Oakville mine, belonging to the Napa Company, which he describes as "bankrupt," were put up under his directions.(the furnaces having been patented by Messrs. Riotte & Lockhardt) and Mr. Riotte's especial work connected with the Suction Fan obtained for it the soubriquet of the "Go Devil"and was spoken of in no very elegant terms by one of the parties he names and which turned out such an unfortunate failure. But when he impugns the statement of 20 lbs. to 80 lbs. per ton, and denounces it as an *untruth*, he attacks not me, but the *verity of those very gentlemen whom he holds up in another part as competent authority*, viz: Messrs. Lockhart and Jas. McQuaid, who, as Superintendents of the Napa Co., from the commencement to its close, have repeatedly given oral and written testimony to the Company that it was rarely below 20 pounds, and was generally far above, asceuding upwards to over 80 pounds, and if the ore put through, was, as they assured me, anything similar to that which I saw them discharging into the furnace, their statement was borne out by facts and is worthy of more credence than Mr. Riotte's.

Mr. R. asks with wrathful indignation, if such competent authorities as Knox, Luckhardt, Osborn and Lockhart are to be disputed. In my letter I neither disputed any authority, nor did I put forth any new theory, but that held by men whose names for practical knowledge and scientific attainments do stand higher in public estimatiou than those quoted by him, and this without the least disrespect to them, one of whom at least did not prove the possibility of saving 90 per cent. nor 50 per cent. at the Napa Works, and I think the names of Dr. Ure, Crookes, Rohrig, Makin, Overman, Hunt and a horde of others equally well known are at least entitled to respect, even by such an egotistical proficient as Mr. Riotte claims to be.

No doubt he thought he made a great hit when he termed me a "hoy," etc., I am content he should think so if he pleases, but in that case, what does he consider himself to be, when on his arrival in this country a few years ago, he appeared fresh and verdant from college, in the *far, far East*, in his schoolboy uniform, I had served an apprenticeship of much more than half his term of life, at hard practical work. I shall gladly avail myself of "Novel Plan's" offer to visit and examine his works and mode of operations, before speaking of them, for I think with him that we are never too old or too wise to learn, although I must beg leave to doubt (until the contrary is proved) that he can save 99 per cent.

I regret that my statement respecting the permeation of the bricks in the condenser and ore-chamber at the New Almaden works should have raised Mr. Fiedler's wrath; but I can assure him that there were other gentlemen with me who witnessed the fact as stated, and were further corroborated by the men at the work. And now his own statement, that they were pulled down for the very reason of their proving so unsatisfactory, goes far to prove the assertion. I do not see that such is any personal reflection on Mr. F. or any one there, Mr. Randal conteously informed me why they were pulled down, after my letter had been priuted. I had, therefore, no opportunity of conversing beforehand with those gentlemen, or I should have given their reasons more clearly. The best authorities *do* condemn brick condensers, and urge the adoption of iron in their stead. Wholesale condemnation does not disprove the fact that after twenty-five years working the use of retorts has been found in all respects very practical and satisfactory. HUBERT BANKART.

AGRICULTURAL STATISTICS.—The convention of Executive Committees of State Granges of the Patrons of Husbandry, representing States in the Missouri Valley, which has been in session in Keokuk, Ia., adopted the following preamble and resolution:

WHEREAS, We regard complete and accurate agricultural statistics as the foundation of our control of the business of agriculture, by which we may obtain a suitable and just reward for our labors, and allow the law of supply and demand to operate freely in the regulation of prices, to the benefit of both producer and consumer; therefore,

Resolved, That we will use our best efforts to establish, or cause to be established, in each and every state in our Union, a system of agricultural statistics, by which we can get exact information of the acreage of the principal crops, the amount of livestock in the country, the quality of produce and the number of animals of each kind for market.

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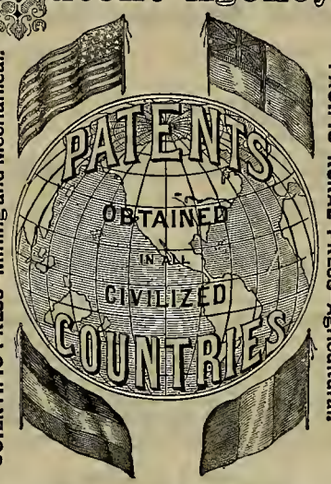

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EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freibnrg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING Co.,)
Little Cottonwood, Utah.)
Superintendent's Office, Sept. 23, 1872.)

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

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"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

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SAN FRANCISCO, SATURDAY, NOVEMBER 1, 1873.

VOLUME XXVII Number 18.

Peer & Lundquist's Concentrator and Flume Riffle.

Messrs. Peer & Lundquist have recently patented some improvements for concentrating gold and sulphurets from quartz and gravel, and a new flume riffle with undercurrent, engravings of which are shown on this page. The concentrator, Figure 3, is a simple mechanical contrivance, requiring very little motive power to run it. The labor in attending to it is simply in removing the concentrated matter which accumulates in the pan.

Referring to the cut (Fig. 3) *A*, represents the pan with water pipe; *G*, the screen hopper where the pulp is introduced; *H* an adjustable discharge gate; *F*, *F*, adjustable rods for supporting the pan; *E*, the frame; *D*, the adjustable stand and roller for regulating the grade to the pan; *C*, the percussion. In Fig. 1, *A*, *B*, is a section of lifting and grooved cam; *A*, representing the lifting cam, and *B*, the grooved cam, combined. The pan, *A*, is much the same in shape as the ordinary gold pan used by miners for panning out washings from a flume, only it is much larger in size. The dimensions equal 6 feet by 7 feet, measuring 20 feet in circumference, making a capacity of 5 stamps. The panning movement is done much the same as by hand, being operated by a peculiar lifting cam and grooved cam (Fig. 1) combined. The grooved cam gives the side motion, while the lifting cam imparts an easy motion forward, raising the back part of the cam somewhat, so that the light sands may pass gently out of the pan, leaving the heavier substances upon the bottom, which follow the direction of the percussion on its backward movement. By this means all the heavier particles gradually move to the back part of the pan, where they are made perfectly clean by the aid of a little clear water, supplied by a pipe for that purpose. If there is any difference in the specific gravity of the particles to be concentrated, this machine will collect them, the concentrator being adjustable for all kinds of pulp or sands containing sulphurets, and the action of this machine is such that the fine and coarse sulphurets follow each other.

The flume riffle patented by these gentlemen is shown in Fig. 2. *A* represents a section of corrugated riffle; *B*, the undercurrent with discharge; *C*, the roller; *D*, the flume and *E*, the pulley. The object of the flume riffle and undercurrent is for the purpose of saving the fine gold, quicksilver and black sand which follow each other. Something of this kind has long been sought for, as necessity demands a means whereby the fine gold can be saved, which is almost a total loss in the present mode of washing. The flume riffle with undercurrent is so constructed that it will be durable, and the inventors state that it will cost less than the ordinary flume riffle or blocks that are used. The riffle is made in sections, and each section will not weigh more than 60 pounds; they are made out of a composition extremely hard and tough. The riffle is corrugated, having deep parallel recesses running parallel with the flume, each recess having many apertures to discharge the concentrated particles passing into the undercurrent, where it is discharged through a roller for the purpose of brightening the gold so that it may be readily amalgamated. From the roller discharge it is passed immediately into the gold pan, where the process is completed.

Messrs. Peer & Lundquist have also patented through the Scientific Press Patent Agency a process for separating gold and silver from base metals, by which, after they have been amalgamated from the battery or from the smelting furnace, any base bullion from 200 fine and upwards can be "parted" so that the gold and silver are perfectly pure and malleable. This process is important to mining companies, bankers, jewelers, assayers, etc., from the fact that they are able to refine or separate their base bullion at their mine or place of business without the necessity of sending it away for that purpose. The inventors claim that the expense is very small in treating or separating the base metals, as compared with the cupellation process. The new method is quite simple, so much so that an ordinary person can refine the metals in a short time. The inventors say that a little practice is all that will be needed to accomplish the act of separation. The gold separation is done in a crucible and gold and silver in large amounts are separated in the ordinary refining furnace. Parties desirous of further information concerning these inventions can address Victor Ressayre, agent of the patentees, No. 229 Fremont street in this city.

Fig. II.

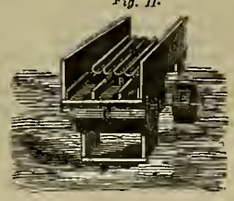
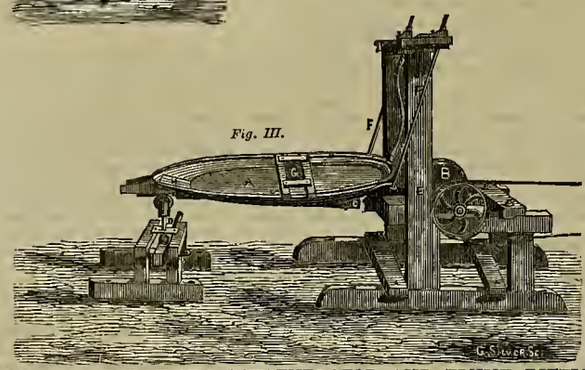


Fig. I.

Fig. III.



PEER & LUNDQUIST'S CONCENTRATOR AND FLUME RIFFLE.

The Lick Observatory.

Considerable interest has been manifested, since Mr. Lick's determination to build a large Observatory has been made public, to know where it is to be placed. Mount Diablo, Tamalpais, Mount St. Helena, and other prominent places have been suggested, most of them on general principles, because they are comparatively high peaks and near the city. Colonel Von Schmidt, who was sent by Mr. Lick to select a site for the Observatory, thinks a point on the shore of Lake Tahoe is an excellent one, and the Nevada papers want it on Mount Davidson.

It seems to us that the best thing to be done in the location of this observatory, which is to last so many years, is for Mr. Lick to select a committee of, say, three scientific men, who understand the requirements for such an institution, and let them make a trip to the Sierras and find the best locality. Colonel Von Schmidt is, no doubt, a very good engineer, but he does not pretend to know much about astronomical observations. He has selected a site on the shore of Lake Tahoe, with mountains all about and above and a lake close by. He possibly did not think about local attraction, or evaporation of water. Nor did he recollect that an observatory of this kind should be located either on a peak or a ridge, and not on a mountain side or sloping peninsula. Neither did he take geological formation into account. The Virginia City suggestion is worth nothing, as that part of the country is obscured with fine dust, which would soon wear out the instrument, leaving aside the consideration of clear atmosphere; moreover, Mr. Lick certainly wants the observatory in California.

This location should not be selected without mature deliberation and the advice of those persons who have had experience in astronomical research. It is hardly possible that Mr. Lick, who shows so much judgment and careful forethought in matters of business, should give a large amount of money for an object like this, and then have his plans frustrated by haste in selecting a site for what will be his everlasting monument.

The Largest Gold Bar in America.

In our issue of October 11th we mentioned the fact that a few weeks before the Spring Valley Canal and Mining Company, of Cherokee Flat, Butte county, California, had sent down a gold bar worth $41,000, and weighing 141 pounds. At that time they thought that it was the largest bar ever made, but at their request we made inquiries and found that Seligman & Co., bankers, of this city, had received one from their agents in Helena, Montana, worth an even $50,000. The London and San Francisco Bank had had one worth $35,000, and the Mint and Bank of California had each had one worth $40,000, and the San Francisco Assaying and Refining Works had received one worth $41,000. As the Spring Valley Company wanted to make a large bar and were working their claim energetically and successfully they cleaned up partially and sent down the largest gold bar ever delivered at the United States Mint. The crowded state of our columns last week prevented our mentioning this interesting subject, and we were compelled to defer it until this issue.

The bar was a very handsome one and weighed, before melting, 3,580 ounces, being valued at the Mint at $71,273.15. The Secretary wrote us that it weighed 299 pounds, and its estimated value was $71,445. We measured the bar and its dimensions were as follows: Fourteen inches long on top, 13½ inches on bottom, 5 inches deep, 5½ inches wide on top, and 5¼ inches wide on bottom. The bar took two hours to melt, and only one ounce and eleven-hundredths were lost in the work. The gold was exclusively from the mine of the Spring Valley Company, and was the result of about 35 days' actual run, with about one thousand inches of water. Only a partial clean up was made, and the gold obtained was the return of 800 feet of head flume and 14 under currents. The company has two and a half miles of flumes, and 28 undercurrents. One hundred feet of the clean up was in the tunnel. The flumes had been run so full that it was almost as rich where they left off cleaning up as at the head of the flume, and if they had gone on down there is no knowing how much they would have got.

Can any one who sees the result of this partial clean up say the California gravel mines are giving out? When bars of this kind can be made in such a short run, and when only part of the flumes and undercurrents are cleaned up, it ought to encourage others to try their hand at deep gravel mining. If it were not for exceptional cases of this kind we would seldom hear of what is really being done in our gravel mines, as most of the companies are singularly reticent on the subject of profits. The bar we saw would have made an "old 49er's" eyes sparkle, but its weight prevented any careless handling or danger of loss. It took two men to put it in the crucible at the Mint, and it has been cast into seven bars for convenience in handling. Bars worth upwards of $71,000 are scarce, and it is seldom one sees a fortune in so compact a form.

Bad for Mill Operatives.

Eastern advices predict a hard winter for mechanics and mill operatives, by reason of the many suspensions caused by financial trouble. Dispatches this week began to cite details, and we see that the extensive print works of Garner & Co., Little Falls, Cohoes, Rochester, Pleasant Valley, Newburg and Haverstraw, stopped on Saturday, and threw 10,000 people out of employment. The firm pays $500,000 per month to employés. A Washington dispatch says that 400 mechanics and 1,000 laborers have been discharged from the Navy Yard, owing to money running short in consequence of the extensive improvements made in the Yard this summer. Dispatches from Manayunk, Pa., state that of 12 or 13 cotton mills there, employing from 5,000 to 6,000 hands, only three are in operation, the remainder having suspended for the present, and negotiating for resumption at reduced rates of compensation to the workmen. If many more large institutions like this suspend operations, great distress will be felt by the employés. We may congratulate ourselves that there are no prospects of similar suspensions on this side of the mountains, but we may be benefitted by an influx of skilled labor to this coast. A great many workmen who are out of employment there will doubtless come to California.

New York advices state that the piano, billiard table and cigar manufacturers, and other producers of luxuries are conducting business with great caution. Large factories are being run on half time and with half their usual force, while smaller establishments have shut down altogether. One of the most unfortunate results of the financial panic is the discharge of hundreds of workmen from various large manufactories in the principal cities. The recent heavy discharges from foundries in and around Philadelphia, and the previous similar occurrences in the neighborhood of New York, have a melancholy premonition of more extended trouble. It has now extended to the New England cotton and woolen mills, one suspension in Rhode Island being already announced, and the Manufacturers' Board of Trade of Fall River, Mass., having agreed to recommend a suspension of all mills two days in each week, and to run only eight hours per day the other four days for the present. Several Western manufactories have also taken steps to curtail expenses, and in Baltimore likewise action has been taken at one or more large establishments looking to their economical working while the panic continues.

Foreign Corporations.—Their Right to Mortgage Mines in California.

A vsry important case was decided last week by Judgs McKinstry of the Twelfth District Court, on the powers of foreign corporations to mortgage property in this Stats. The csse is that of Babcock *vs.* the New York and Grass Valley Mining Company, and involved the sum of $20,000. The facts are as follows: The New York and Grass Valley Mining Company kept their account with John Parrott & Co., bankers. The company was incorporated in New York, and represented here by an agent or Secretary, who was also Secretary for many other companies. The bank account with Parrott & Co. was overdrawn, and when the amount due reached the sum of a little less thsn $20,000, the bank insisted on security for the payment of the amount due. The company gave a mortgage on its property, which was not paid at maturity, and action was commenced to foreclose the same and for judgment for the amount due. The case was first tried abont a year and a half ago. The defense set up that the laws of New York, under which the company incorporated, were not complied with in giving the mortgage. Judge McKinstry at this time decided in favor of the defendant. Mr. Bergin, plaintiff's counsel, moved for a new trial, which was grauted and the case was tried agsin and has not been decided. Jndge McKinstry's views on the subject are interesting and importsnt to mining shareholders, and we give the following.

The New York statute of 1848, which provided for the organization of mining compsnies, authorizing such companies to pnrchase, hold snd convey real estste, but prohibited any mortgsge of such real estate. By the amendment of 1864 it is provided that such corporation may mortgage any part of its real estate, and that "every mortgage so made shall be as valid to all intents and purposes as if executed by an individual owning such real estate; provided, that written consent of the stockholders owning at least two-thirds of the cspital stock shall first be filed in the office of the County Clerk of the county where the mortgaged property is situated.

The mortgage, to foreclose which this suit was brought, was offered in evidence, signed by the President of the Company, with the corporate seal attached. If the provision of the New York statute could have been complied with in California, the corporate seal would impart the due performance of the acts reqnired to prosecute the execntion of the mortgage; but the written oonsent of the stockholders could not have been filed in the office of the County Clerk in this State, because our law does not authorize any County Clerk to file such paper.

The Conrt then holds that the powers of the corporation must be ascertained from the New York statute as amended. The defendant hss the power to purchase, hold and convey lands, which includes the power to mortgage. The Act of 1864 provides that the will of the corporation should be expressed in a peculiar manner, and but for this it conld be expressed by the Trustees, snd proved by the corporate seal. To give an extra territorial effect to the provision of the New York ststute, it would be necessary to hold that New York could legislate for California. But the New York Legislatnre simply provided that the corporations by it created should exercise certain powers in New York, and that the power to mortgage should be employed only in a particular manner. The manner cannot be allowed in California, but the power exists here because it exists in New York.

The Courts of California recognize the right of foreign corporations to do here what they msy do at home, but the power having bsen conferred by the foreign State, no principle of comity requires of us to regard a limitation upon the mode of its exercise, which amounts to a prohibition here. The comity which induces us to recognize a foreign corporation, is limited by our own positive law and the public policy which provides our laws. It is, however, the policy of our law to facilitate the transfer of real property by natnral or artificial persons, and to permit its conveyance and the creation of contract liens npon it. It would be in violation of this policy to recognize the right of the foreign Legislature to prohibit the mortgaging of lands in this State, while it permitted mortgages at home, thns not only interfering with the uniform operation of our laws, but enacting a provision of law which can only take effect beyond the territory within which the foreign government has power to legislste. We must admit, therefore, that the same corporation can mortgage its lands in New York and cannot in California; or that public policy requires of us to ignore the limitation upon the mode when it is sought to apply it here, and hold that the corporation can exercise all the powers here which it can in tbe State where it was created, in the manner practicable under our system, and accordant to the general rules of law. I will sign findings and a decree foreclosing the mortgage.

Cleaning Weapons with Petroleum.—In addition to the great solvent power of petroleum, it does not beoome rancid or gummy as other oils are liable to do. A writer in *Les Mondes* aaya that common mercurial ointment is also remarkably efficacious in preventing the formation of ruat upon articles of iron and steel, such as gun barrela and the like.

Chemicals in Pan Amalgamation.

[Continued from page 266]

Slimes constituts the clayey portion of the ors which flows from the battery in wet-crnshing mills, and is imperfectly csnght or sttled in the tanks constructed for the purpose of catching the crushed ore. It is nsedless to say that with a sufficient numbsr of tanks these slimes could be saved, but lack of space generally renders this impracticable, and the nsnal plan is to allow them to flow into reservoirs outside of the mill, from which they are sfterwards dng ont, allowed to dry, and hauled to the mill.

The mechanical trestment of slimes varies bnt little from that of ordinsry ore. Their finely divided condition renders grinding nnnecessary, and calls merely for a sufficiently violent motion to thoronghly incorporate the quicksilver with the pnlp.

The length of time devoted to the amalgamation of a charge of ore is influenced to a great extent by the amalgamating capacity of the mill, and by various reasons of economy. It often becomes advisable to sacrifice a certain percentsge of the value for the sske of working a greater number of tons per diem. To insure good results a charge should not remain in the pan, subject to the action of quicksilver and chemicals, less than six to seven hours.

In working ordinary ores the quicksilver is not added until the pulp is thoroughly ground. This is to prevent the flouering of the quicksilver; but since slimes require no grinding, one might suppose that it would be more advantsgeous to put the quicksilver into the pan on charging, thus allowing more time to the amalgamation.

Experience has, however, shown that better results are obtained by putting in the chemicals, *i. e.*, sulphste of copper and salt, first, snd adding the quicksilver from two to three hours later, thus allowing the intervening length of time for the decomposition or "preparation" of the refractory minerals. The reason of this is not immediately apparent, as the quicksilver charged simultaneously with the chemicals shonld attack the chloridized (?) silver-minerals *in statu nascenti*. The amount per ton of chemicals employed vsries with the richness of the slimes. The quantity is always largely in excess of thst called for by the chemical equivslents of the minerals to be acted upon, but in very large pans the relative proportions may be diminished. Taking ordinary slimes, assaying thirty dollars per ton, as a basis, the average quantities of sulphate of copper and salt employed per ton are 10 to 12 pounds of the former and 20 to 25 pounds of the latter.

These quantaties may be advantageously increased on slimes of higher grade. The exsct amounts mu be determined by conscientious assays. In working slimes of uniform character, the varying fineness of bullion fnrnishes an excellent empirical test of the amount of chemicals to be employed. The baseness of the bullion incresses with the qnantity of sulphate of copper used, owing to the precipitation of copper by the iron of the pan, and its consequent amslgamation. The millman discovers that beyond a certain point an excess of sulphste of copper produces no adequate results heside reducing the fineness of his bullion. Having once determined the average fineness of his bullion when working under the most favorable circumstances, he increases or diminishes the amount of sulphate of copper as the bullion becomes finer or baser than his standard.

The same amonnt of chemicals with richer slimes will produce finer amalgam, which is due to the fact that a larger amount of silver is amslgamated while the same percentage of copper is precipitated. Shonld the value of the slimes and consequent fineness of the bullion increase materially, it becomes necessary to determine by assay the most advsntageous proportion, and to adopt a new standard of fineness. A source of great expense in the working of slimes is the excessive and apparently unavoidable loss of qnicksilver. Working with all the advantages of settlers and agitators, this loss seldom falls below four pounds per ton, whereas in quartz mills it does not as a rule exceed 1¼ to 1½ pounds per ton of ore. Thia is undoubtedly due to the natnre of the slimes, which have the same effect upon the quicksilver as oil or grease, forming a film or coating over the surface of the metal, and preventing the glohnles from uniting. The minute particles settle with difficulty, and to a great extent flow off with the tailings. The excessive loss in working slimes cannot with jnstice be ascribed to the action of chloride of copper, as in working the tailings by the same process the loss of quicksilver per ton is not greater than in ordinary quartz mills, thns proving sufficiently that the deleterious action of chloride of copper npon qnicksilver is not appreciable upon so large a scale.

Many attempts have heen made to effect a saving of quicksilver in milling but so far only mechanical applisnces have met with success. Although sodium, sodium amalgam, cyanide of potassium, etc., are very effective in temporarily "enlivening" the quicksilver, their action speedily dies out after the latter haa been tranaferred to the pan, and experience has sufficiently demonstrated that when employed in practicable quantities they have no effect in aiding the amalgamation. The only thorongh method of cleansing quicksilver is to retort it, and the use of proper straining-sacks will render a recourse to the method unneocasary.

[To be Continued.]

Hydraulic Mines in South America.

Our readers will remember, ssys the Panama *Star and Herald*, the romantic acconnt we published some tims ago of the anriferous regions of and around Barbacoas, in Columbia, fnrnished ns by the pen of Dr. Weavsr, who had at great expense and risk prospected these little-known regions of the United Statss of Columbia, and saw enough to convince him that for surface gold washings the hills, streams and valleys about the Yacula mining region were at least equal to the best dsys of California.

Dr. Wesver betook himself to California, and described to his old mining companions in San Francisco the evidence he had of the abnndance of alluvial gold away back from Barhscoas among the hills and spurs that give origin to streams that join the waters of the great Amazon river. Dr. Weaver psssed through here not long ago on his return from California bringing with him the necessary hydraulic machinery and agents on the part of a compsny in San Francisco who were to test for themselves, and on behslf of the company, the wonderful riches of the soil of the Yaculs mines.

We have now information that Messrs. McBrown & Co., who had agreed on the part of a California company to pay $100,000 for one-half of the territory, if on inspection the soil wss found to be as rich ss Dr. Weaver represented it to be, have already agreed to purchase the property, and are at work putting np hydraulic machinery and digging a ditch to be washed out by these improved methods in use in California. The latest accounts from the mines are that the work hsd been commenced in earnest, with a perpendicular fall of water of 200 feet. The final washing np hsd not yet tsken place, but large nuggets of gold had bsen seen rolling down with the dirt before the stream of water impelled over it.

There is no doubt that the result of these mining speculations and success is bonnd to exercise a great and beneficial influence in the south of the State of Cauca, and besides attracting a large and industrions sddition to the population, will stimulate to extended efforts to realize and bring into the market an amount of gold, which, but for the persevering efforts of Dr. Weaver and his companions, would still remain nseless in the alluvial deposits of the valleys and streams of the Yacnla hills. We have no doubt the Government of the State of Cauca will give all the protection and aid required to organize and protect those who have opened up to Columbia the knowledge of so much hidden treasure, hy securing to individuals or companies the fruits of the labor, experience and industry. It would be well for the Government of the Isthmus to offer facilities to foreign miners to protect the mining regions of this State also.

Fissures or Deposits.

It is a matter of surprise to many persons that there should be snch difference of opinion between miners as to the relative value of mines situated in limestone or other formations. The miners of the Pacific Coast are alwsys looking for fissure veins in granite, slate or qusrtzite, while the English miner, with the advantage of many ysars' experience, prefers the deposits in limestone and does not consider the greatest valne to be fonnd in fissure veins. Limestone is the natural place to look for deposits, consequently the mines generally purchased by Englishmen have a very brilliant existence and pay immensely for a short period. The fissures are more slow in development, but are regular and lasting. With time and proper development they become richer as depth is attained. They are not usually surface mines, nor at the best near the snrface. It is true that fissnre veins pay the most regular profit, but the deposits are nsually fonnd so near the surfsce that the ore is very readily extracted and at very low rstes per ton. No mines in the world are paying so large dividends or csn do so, for a length of time, as those in fissnre veins, as is evidenced in the Crown Point and Belcher mines, on the Comstock, and the Raymond & Ely and Meadow Valley, in Pioche. To the man who invests in mines and mining stocks the most sure are the fissure veins for continusnce to a great depth. While in deposits the profits may be very great for a time when a body of ore is found; still, when worked out, there is a necessity for still farther explorations nntil another deposit shall be discovered, which requires time and money; and after the expenditure of both, success is not alwsys assured. Successions of ore are generally discovered with bodies of limestone hetween, and the ore deposits are of great value. The "dead work" and the time consnmed is not satisfactory to American miners, who prefer the fissure veins, although they may not be so rich as a deposit in the paying portion. The Eberhardt, Aurora, and Richmond in this State, and the Emma, in Utah, are of the class most satisfactory to English miners. Whatever view may he taken of the mines of Nevada there are large bodies of valuable ore both in fissnrea and deposits, and the day is fast approaching when mines will be worked by their owners as a regular businesa that will be remnnerative. With both clasaea of minea, and free ores and baae, all classes of miners can be suited, and mining men will become a class who will develop the conntry with less hazard than in the psat. The immense richea of the State are being developed alowly, but with certainty of good resnlta. The riska in mining investments are becoming less, year by year, and the value of stocks is bsing sattled by the worth of ths propsrty upon which they are issued. The yield of bullion is immenss, and it is produced at a profit. The new districts are being opsned, and fissnres and deposits ars both found in immense nnmbsrs, Capital well directed in the production of silver bullion and in the making of base bullion has a reward that is snfficient to mske up for the risk in sxtracting the ore and in making it of commercial value. With the improvements that are being msde in lessening the expense in sll departments of mining, milling and smelting, there is a greater opportnnity for profit to he made now than at any time heretofore. Improvements will still be made—capital will be put into mining, milling and smelting operations more freely as they become less hazardons and we look upon the present as bnt the dawn of brighter and better times for the State in her material interest.—*Virginia Chronicle.*

The Mining Interest.

If the indications which are usnally supposed to hold good aro to be relied on, the coming winter glves every promise of being a most favorable one for the prosecution of the grest industry of this county. It is a thing to be regretted that the unfavorable seasons for sevesl years psst have had a tendency to diminish the mining element of onr population, as on the number engaged in that pnrsnit, and their success are, in greater or lesser degree dependent the property of all interests and business which make np the labor-field of our popnlstion.

Of lste years only it may be said that the art of mining has reached that degree of perfection which is necessary to make the prosecution of this industry remunerative. Most of the gold deposits in the beds and bars of the streams have been worked out, or sfford employment to only a limited number. Hill and hench mining become paying indnstries when they are followed by all the appliances which late discoveries have brought into use, and the true kinds of gold-saving apparatns substitnted for that which has had its day and mnst now be lsid aside. Many of the old theories on which mining has been conducted in former years, are disproved by the test to which modern inventions hss supplied. It is now generally conceded a large volume of water used in a flume will save gold better thsn a small stresm, which is one point of difference from the opinion held a few years ago. In hill and bench mining two things are necesssry; to thoroughly separate the gold from the earth, and to give it a good chance to settle through the lighter materials to the riffles. Much of the gold lost in ground sluicing and hydraulicing is due to the fact thst it never wss sepsrated from the earth in which it was embedded, but carried along adhering to the clayey lumps, to the dump. This is the resson why old tailings from hill and flat claims will sometimes pay almost as well to work as the original gronnd; the lumps, small and large, by being long exposed to atmospherio action, become slackened and essily pulverized, and the gold readily settles to the riffles if the volume of water is strong enough to csrry away the lighter debris and keep the bottom of the flume or sluice olear. Gold, having a specific gravity nineteen times that of wster, and mnch greater than any of the snbstances with which it is associated in the ground, cannot be easily washed away if it is given a chance to effect a lodgment in the riffles.

In those parts of the State convenient to the line of travel which were formerly the centers of a great mining population, the shsllow surface mines were exhausted yesrs ago, and the miners were, perforce, driven to the discovery of new inventions which should make ground available for mining purposes whioh conld not not be worked to any profit with the manner of working them in use. The result of some of these inventions has been to work a complete revolution from old modes and systems by which mining had been carried on, and give at once a character and value to thousands of acrss of land before accounted worthless. It is only within the psst two or three years that these improved methods have been introdnced into the mines of this county, and their advantages are apparent as soon as known. It is safe to say that here, as elsewhere, they will revolutionize the business of mining and give to thst occupation a permanency it has not heretofore known. The results oannot fail to be in the end most benefioial to the county. Alresdy there has been a marked appreoiation in the value of mining property, and it will ultimstely lead to the securing of patents to a great desl of heretofore nnclaimed and nnworkable land, and the appropriation of water which has been suffered to run to waste by the fear that paying placers could not be found extensive enough to justify the outlay of capital necessary to make it available.

In all those claims in which, dnring the past winter, the improved machinery and methods of mining were introduced, the success attendant was most gratifying, particularly when the extreme shortness of the mining aeason lsst year is taken into consideration. The result has been that operations of the aame nature, on a greater scale, will be entered into the coming winter, and if the snccess is commensurate with the expectations, we can look for a new era in the prosecution of thia industry which cannot fail to work most beneficially to the advantage of every olasa dependent, directly or indirectly, npon the success of the mining interests for their own business profits. —*Trinity Journal.*

MECHANICAL PROGRESS.

Cheap Motors.

A history of tho attemj ts to find a more economical power than steam, says tho *Iron Age*, were it possible to write it, would ho one of heart-rending failures, of hopes dashed to the grornd, of wild expectations cooled by unexpected results. Wheu Watt made his great improvement iu the then existing steam cugine, of placing the cylinder in one condition aud the condenser in another, or, in popular words, making a hot portion and a cold portiou to his eagine, the work he had commenced was far from completion. During the years of after l.bor he so perfected and refiued, if the expression can be used, every portion of the apparatus, that the cngiue of the prcsent day is iu principle mnch as it came from his hands, the modern improvements in almost all cases being confined to minor detaile, or made possible by the improved means ot working metals. It is hnt natnral that inventive talent should, at these stages, have eudeavored to devise a better and cbeaper motor than steam, aud to create or develop power by combining chemical or mechanical discoveries in snch a mauner that an apparatue capable of snperseding the steam engine should be the result. Up to the present time, however, no one has yet succeeded in solving this problem. Prominent among numberless attempts, the hot air engine, invented by John Ericsson many years ago, deserves the first notice. This eminent engineer spent time and money in the perfecting of his invention. The principle was simply this: Atmospheric air was heated and then allowed to pass into a cylinder having a moving piston. Heating the air caused it to expand, and consequently to pnsh the piston toward one end of the cylinder. With wonderfnl ekill and ingennity the inventor worked up the mechanical details of his engine, but, despite all this, it mnst be recorded as a failnre in one sense of the word. The small increase in volume of the air dne to the increased temperatnre, made it absolutely necessary to nse large cylinders for comparatively emall powers, and the rest of the mechanism being on much the same scale, the result wss that the engine for every horse-power of work dsveloped was many times heavier than a steam engine of corresponding power. Many other difficnlties presented themselves when engines of large power were made, and the resnlt is that to-day this style of motor is alone nsed in sitnations where room is of no consequence, where skilled labor cannot be had, and where small powers are alone reqnired. On Mr. Ericsson'e idea numberless lesser lights have, as experience gave them knowledge, made improvements, so that now we hsve a number of competing deeigns in hot air engines, each one p ssessing some small advantage over the other tut none reslly capable of steadily giving over five or eix hores-power of work.

Another invention, or rather class of inventions, known as gas' engines, have had some small reputation. Common burning gas mixed with atmospheric air in the proper proportions, makes a most explosive compound; this on being let into a cylinder was ignited by the sparks from an electric machine, or else by a separate flame, an explosion was the result, which, for the moment, generated considerable pressure, forcing the piston in one direction or the other. This, though good in theory, came to grief because of many practical defects. The sudden explosion wae too much of a shock, the great heat generated in the cylinder wae prejudicial to all packing, and required a conetant eupply of cold water to cool the outside; this, combining with other causee, gradnally pushed thie deeign of engine ont of the market. A new gas engine hae lately been coustructed which utilizes gradnally the increaee of volume due to combnstion, the gae being fed from a reeervoir of gae and air at a coneiderable preseure. Thie invention has not ae yet been tested by long nse, but it hae many points of snperiority, though it reqnires that the cylinder ehould aleo be kept cool hy water. Its economy is very great, 40 feet of common gae furniehing one horsepower per hour. Enginee have been constructed neing gunpowder, or other explosive snbstancee, behind a moving pieton, but all such attempte, though presenting alluring features to the sanguine inventors, have invariably resulted in practically nothing. One inventor made attempte to produce power by burning the oxygen out of air contained in a cylinder, the result being a partial vacnum. The many attempte to devise a cheap electric motor have been, each and all, such signal failnres, that it would be dishearteniug to recount them. It is useless to proceed further in the construction of electric motors till we find a eource of electricity, cheap, abundant and compact. Numberless experiments have beeu tried with various substances whose hoiling point is less than water, but they have been alike unsucceseful. The property posseeeed by ammoniacal gas of condensing, when brought in contact with cold water, and again freeing itself on the application of heat, has been extenoively experimented npon, bnt with small snccees. The pagee of the Patent Office Reports tell a sad etory of misapplied effort in thie direction, but it is to be hoped that eome good will ultimately reenlt from these now uselees inventione. What may be accomplished in the future none can tell, but for the preeent it would eeem that efforts to provide more economical motive power give most promise of euccese when directed to the improvement of the steam engine.

The Manufacture of Paper.

According to a recent estimate, which may be cousidered as approximate rather than exact, the total annual prodnction of paper in the civilized world is one million tons; and of this nearly one-third, or 317,337 tons, is manufactnred in the United States. There were in this conntry, by late statistics, 812 paper-mills, making an average of about $67,000,000 worth of paper yearly.

The uumber of uses for building, clothing, ornamental aud other purposes to which paper is now applied after its manufacture ie only paralleled by the variety of eubstances from which it is fonud that paper can be made. A mill has lately been started in Illinois, in which the "rag-weed," which the farmers plow in, in large quantities every year, is to be turned to good account by making it into paper and rope. The use of oat-husks for a similar pnrpose was begun some time ago, and is the subject of one or more patented processes. In one of these the husks are immersed in water and the mustard and other seeds floated off, the water being well stirred to facilitate their separation. Tho hnsks are then allowed to settle, the enrface scum and floating seeds skimmed or drawn off, aud the water drained ont by a waste-pipe at the bottom of the tank, the hnsks being kept back hy a strainer or perforated false bottom. By steeping in the water from five to ten hours, the hnske are softened and the silica loosened from the fiber, thns facilitating the snbseqnent boiling process. The remaining stages of the work are substantially the ssme as in the manufacture of paper from straw.

In making paper from rags, as a practical writer on this subject forcibly argues, the common impreesion that some one particnlar stage of the work is the critical aud trrning point, and that if dne care and skill are exercised at that one step all the rest will come right of themselves, is a dangerous fallacy; the trnth being that continnal and vigilant watchfulness, in *all* parts of the process of mannfacture, is necessary to the production of a good article of paper. The same writer maintains that the rag-room is one of the most important departments of the mill, though often the least cared for; aud that thorough work at this initial stage of the business is indispensable to a satisfactory final result—which is certsinly a reasonable view. In regard to getting rid of the mixtnre of iudia-rubber which is now in euch nniversal nse that it is fonnd in all kiuds of rags, and is extremely troublesome, being insoluble by any of the chemicals ordinarily used in paper mills, he meutions the plan adopted by a British proprietor, who paid the sortere a certain price per pound for all the rubber they found in the rags dressed by them. The rubber thus collected was weighed at the end of each week and burned np, so that it should not be returned and paid for a second time. Whatever may be the method of removing the rubber, it mnst be done in the rag-room, as it will not do to depend on the screen retaining it after it is ground up. Ae regards whalebone, another like source of annoyance, the same writer advises the employment of one or two extra hands expressly to rip up old corsets and similar articlee usually contaiuing whalebone. This is claimed to be a more economical method than to trust to the fidelity of the other sorters for throwing ont the whalebone, or to sell this class of rags cheaply, for the manufacture of lower grades of paper.—*Mechanical News.*

Waste of Power.

The power needed and the power consnmed in wood-shops are two quite different thinge. The old saying that time is money, ie equally and more obviously true if rendered, power is money. It is an element of cost, just like oil, toole, or lnmber. Power ie, however, a less tangible thing, and hecanse it is not seen and handled, ie too often allowed to waste and escape under the notice of those who are rigidly careful iu other matters. How common it ie in going into a shop to hear the belts screeching on the pulleys, belte runniug half on the tight pulley when it is standing, or eometimee a machine blocked to keep it from starting, with the belts dragging on the pulleys. All this meane waete of coal and waete of money, not by loss of power alone, but by the destrnction of belts. If a belt ie allowed to rub on a tight pulley, or any other fixed object, it is at once heated and etretched, and ae it etretches on one eide, the tendency ie to draw it more on to thie object; if on the edges of tight pulleys, which is most common, its driving power is impaired to the extent that it is rubbed or stretched on its edgee, ae no contact takes place when it is shifted. Whenever a heated bearing is eusected, the rule is to hunt it np at once and correct it; the eame thing ehould be done with the screeebing of belts—whenever heard, look it out, and change the shafting until it runs true. A belt always runs to the nearest end of a shaft, which is juet the oppoeite way from what is generally supposed. The old theory that a belt alwaye rnne to the highest part may be true, and is undoubtedly true with reference to the convexity of the face of pulleye, bnt does not apply to pulleye that are eet diagonally to the line of the belt.—*Cabinet-Maker.*

Drier for Oil Colors and Varnishes.—Water, 100 parts; Gnm-lac, 12 parts; Borax, 4 parts.

The sand blaet ie being applied to all kinde of cnttinge. It will not only engrave and perforate glaee, bnt all hard eubetances.

SCIENTIFIC PROGRESS.

The Altitude at Which Men Can Live.

There has been a great deal of discnssiou as to the altitnde at whieh human beiugs can exist, and Mr. Glaisher himself can tell ns as much about it as anybody. In July, 1872, he and Mr. Coxwell ascended in a balloon to the enormous elevation of 37,000 feet. Previous to the start, Mr. Glaisher's pulse stood at 76 beate a miuute, Coxwell's at 74. At 17,000 feet the pulse of the former was at 84, that of the latter 100. At 19,000 feet Glaisher's hands and feet were quite blue, but uot his face. At 21,000 feet he heard hie heart beating, and hie breathing became oppressed; at 29,000 he became eenselese; notwithstanding which the aeronaut, in the interest of science, went up another 8,000 feet, till he could no longer nse hie hands, and had to pull the string of the valve with his teeth. Aeronauts who have to make no exertions, have of course, a great advantage over membere of the Alpine clnb, and those who trust their legs; eveu at 13,000 feet these climbers feel very uncomfortable, more so in the Alps, it seems, than elsewhere.

At the monastery of St. Bernard, 8,117 feet high, the monke become asthmatic, and are compelled frequently to descend into the Valley of the Rhone for—anything bnt "a breath of fresh air;" and at the end of ten years' service are obliged to give up their high living and come down to the usual level. At the ssme time in South America there are towns, snch as Potosi, placed as high ae the top of Mount Blanc, the inhabitants of which feel no inconvenience. The highest inhabited spot in tho world is, however, the Bnddhist cloister of Hanale in Thibet, where twenty-one priests live at an altitune of 16,000 feet. The brothere Schlagintweit, when they explored the glaciers of the Ibi Gamin, encamped at 21,000 feet, the highest altitude at which a Europeau ever passed the night. Eveu at the top of Monnt Blanc, Prof. Tyudali's guides found it very nnpleasant to do this, though the Professor himself did not confess to feeling so bad as they. The highest mountain in the world is Mount Everest (Himalaya), 29,000 feet, and the condor has been eeen "winging the blne air" 500 feet higher. The air by the by, is not "blue," or else, as De Saussnre pointed ont, "the distant mountains, which sre covered with enow, would appear blue also;" its apparent color being due to the reflection of light. What light can do, and does, is marvelous; and not the least is its power of attraction to humanity.

Alcohol in Bread.—It has been generally stated that the alcohol formed in dough during the process of fermentation is all expelled in the process of baking, but eome earnest teetotallers may be pained to learn that Mr. T. Bolas finds that a perceptible quantity of the intoxicating fluid may be obtained from so emall a quantity as two ouncee of bread. From the report of his investigations, published in the *Chemical News*, it appears that six samplee of new bread, bought at shops in London, yielded from .221 to .401 of 1 per cent. of alcohol. After the bread had been exposed to the air in a moderately warm room for a week, two-thirds of the alcohol had evaporated. Mr. Bolss remarks that "the amonnt of alcohol contained in bread ie too small to be of any dietetic importance, but it may be, perhape, worth while to notice, that forty two-pound loavee are about equal in alcoholic strength to a bottle of port. He hopee soon to determine the amount of alcohol which dough loeee while baking. Our readers probably recollect that eome yeare ago attempts were made in England to eave the large amount of alcohol eupposed to be loet in baker'e ovene. A good deal of money was sunk in the experiment, but it wae fonnd that the amonnt and the quality of the epirit obtained were not euch ae to make the process remunerative.

Grenade, a New Dye-Stuff.—A eecondary product of the manufactnre of fuchsine, employed for some time in dyeing woolen goode, nnder the name of cerise, aniline, orseille, etc., hae of late contained impurities in the form of insolnble foreign eubstances, which hae enggeeted the effort to render it snfficiently pure to warrant its use with the finer fabrice. A dye-stuff named grenade has been produced at the factory of Knosp, in Stuttgart, which ie eaid to give a pure garnet-brown, free from the dirty blnieh-red tint of cerise and other subetances substituted for archil, and which, by combination with picric acid, tnmeric, etc., can be made to give any shade of brown. The brilliancy of the color eurpaesee that of gennine archil. It is applicable to woolen, cotton, eilk, leather and wooden articlee, by nse of different mordants, and is practically cheaper than ceriee, by reaeon of low firet coet, and abeence of ineoluble residue. Dr. Reimann predicts for it a permanent place among dye-stuffs.

Nitrous and Nitric Acids in Rain Waters.—Some new observations on the alternate predominance of nitroue and nitric acide in rain watere have been made by M. Chabrier. When the weather is calm and the etorm distant, nitrous acid ie almoet alwaye in greater or lees excees in relation to the nitric; bnt the latter acid is dominant in the rain of etorms, eepecially in that whioh falls abont the middle of the tempeet, or when the wind ie very high. The season is favorable to the prodnction of nitrous acid when it is accompanied by calm and cloudy weather, by an average temperature and a high state of the hygrometer. It is favorable to the prodnction of nitric acid when the temperature is high, the air violently agitated, and the weather dry and etormy.

Finding Breaks in Ocean Cables.

Some readers have doubtless been at a loss to know how the shore operators in event of a fracture of an ocean cable, are enabled to ascertain at what point the break lies, so that a repairing vessel can be sent directly to the damaged or broken portion. With the aid of the Philadelphia *Ledger*, we offer the following explanation: "Every part of the long dietance of wire and every fathom of the vast abyes of water, are within the reach of the electricisu's instrumental haude, aud within the ken of his scientific eye. It ie qnite practical for him to locate the fanlt or the break within a half mile of its actnal poeition, no matter where it is. Althongh these far-reaching powers sre among the great marvels of modern science, the means and the principles throngh which they sre exercised are the simpleet things when seen aud understood. A telegraphic wire will transmit an electro-magnetic wave or cnrrent in proportion to the square of its diameter. The resistance to the trsnsmission of the waves diminishes in proportion as the sqnare of the diameter is increased. This is one law for the electrician. The eecond is that the resistance to the transmission of the wave increases in direct proportion to the length of the wire or cable over which it is sent. These two laws furnish the basis for the electrician's observations, calculations and resnlts. He knows, to start with, the preciee amount of reeistance that a mile of cable will oppose to the transmission of a given quality of electro-motive force. He has delicate and wonderfnl instruments made by expert mechauics, that enable him to measure this with accuracy for a mile or ten thousand miles. Having this knowledge and these measuring instruments, aud having control of the quantity of electricity he is pntting on the wire, he is able to calculate to a nicety how many miles of cable it is transmitted over before it encounters a greater resistance than that which ie due to the length and diameter of the cable itself. At or near the end of that number of miles from land, and two miles nnder the surface of the sea, the 'fault' or break the electrician is in search of will be found."

The mannfacture of glycerine has of late, in view of its constantly extending importance in the arts, been greatly expanded. During the past year the production in the United Statee reached 2,000,000, lbs. of which one firm in Cincinnati manufactnred one half. Iu a communication addressed to the French Society of Civil Engineers, M. Austin has highly recommended the employment of this substance as an anti-incrnetator in steam boilers. Glycerine, which is soluble in all proportions of water, appeare, according to M. Austin, to increase very notably the solubility of the lime salts, to which the evils of incrustation in boilers are mainly ascribable; indeed, according to the author, it really forms with them a soluble compound. When the lime salts accumulate to such an extent ae to be no longer soluble in the glycerine presnt, they are deposited in the form of a gelatinoue sediment, which does not adhere to the boiler surface. M. Austin recommende the employment of one pound of glycerine to every 300 or 400 ponnds of coal hurnt. From actual trials made with the material, it is declared in the communication that the employment of glycerine for thie purpose, and in the manner above described, proved succeesful.

Gas from Water.—Some curious accounts of a process for obtaining gas for illumination from water have been publiehed, bnt the difficultiee in the way of rendering euch a process practically or profitably available seem to preeent themselves in this as in former methods. Among the latter may be mentioned that of M. Florett, who contrived a power of decomposing eteam, by means of coke heated to a high temperature in an atmosphere of oxygen. Mr. Paine, of Maesachusetts, proposed to decompose water by the aid of electro-magnete; another inventor'e plan wae to effect it by the force of a galvanic battery; and still another propositiou was that of aseieting the action by using a ealt of ammonia or a vegetable acid, as oxalic. The fate of these varied attempte to accomplish the object in question, is well known. A later procese wae that of decompoeing eteam by paseing it over incandeecent charcoal in euch a manner ae to form hydrogen and carbonic acid, the latter being abeorbed in the usual way by meane of canetic lime. It is very easy to eee why these various proceeeee failed to relalize in any valuable or practical sense the aeeumptione of their originatore.

Purification of Hydrochloric Acid.—M. Enzel proposes to remove the arsenic which is a conetant impnrity in commercial hydrochloric acid by adding to each litre of the acid, four or five grammes of hypophosphite of potassium. The areenic ie speedily reduced and when entirely depoeited, the clear acid is to be decanted and distilled in the ordinary way. Hypophoephite of potassium may also be used for the detection of arsenio in hydrochloric acid, since, on the application of heat, the arsenic is immediately redneed.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Nov. 5, 1873.

NAME OF COMPANY.	IN MINE. FEET	IN MINE. SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co						
Alpha Consolidated	300	6000	28	24	4½	
Alta	3600					½
American Flat		30000	5¾	4½		
Arizona & Utah	1900	18000	1¾	1¼	½	
Bacon Mill & Mining Co.	65	24000				
Baltimore Consolidated		54000	7¼	6½		¼
Belcher	1040	104000	74	67½	4	
Best & Belcher	224	22400	8½	6¾	1½	
Bowers	20	5000				
Buckeye		16000				
Bullion	2500	25000	15	12½		
Caledonia Silver M. Co	5000	20000	19½	16½	1	
Central	150	10800	13½	12		2½
Central No. Two	100	20000	11	10		1
Chollar-Potosi	2800	28000	50	43¾	8	
Confidence Silver M. Co	130	24800	8¾	7¾	¾	
Cons. Gold Hill Quartz	34½	24000				
Consolidated Virginia	1160	108000	57	44	9	
Cook & Geyer	1600	24000				
Crown Point G. & S. M. Co	606	100000	116	105	5	
Daney	2000	24000	1⅛	1		⅛
Dardanelles	1200	24000				
Eclipse	70	25000	5	4½	½	
Empire Mill & M. Co	75	50000	4¾	3⅞		⅛
Exchequer	400	40000	10	8¼	1½	
Flowery	3000	12000				
Franklin			1	1		
Globe		20000	⅞	⅞		
Gould & Curry S. M. Co	1200	48000	14½	11⅜	2¼	
Hale & Norcross	400	16000	29	25	2½	
Imperial	184	100000	5¼	3¾	1⅜	
Indus						
Insurance	2000	30000				
Jacob Little						
Julia Gold and S. M. Co	2000	20000	3⅜	2⅛	1⅛	
Justice	3000	21000	9½	8	1½	
Kentuck	95	30000	3¾	2⅞		½
Knickerbocker	1200	24000	3⅜	2⅞		¼
Lady Bryan						
McMeans	3600	36000				
Mint Gold & S. M. Co	1600	50000				
Nevada	3000	40000	1⅛	¾		
New York Consolidated	3600	36000				
Occidental	500	10000	1	⅞		
Ophir Silver Mining Co	1400	16800	67	62		4
Overman Silver M. Co	1200	37400	24½	15⅝	5	
Phil. Sheridan	1200	24000				
Picton	2000	30000				
Rock Island		24000	55c	10c		5c
Savage	800	16000	63	43	18	
Segregated Belcher	160	6400	75	52½	19	
Segregated Caledonia		10000				
Senator Silver M. Co		24000				
Sierra Nevada		30000	14¾	13		¼
Silver Hill		24000	12	10		½
South Overman		24000	30c	30c		
Succor Mill and M. Co	7600	22800	3½	2⅜	⅛	
Sutro		24000				
Trench	20	50				
Tyler	2200	33000	70c	½		5c
Union Consolidated	803	20000	1¾	1		⅛
Utah		20000	3¼	2		
Woodville G. & S. M. Co	1400	16000	1¼	1⅛		
Yellow Jacket	1200	24000	74	54½	13½	
NEVADA.						
Adams Hill		50000				
Alps Silver Mining Co	800	30000	1¼	¾		
Amador Tunnel & M. Co			35c	30c		
American Flag M. & M		30000	6	2½	3⅝	
Arkansas	300	30000				
Belmont			8½	5	4	
Bowery		30000				
Chapman Mill & M. Co		30000				
Charter Oak S. M. Co	1000	30000	1	½		½
Chief of the Hill		30000				
Chief East Extension		36000				
Columbus M. & M. Co	10000	50000				
Condor		25000				
El Dorado South			6	3½	3½	
Eureka Consolidated		50000	10½	8¾	¼	
Excelsior		12000				
Harper Silver Mining Co		30000				
Hermes	1000	30000	3⅞	3	⅛	
Home Ticket						
Huhn & Hunt S. M. Co	3600	30000	1⅜	1¼		
Ingomar Silver M. Co	1000	40000	¾	¾		⅛
Ivanhoe		30000				
Jackson		50000	30c	¼		10c
Juniata Consolidated	5000	50000				
K. K. Consolidated			4½	4½		
Kentucky Gold & S. Co	1000	30000	3⅝	3		⅛
Kinston	1000	30000				
Lehigh	1000	30000				
Lillian Hall	1000	15000				
Louise	2400	30000				
McMahon	1000	30000				
Marion		30000				
Meadow Valley	24023	60000	14½	13¼		
Mocking-Bird	1200	30000				
Monitor Belmont			2	2		
Murphy	2000	60000				
Newark Silver M. Co	800	32000	5½	4⅝		⅛
Pacific Tunnel & M. Co						
Page & Panaca S. M. Co	2400	40000	⅞	⅞		
Peavine	1000	30000				
Phœnix		50000	10c	10c		
Pioche Silver Mining Co	1000	20000	5¾	4		
Pioche West Extension		35000	1¾	1		⅛
Pioche-Phœnix		40000				
Portland						
Rand & Ely	5000	30000	57	52		5
Silver Peak		30000	½	½	0	
SilverWest Consolidated						
Standard Mill and M. Co						
Star Consolidated	18000	50000				
Starlight	6000	25000				
Sterling		30000				
Spring Mount		35000				
Spring Mountain Tunnel		20000				
Ward Beecher						
Washington and Creole	200	30000	1½	¾		¼
Yellowstone						
CALIFORNIA.						
Alpine	1200	12000				
Bellevue	8900	20000				
Calaveras Gold M. Co	3200	20000				
Cedarberg Gold M. Co		24000				
Consolidated Amador						
Cottonwood Creek		20000				
Dunderberg M. & M. Co						
El Dorado Ind. Quartz M						
Eureka Gold Mining Co	1650	30000	22½	22½	½	
Gillis		24000				
Independent Gold M. Co	1800	25000				
Keystone Quartz		10000				
Mt. Jefferson	1500	25000				
Oakville Quartz M Co						
Rye Patch			7⅛	6½		⅛
St. Lawrence M. & M. Co						
St. Patrick	1800	20000	5½	2½	2½	
Tecumseh	3000	30000				
Yule Gravel	400	10000				
IDAHO.						
Empire		25000	3½	3	¼	
Goldeu Chariot	750	30000	24½	16½		¼
Ida Ellmore	1300	10000				
Mahogany G. & S. M. Co	720	10000	7½	6¾	½	
Minnesota Gold & Silver	1070	20000	11½	11½		3½
Red Jacket			½	½		⅛
South Chariot	650	20000	5	3½		1¾
War Eagle	1000	10000				
WHITE PINE.						
General Lee	1000	20000				
Mammoth Silver M. Co	1800	36000	10c	10c		
Noonday	1000	20000				
Orig. Hidden Treasure	800	21333	3	3		1
Silver Wave						
Ward Beecher		24000				
UTAH.						
Deseret Consolidated	2400	30000				
Wellington		50000				
OREGON.						
Virtue	2800	20000				

ASSESSMENTS, MEETINGS, DIVIDENDS.

A Shareholders' Directory—Compiled Daily for the Mining Press.

NOTE.—In the Stock Boarda an assessment is delinquent thirty days from the date of levy, exclusive of hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt.	Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business
American Flag M. & M. Co.	Ely Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K Spinney,	325 California st
Belmont M. Co.	Nevada	2	1 50	Oct 14	Nov 15	Dec 5	C. H. Bogart.	412½ California st
Chief of the Hill M. Co.	Ely District	3	50	Sept 11	Oct 16	Nov 7	C. S. Neal,	419 California st
Daney G. S. M. Co.	Washoe	7	50	Oct 9	Nov 14	Dec 15	G. R. Spinney,	320 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Oct 13	Nov 18	Dec 13	Wm Willis,	419 California st
Emera'd Hill M. Co.	Utah		25	Oct 2	Nov 11	Dec 3	F. Madge,	Merchants' Ex
Empire M. & M. Co.	Idaho	5	1 00	Oct 4	Nov 8	Dec 2	W. Wills,	419 California st
Equitable Tunnel & M. Co.	Utah	4	10	Oct 7	Nov 10	Dec 1	C. S. Healy,	Merchants' Ex
Globe M. Co.	Gold Hill	4	50	Oct 14	Nov 17	Dec 8	Joseph Magnire,	419 California st
Hale & Norcross S. M. Co.	Washoe	41	5 00	Oct 3	Nov 6	Nov 25	J. F. Lightner,	438 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Dec 15	Wm. Willis,	419 California st
Imperial S. M. Co.	Washoe.	17	1 00	Sept 26	Oct 31	Nov 19	W. E. Dean,	419 California st.
Independent G. M. Co.	Cal	4	50	Sept 29	Nov 3	Nov 24	G. T. Graves,	240 Montg'y st
Julia G. & S. M. Co.	Washoe	16	1 10	Oct 16	Nov 17	Dec 6	A. Noel,	419 California st
Kentuck M. Co.	Washoe.	11	1 00	Sept. 16	Oct. 21	Nov.11	Frank Swift.	415 Montgomery st
Lady Bryan Tunnel M. Co.	Utah	5	10	Oct 7	Nov 10	Dec 1	C. S. Healy,	Merchants' Ex
Mammoth S. M. Co	White Pine		10 cts	Oct 22	Dec 1	Dec 22	J. L. King	434 California st
New York Cons. M. Co.	Cold Hill		25	Oct 13	Nov 17	Dec 8	H. C. Kibbe,	419 California st
Chlo Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp,	116 Leidesdorff st
Overman S. M. Co.	Washoe.	27	2 00	Sept. 16	Oct. 21	Nov. 8	W. W. Stetson.	414 California st
Ophir S. M. Co.	Washoe	27	5 00	Oct 8	Nov 11	Dec 2	Jos. Marks,	Merchants' Ex
Pictou S. M. Co	Washoe.	4	25	Oct 28	Dec 1	Dec 18	S. Phillips,	408 California st.
Phœnix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Dec 10	J. Maguire,	419 California st
Phenix Tunnel & M. Co.	Utah	2	20	Sept. 29	Nov 1	Nov 20	Chas. S. Healy.	35 Merchants' Ex
Red Jacket M. Co.	Idaho	1	1 00	Oct 3	Nov 6	Dec 1	Wm Wills,	419 California st
Silver Peak M. Co.	Ely District.	3	50	Sept. 19	Oct. 27	Nov. 17	G. T. Grimes.	240 Montgomery st
Silver Cloud G. & S. M. Co.	Cal.	6	3 00	Sep 30	Nov 6	Dec 3	A. A. Erquest, cor.	Minna & N Mon.
Trench Gold Hill M. Co.	Nevada	1	1 00	Oct 17	Nov 21	Dec 11	J. Marks	Merchants' Ex
Union Consolidated	Washoe.	4	50	Oct 20	Nov 20	Dec 8	J. M. Buffington	Merchants' Ex.
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 3	A. N. Fish	419 California st
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Dec 15	T. B Wingard.	318 California st
Washington & Creole M. Co.	Ely Dist		1 00	Oct 15	Nov 17	Dec 9	F. D. Cleary	Merchants' Ex
Wyoming G. M. Co.	Nevada Co., Cal		25	Sept 13	Nov 18	Dec 8	W. J. Gunn,	410 Montg'y st

Other Companies (not on the Lists of the Boards.)

Adams Hill Con. M. Co.	Nevada.	4	10	Sept. 24	Oct. 28	Nov. 20	W. W. Traylor.	419 California st
Buena Vista Petroleum Co.	Kern Co	17	1 00	Sept 20	Nov 10	Nov 25	L Aguayo,	430 Jackson st
Bunker Hill Quartz M. Co.		11	10 00	Sept. 16	Oct. 13	Nov. 5	Wales L. Palmer.	19 First st
Black Mountain Coal M. Co.	Cal.			2½ Oct 8	Dec 1	Dec 20	W. H. Parshley,	602 Montgomery st.
Calaveras G. M. Co.	Calaveras Co.		25	Sep 25	Oct 30	Nov 20	T. B. Wingard,	318 California St
Commercial Coal M. Co.	Santa Cruz Co		25	Oct 8	Nov 17	Dec 15	S. B. Hanson,	402 Montg'y s
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Caroline M. Co.	Ely District		20	Sept 5	Oct 14	Nov 6	C. E. Elliott,	419 California st
Cincinnati, C. and S. M. Co.	Kelsey Dist		50	Sept 18	Oct 20	Nov 10	Wm. Wills,	231 Kearny st
Cunel & Tiger S. M. Co.	Arizona.		20	Oct 25	Nov 26	Dec 20	C. J. Eaton,	Express Building
Eclipse Winters & Plato Cons. M. Co		1	50 cts	Oct 17	Nov 20	Dec 10	J. Marks	Merchants' Ex
Gold Run M Co.	Nevada Co., Cal.		25	Sept. 13	Oct. 20	Nov. 10	C. C. Palmer.	Cr. Market & Spear sts
Homestead Farm Ass.	S. F.		7 00	Oct 6	Nov 6	Nov 27	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Cal	1	15	Sept 29	Nov 14	Dec 16	W. H. Knight,	Montg'y st
Ida & Rboda Lewis C. M. Co.	Arizona.		10	Oct 27	Nov 29	Dec 4	C. J. Eaton,	Express Building.
Leo M. Co.	Washoe		10	Oct 6	Nov 10	Dec 4	C. J. Eaton,	Express Build'g
Lady Franklin M. Co.			50	Oct 14	Nov 22	Dec 16	J. S. Luty,	507 Montg'y st
Lemon Point M. Co.	Eureka District		50	Sept 27	Nov 3	Nov 24	I. T. Milliken,	608 Merchant st
Lane & Kurtz Cariboo M. Co.	BritishCol		1 00	Oct 3	Nov 6	Nov 28	B. B Minor,	411½ California st
North Bloomfield Gravel M. Co.		28	1 00	Oct 17	Nov 24	Dec 15	T. Derby	320 Sansome st
Nichols n Pavement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Pride of the Mountain M. Co.	Nevada			10 Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Reverse Mining S. M. Co.	Arizona		1	25	Oct 11	Nov 12	R. H. Harvey,	113 Leidesdorff st
Rising Star M. Co.	Nevada Co. Cal.		6	10	Oct 27	Nov 29	Dec 22	J. M. Buffington,
Stalslans River M. Co.	Cal		1	10	Sept 25	Oct 27	Nov 12	Wm. Stuart,
Silver Wave M. Co.	White Pine			40	Sept 20	Oct 30	Nov 25	J. W. Clark,
Stevens Pacific S. & M. Co.	Cal			10	Sept 11	Oct 15	Nov 3	J. M. Knight,
Southern Pacific Cons. G. M. Co.	Cal			10	Sept 11	Oct 25	Nov 25	O. A. Eaton,
Santa Cruz Coal M. Co.	Cal		8	5	Aug 19	Oct 22	Nov 10	L. Kaplan,
State of Maine M. & M. Co.	Cal		4	5	Oct 1	Nov 4	Nov 24	H. B. Congdon,
Tecumseh G. S. & C. M. Co.	Cal			25	Sept 15	Oct 20	Nov 11	F. J. Hermann,
Thompson Coal M. Co.	Cal.			2½	Oct 8	Dec 1	Dec 29	W. H. Parshley,
Umpire Tunnel and M. Co.	Utah T		2	6	Oct 21	Nov 24	Dec 15	P. A. Eaklns,
Wellington M. & S. Co.	Utah.		2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener.

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Emma Hill Cons. M. Co.	Utah	Called by Trustees,	302 Montg'y st	Special	Nov 14
Giant Powder Co.	San Francisco	H. Pichoir,	606 Washington st	Annual	Nov 5
South Overman M. Co.	Washoe.	D. Wilder,	Merchants' Exchange	Special	Nov 12.
S anford S. M. Co.		Joseph Maguire	419 California St.	Annual	Nov 10

LATEST DIVIDENDS---MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	P. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	3 00	Oct 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Oct 11
Cederberg G. M. Co.	Calfforna.	D. M. Bokee.	420 Montgomery St.	50	} Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Derby M. Co.		F. Ounningham,	304 Montg'y st	50	Oct 22
Diana M. Co.		N. C. Fassct.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	2 00	Oct 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan.	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

LATEST DIVIDENDS---MISCELLANEOUS INCORPORATIONS.

Name of Co.	Location.	Sec. or Cashier.	Office in S. F.	Amount.	Payable
Bank of California.	S. F.	W. O. Ralston, Ch'r,	Cor. Cal. & Sans'm.	1 per cent.	May 15
California Theater Co.	S. F.	Z. Crowell, Sec.	318 California st.	3 per cent.	April 15
California Insurance Co.	S. F.		Bush near Kearny st.	½ per cent.	May
First National Gold Bank of S. F.		N. K. Mastick, Ch'r.	M'nt. & Sac. sts.	2½ per cent.	April 7
Giant Powder Co.	S. F.	H. Pichoir,	Cor. Mont'g. & Wash. sts	1½ per cent.	Oct 15
German Savings & Loan Society.	S. F.	Geo. Lctte,	526 California st.	9 6 10 & 8 per cent.	July 15
Humboldt Savings & Loan Society,	S. F.	A. Harimann,	16 Geary st.	9 6-10, 8 & 4 per cent.	July 15
Masonic Saving and Loan Banks,	S. F.	H. F. Graves, Sec'y.	No. 6 Post st	9.75-100 & 8 per cent.	July 25
Merchants' Exchange Bank of S. F.		R. N. VanBrunt, Ch'r.,	416 Cal. st.	1 per cent.	May 10
Merchants' Exchange Ass'n.	S. F.	J. A. Coolidge, Sec.	Merchants' Ex.	½ per cent.	Mar. 15
National Gold Bank & Trust Co.	S. F.	D. C. Thompson Ch'r.,	421 Cal. st.	1 per cent.	May
North Beach & Mission R. R. Co.	S. F.		Fourth & Louisa sts.	½ per cent.	April
Pioneer Land & Loan Association,	S. F.	H. Kofahe, Ch'r.,	406 California st.	1 per cent,	Sept 5
Pacific Oyster Co.	S. F.	J. J. Winant,	27 S. F. Market.	10 00	July 1
State Investment & Ins. Co.	S. F.	C. H. Cushing,	California st	1½ per cent.	Sept 10
Spring Valley Water Works.	S. F.	E. M. Miles, Sec.	516 California st.	½ per cent.	May 10
San Francisco Savings Union.		L. White, Cr.,	532 California st.	9 6-10 & 3 per cent.	July 14
Union Insurance Co.	S. F.	C. D. Haven, Sec.	416 & 418 California st.	3 per cent.	Oct 14

Our Weekly Stock Review.

THURSDAY EVE., Oct. 30, 1873.

The Stock market hae been quite as active during the week nuder review aa last week. Some startling finctnations in pricee have occurred, bnt people are becoming accustomed to great and sudden changee dnring the past few weeks, and manifest no astonishment at a state of things which, a short time ago, would have eeemed bewildering. What the next move will be is ever a matter of mere conjecture, in stocks, and though we are favored with no lack of acute surmisee and prognostications hy intelligent reportere, who are, of couree, in the closest confidence of the heavy operators, we are still at a loss to know "what the morrow may bring forth."

Comstocks have remained the center of attention. American Flat mines have manifeeted considerable activity, at risiug prices, without any very important news to influence the market. Consolidated Virginia, the "pet," has fluctuated slightly, but remains at the end of the week in about the eame poeition as aseumed at the beginning. The Superintendent seut $30,000 in hullion Mouday morning to the refinery here, making $50,000 in all. Three mills are steadily rnnning on Coneolidated Virginia ore.

Overman has eurprised its friends hy an important advance in price, $24.50 having been tonched, or about four times the price noted but lately. This may he only the result of a snddeu partiality on the part of eome dealere, hut at the eame time more favorahle diepatchee have been received of late from the mine, which have had their effect aleo on Segregated Belcher, which ie in cloee proximity.

The Washington and Creole Co. have recently added to their stock hy the purchase of 25,000 sharee, a controlling intereet of the Mazeppa mine, giving 75 cente per ehare. The former company manifeet great activity in their management and are evidently preparing for a vigorous prosecution of the work of development.

The Ely mines, so long neglected on account of the excitement in Comstocks, do not ehow any eymptome of recovery ae yet. The Kentucky suit against the Raymond & Ely ie enpposed to he now heing tried, and ie to he decided withont jury. Comparatively few eharee of auy of the minee of thie district have changed hande, and all the stocke have been weak. A suit againet Raymond & Ely ie now snch an old story that it doee not give riee to much epecnlation on the reenlt.

Among the Idaho etocke, Golden Chariot and South Chariot at one time eeemed to be on the point of making a dash npwarde, hut the movement did not hold. In epite of the weakness in Idaho stocke, reports still come in o good prospecte from most of the mines.

On Monday the following aeeessmente were added to the price of the stocke: Imperial, $1; Savage, $5, and Utah, $1.

If no other reason were assigned for the late general rise in the market than the approach of the season of greater bullion prodnction, thie no doubt ehould have ite weight. Ae yet, however, the Cometooke are still tronhled with want of water, especially Crown Point and Belcher. Large eupplies of rock are accumnlating in consequence, which will greatly add to the hnllion product, when the mills are aesisted by a riee of water. It ie expected that a very large enpply of bullion will be eent here this year, from this State and Nevada, as from all quartere we hear of unueual euccese in finding paying ore bodiee.

It ehould not, therefore, he hastily concluded that there is no eolid foundation for increaeed valuee, and that theee represent only a purely fictitioue eetimate placed upon gamhling etocke. There ie real and euhstantial reaeon for the change.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the minea mentioned.

California.

ALPINE COUNTY.

MONITOR & NORTHWESTERN S. M. Co.—Since our laet, work on the dam has been puehed with vigor, and things begin to look ehip-ehape in that vicinity. At the Silver Glance property the hoisting worke were etarted up on Monday, and worked like a charm. The ehaft wae finished to the 75-foot level, and eome ore taken ont which ehowed exceedingly rich in enlphnrete. In the weet drift the minere opened a pocket of ore aseaying very high. Juet at thie time when "light ahead!" wae the ory from every quarter, Sheriff Scott appeared on the gronnd with an execntion ieened on a judgment in favor of L. L. Lewie, a former euperintendent, confessed by S. G. Lewie, another former euperintendent, acting for the company. The Sheriff made a levy, and the mine is now in charge of a keeper, awaiting the fnrther action of that officer. Thie claim ie eaid to he an old one, and, ae we are told, ite validity ie to he teeted by the courts. Thie ie moet nnfortnnate for the company, ae it will retard work for some weeke, at a time when succeee eeemed assnred. But the end ie not yet. Since writing the above we learn that the delay ie not likely to continue mauy daye.

The Schenectady Mill etarted np on a ehort run of 15 or 20 tone of ore to-day. Five aecays made from the eeveral grades of ore taken ont thie week, gave $18.19, $44,16, $92.16, $87.56, and $292.12, reepectively.

AMADOR COUNTY.

CONVENIENT.—Sntter Creek *Independent*, Oct. 24: The dnmp at the Lincoln mine, where the quartz wagon ie loaded for the conveyance of the ore to the mill, ie certainly a convenient and labor-saviug arrangement and we shonld think that a similar contrivance would be adopted at each of onr other minee. At the end of the track leading ont from the month of the ehaft a dnmp ie constructed of strong lnmber capahle of holding mauy tone of rock, into which the ore ie dumped from the care ae it ie taken from the mine. The qnartz team drives alongside the hase of the dump; a eliding door ie opened by meane of a rope and pulley and the wagon is filled with the rock in a conple of minntee withont any lahor whatever. We were ehown the *modus operandi* of the arrangements yesterday hy Mr. W. A. Stowers, the good na-

tured and graceful driver of the Lincoln quartz claim, and we have no hesitation in pronouncing it a money, as well as a labor saving invention.

To Work Chinamen.—It seems that the work of constructing the Amador Canal is to be done principally by Chinamen. A number of them passed through here to-day, and more are to be sent soon. About three hundred of them are to be put to work as soon as they can be got here.

Work Commenced on the Canal.—Amador *Dispatch*, Oct. 25: The work of finishing up the great Amador Canal has been commenced and is now under full headway. Several wagon loads of picks, shovels, blacksmith's tools and other paraphernalia, were taken up from town last Thursday morning. The number of men at present employed on the work is about 250, which number, we understand, will be considerably increased as soon as workmen can be had. Some of our business men are already beginning to feel the beneficial effects of this great enterprise, and we predict that, ere many months roll around, Jackson will be one of the liveliest towns in the State, as a large scope of very rich mining ground in this vicinity will undoubtedly be worked as soon as water can be obtained.

A Strike.—Satter *Independent*, Oct. 25: We are creditably informed that a strike of rich rock has been made in the Bunker Hill mine near Amador City. The ledge is from 12 to 13 feet wide at the point where it was struck. About 9 feet of the ledge is richer than the rest, free gold being visible throughout this portion. Work is being vigorously carried on at this mine, and the prospects of a very large amount of good paying rock being taken out are very favorable.

Amador Mine.—At a depth of 1,570 feet the ore vein is wide and rich in quality, and it is now an indubitable fact that the quality and quantity of the ore increases as a greater depth is reached. The deepest, and one of the richest gold mines in the world, the Amador has before it a brilliant prospect.

CALAVERAS COUNTY.

Blue Mountain.—Calaveras *Chronicle*, October 25: The latest report from Blue Mountain, received from a well informed gentleman, is a continuation of the flattering intelligence we have already published in regard to the richness of the mines of that district. The Heckendorn pays largely. The difficulties of working the sulphurets of that mine have been removed by Mr. Kohler's patent process of amalgamation. The yield of rich quartz is increasing as work on the mine progresses. At the point now reached the vein is over 12 ft. wide, and the rock pays from $275 to $300 per ton. The Imperatrice and Good Hunter are also proving to be rich. Quartz yielding about the same as the Heckerndorn rock has been struck lately in the Good Hunter. Work is pushed actively on all the leads of the District. Doubtless Blue Mountain will very soon attract the attention it deserves.

EL DORADO.

Taylor.—El Dorado *Republican*, Oct. 18: We are under obligations to Mr. George Wiest, of the Taylor mine, for a beautiful specimen of gold-bearing quartz from the 200-ft. level of that mine. The Taylor mine has long been known as a rich mine, but has lain idle until lately for the wherewith to carry on the shaft. We hope the present managers will succeed this time and place the mine on a par with the best. Thanks George, come and see us.

Mill.—On Saturday last, we visited the new ten-stamp mill recently erected by Messrs. Bisnehard, Varozza & Co. They have just completed it, and were making a trial trip to see how everything worked. Owing to the scarcity of water, they were unable to test it satisfactorily as regards speed and power, but in other respects it worked to a charm. The absence of jarring and shaking attested the fact that great pains had been taken in laying the bed for the battery, and every part is built in a substantial, and, at the same time, a neat style.

INYO COUNTY.

Fish Springs.—John Bell's arastra at Fish Springs is running most of the time on excellent ore, and is doing well. Mr. Honard, Sr., has discovered a fine ledge of decomposed quartz in the vicinity of the other mines, which is considered very valuable. The ore displays free gold in quantities.

Not Flattering.—Late news from Wallapai is not of a flattering character. The best mines appear to be failing at less than 100 feet. We hope, however, the reports of failures in the mines may prove unfounded, for success at Wallapi is success at many other districts in the southern section.

MARIPOSA COUNTY.

Josephine.—S. F. *Alta*: Several rich strikes in the quartz mines of Mariposa county have been reported lately. One is in the Josephine vein on the Mariposa estate; another on the Hasloe, first known as the Fank, and afterward the Coward mine, nine miles east of Coulterville. This mine has produced about $200,000 but has been unprofitable for several years. The present superintendent found, at a distance of 195 feet from the surface, on an incline, a vein nearly three feet wide of rock yielding from $50 to $100 per ton, and has run a distance of 60 feet in it, thus exposing a large body of quartz that will keep the ten-stamp mill running at a profit for many months. Beside, he has not reached the limit of the rich deposit, either horizontally or vertically.

MONTEREY COUNTY.

Marble.—*Pajaronian*, Oct. 25: Recent explorations have demonstrated that a fine ledge of marble crops out on San Vicente Creek about 3½ miles from the coast. The ledge is of the best quality seamed with black, red and blue veins, and capable of excellent polish. The best quality of lime might be manufactured from the limestone in the vicinity. The bed of the creek exposes the ledge for over a mile in length, and the nearly perpendicular walls on either side of the stream are over a hundred feet high. The ledge is separated transversely by the cañon, and in no place has the bottom been exposed. The narrow track or coast railroad would run within a short distance of the ledge, and two or three miles of side track would put the quarry in connection with the railroad or navigation. This ledge is no doubt similar to the lime rock, although of a better quality, of that at Adam's kilns and those of Davis & Cowell. The traces, however, are not continuous.

NEVADA COUNTY.

A Clean Up.—Grass Valley *Union*, Oct. 25: The San Francisco *Chronicle* is usually very reliable in its mining items, but it made a mistake a few days ago when it asserted that the Eureka mine of this place, after a week's run had cleaned up 135 ounces of amalgam. The amalgam weighed 1,375 ounces. The Eureka does not do a 135-ounce business.

Quicksilver Retorts.—Mr. Chapin, of the Excelsior Quicksilver Mine, in the Colusa coast range hills, has ordered a set of retorts made at the Empire Foundry. The ore of this mine is ascertained to yield twenty per cent. of quicksilver to the ton of cinnebar.

PLACER COUNTY.

A Placer Mine.—Placer *Argus*, October 18: From Superintendent J. H. Crossman, of the St. Patrick Company, we learn that the Crater mine, now being worked by the company, is yielding better rock than ever before. On Wednesday they hoisted 14 tons of rock from the bottom of the shaft, at a depth of 296 feet, and crushed it that night, the yield being over $200 per ton. The rock taken out showed but very little free gold, but was literally interspersed with salphurets. The shaft is now down 296 feet and when sunk to the depth of 312 feet the company will drive drifts and commence stoping, which will be in about two weeks. On Friday a clean-up was made after a run of 170 tons of rock, which yielded over $10,000. The rock has rapidly increased in value from the 212-foot level down, and the pay shute, which is in the shape of an inverted V, has gradually widened from 40 feet at the surface to 220 feet at the 212-foot level, and if it increases at the same ratio, will make it 265 feet at the 312-foot level. The ledge at the bottom of the mine is 20 inches thick and well defined with good casings and gouge.

SIERRA COUNTY.

Ditch Operations. — Mountain *Democrat*, Oct. 25: Superintendent Bishop has a large force—upwards of 150 men—at work cleaning out ditches, constructing new flumes and repairing old ones, along the line of the E. D, W. & D. G. Company's works. In view of the probable early approach of winter every hour is made to count and there is little apprehension but that the rainy season will find us well prepared for extensive mining operations.

Richer than Ever.—Operations have recently been recommenced at the Pocahontss mine, and last week a large deposit of ore was struck, richer, if possible, than any heretofore found in that mine. The extent of this deposit has not yet been ascertained, but it is evidently of immense proportions. The development has caused much excitement in that vicinity.

TRINITY COUNTY.

The McGillivray Mine.—Trinity *Journal*, Oct. 25: We learn that the sale of this mine has not yet been concluded, but that while in San Francisco, Mr. McGillivray received a telegram from Dr. Lathrop, who is now in New York, stating that he would be on by the first of November with the requisite amount of cash.

TUOLUMNE COUNTY.

Lady Washington.—Tuolumne *Independent*, Oct. 25: Twenty-five tons of rock from the Lady Washington mine, crushed at the Grizzly mill, near Cherokee, averaged $18 per ton.

As Good as a Quartz Mine.—Some fifteen years ago, Mr. Jack Faxon discovering a soapstone quarry on Wood's Creek, at the west corner of town, conceived the idea that it might prove of value and located the said mine. Sawing out a few bricks, some three years ago, he sent them to San Francisco to be tested in the furnaces of the Rolling Mills. The proprietors being well satisfied with the result—having outlasted four sets of fire-brick, and still holding good—immediately ordered several tons of the same material. The stone is shipped in large chunks, as blasted from the quarry, and remodeled after its arrival in this city. It is delivered at Oakdale for $15.50 per ton. As Antioch brick sells for $75 per thousand—four sets costing $300, besides the expense of rebuilding the furnace—we consider the soap-stone a great discovery. The Tuolumne soap-stone has proved the best of seven different places, the brick standing fire better than any. In fact, so much satisfaction has been given that a thirty-ton order will be shipped in a few days, which will make seventy-six tons altogether taken out and sent below since the opening of the mine.

The Golden Gate Mine.—Their new mill is completed and in running order. The direction of the main vein is N. E. and S. W. and width from 15 to 50 ft., having been crossed but once in the tunnel of 300 ft., and that, some 200 ft. in, showed a width of 18 ft. good ore; and one shute at this point, shows assay value of an average of $400. The developments of this mine consist of a tunnel on a line of the lead 300 feet in length, which has been done in a most thorough and workmanlike manner—it being very capacious and well timbered. Also a shaft from the hill-side some 90 ft. in depth, connecting with a tunnel at a distance of about 175 ft. from its month. At a depth of 65 ft. a new level has been commenced, running north on the vein; and at a distance of 20 ft. shows a good 8 ft. ore breast, and fine looking rock, showing free gold. The mill is a fine ten stamp with all the modern appliances, having free water in abundance, with a wheel of 40 stamp capacity, so stamps can be added as required; they have plenty of good ore already exposed, to supply the present capacity for two years to come.

A Promising Mine.—We continue to hear very favorable reports from the Gem ledge, a comparatively lately discovered quartz lode about two and a half miles northwest of Columbia, Tuolumne county, near the road leading from that place to Valleeito. A shaft has been sunk on the ledge to a depth of ninety-five feet, and the average width of the lode for that distance is about six feet. The walls are hard granite.—The quartz contain both gold and silver and improves in richness the deeper the shaft is sunk. The croppings show that the ledge extends for several hundred feet on either side of the prospect shaft, and rock taken from any portion of the lead is found to contain gold in paying quantities. The owners of this mine are with good reason considerably elated at their prospects, and propose to build an arastra to crush rock now extracted, and will put up a mill in the spring. Should the lead be all that it now promises to be, it will materially increase the prosperity of that portion of Tuolomne county.

Fire in a Mining Shaft.—Union *Democrat*, Oct. 25: The shaft in the Soulsby mine was burned out on Friday of last week, destroying the hoisting works. The fire was not discovered until flames shot up from the shaft endangering other improvements in the immediate vicinity. It is supposed to have occurred from the carelessness of some of the miners leaving a lighted candle near the timbers. Outside of entailing a loss estimated at three or four thousand dollars, it is unfortunate to have new works just completed destroyed, before being put in active operations. Many months were spent in draining and opening the mine, and if not prevented by this mishap, the company would have commenced raising ore for milling the first of this week.

PLUMAS COUNTY.

"A Mine What is a Mine."—Plumas *National*, Oct. 25: During the past three or four weeks, Mr. A. C. Light has taken from his little ledge located on the mountain south of Indian Valley, something over $5,000. The best part of it is that he has pounded it out with a hand mortar, and has plenty more of the same kind of rock left. Mr. Light has recently purchased the little ranch of Mr. Frank Fox, which was in the cañon below his mine, and he will make arrangements to sluice off the ground under the ledge during the coming water season.

Nevada.

ELY DISTRICT.

Meadow Valley.—Pioche *Record*, Oct. 26: Incline 3 has been sunk to the depth of 1,000 ft., where the 10th station is now being opened. When the station shall have been completed, drifting will be commenced from it, and the sinking of the shaft will be continued. The west drift from the 9th station is in 180 ft.; the east, from the 9th, 287 ft.; the east from the 8th, 373 ft. Incline 5 has been completed to a depth of 834 ft. Its bottom, as well as that of No. 3, is in hard quartzite, which, however, blasts well. From incline 7 the west drift at the 8th level is in 504 ft.; the east from the 4th, 104 ft.; the west from the 3d, 110 ft. There has been little or no change either in the character of the ore or in the quantity taken out.

Pioche.—At the old works there are now on the dump 40 tons of ore assorted and ready for the mill. During the week the bressts in the stopes have been very hard. For this reason not so much ore has been taken out as usual. The car-samples of the ore now on the dump give the exceedingly good average of $174.50 to the ton. The new shaft measured 370 ft. in depth yesterday morning. During the past week the contractors made more progress than during any previous period of the same length. They succeeded in going down 25 ft. The bottom of the shaft is still in a shale formation.

Spring Mountain Tunnel.—Three shifts of men continue the work of sinking the shaft, the bottom of which is now 140 feet below the tunnel. It is expected that ledge No. 2 will be cut within 10 or 15 feet from where the men are now working. Ledge No. 3 will then be reached by a cross cut. The indications with regard to the ledges about to be cut are considered very good.

Washington & Creole.—Another winze has been commenced, making three now in progress. These winzes are 1,200 feet apart, and are all in ore. When they shall have been sunk 100 feet, they will be connected with each other by drifts from their bottoms. Stoping upward to the level above will then be commenced. The prospects of the mine are better than heretofore.

Caroline.—The sinking of the shaft continues through hard rock. All the rock through which the men have passed during the week has been hard. To-day will be finished a contract which will make the depth of the shaft 425 feet. Another contract for 100 feet has been let, so that the work will continue uninterruptedly.

Chief of the Hill.—A progress of 10 feet has been made in the cross-cut at the 360-foot level. The rock in the face of the drift has been very hard for the last week, but is becoming softer. A further distance of 12 feet has been run, since our last report, in the west drift.

Chief East Extension.—On Wednesday the sinking of the main shaft was resumed at a depth of 225 feet. The ledge at the bottom of the shaft is regular and well defined. It is, in width, about 3 feet, 6 inches of which, along the foot wall, is rich ore.

Alps.—Work has been suspended for a few days, for the purpose of repairing the engine which is out of order. The appearance of the mine, when the workmen quit, was very promising. The face of the drift was in quartz, showing mineral.

Condor.—On Monday last work was resumed in the Condor mine at the depth of 160 feet. The shaft is being sunk on the ledge, which is three feet wide. Appearances indicate the proximity of a good body of ore at present.

Raymond & Ely.—The number of men at work in this mine has been increased to 225, who take out 100 tons of ore daily. No change has taken place in the aspect of the mine, nor in the character of the work since the last report.

Silver Peak.—The incline is now 345 feet deep. In the west drift, at the 280-foot level, a considerable quantity of very fine ore has been found. In the upper levels a large quantity of low-grade ore is in sight.

Peavine.—The face of the southwest drift at the 30-foot level, which is in 145 feet from the shaft, shows a ledge a foot in width. The ore in the ledge is very good, and the ledge is very well defined.

Bowbay.—A new contract for sinking 100 feet, which is to bring the shaft to the depth of 500 feet, has been commenced. One drift is at present being run from the 3d station.

WSHOE DISTRICT.

Consolidated Virginia.—Gold Hill *News*, Oct. 25: Daily yield 250 tons of ore, 100 of which is being hoisted through the Gould and Curry shaft, and the rest through the company's shaft. It is the intention to continue hoisting ore through the Gould and Carry shaft until a side track of the railroad is completed to the company's damp. The ore body is being breasted out both north and south, and continues to not only hold out, but improves in quality. A winze is being sunk at the 1,200 foot level, which is down 30 feet in fine ore. The raise on the same level is up 35 feet, also in rich ore. A station is being opened at the 1,000 foot level, from which a drift will shortly be started to connect with the up-raise from the 1,200 foot level.

Dayton.—The ore vein at the third station (400 foot level) has been drifted upon north and south a distance of 80 feet, the face of both still being in good ore. The north drift at the second station—320 foot level—has been driven directly along the ore vein a distance of forty feet, when the course of the drift was changed, cross-cutting the vein to the west wall of the ledge, which was reached in eighteen feet from the turn, passing the entire distance through ore. The course was again changed, following the west wall of the ledge, to connect with the winze of the first level, which will be reduced in a very short time.

Crown Point.—Daily yield, 400 tons of ore. There is no change of importance to note of the different ore stopes and breasts on either the 1300 or 1000 ft. level. The main south drifts on the 1400 ft. level has been stopped on account of the great heat and bad air, and an up-raise started to connect with the north winze from the 1300 ft. level, for the purpose of giving ventilation to that part of the mine.

Woonville.—Sinking the incline is making good progress following the ledge and still in ore. The usual amount of ore is being extracted from the face of the north drift at the 300 ft. station. Sinking the new shaft is making fair progress, some little water in the bottom but not enough to in the least impede the sinking.

Belcher.—Daily yield of ore, 500 tons. Incline down 133 feet below the 1300 ft. level in hard blasting rock. The south drift from the 1300 ft. level is in 413 ft. and ore of an excellent quality encountered all along.

Arizona, Utah and Globe.—The main west drift at the 400 ft. station is still driven energetically ahead without change of interest to report for the week.

Succor. — Some very fine ore is being extracted from the east drift at the second station of the shaft in the cañon.

Hale and Norcross.—Sinking the main incline is making good progress, although the rock in the bottom is quite tough and hard to blast. Daily yield of ore 95 tons, mostly from the eleventh, third and second station levels.

Baltimore Consolidated.—A cross-cut has been commenced in the north drift from the main west drift at the third station. The drift south on the ore-body, at the second station, shows the ore to be both widening out and improving in quality.

Silver Hill.—The new pumping machinery is nearly completed. As soon as it is finished, sinking the shaft for a new level will be resumed.

[Continued on Page 284.

The San Juan Mines.

The Denver (Col.) *Tribune* says: We have referred to the discovery of a new gold mine of extraordinary richnese in the San Juan district, twenty-five miles eouthwest of Del Norte. Some incidente connected with the diecovery are of considerable intereet.

It appeare that for yeare, or in fact, from the firet settlement of the district, frequent discoveries have been made of gold nuggets and specimens in the viciuity of the locality referred to. These diecoveries excited a general interest to find out the source from whence they came.

All attempts, however, have proven futile till the 18th of last month, when P. J. Peterson and H. Brandt was so fortuuate as to etrike the regular vein or lead.

The discovery was made toward evening, Mr. Brandt's attention being first attracted hy the glitter of the pure ore itself that was embedded in a piece of rock lyiug at his feet. Petereon was hut a short distauce away, and immediately joined his partner. The two then indulged, we may euppose, in no little exultation.

Without further delay the fortunate miners made good their olaime, selected a few specimens at random and returned to Del Norte with the great news.

Of course the intelligence, backed hy the rich samples, set the town wild, and everybody rushed madly for the new dietrict with the hope of eecuring something.

From Del Norte Meesre. Peterson & Brandt came direct to Denver, accompanied hy Major J. Oary French, an old and well known correspondent of the *Tribune*.

The specimens hrought to Denver hy these gentlemen have produced almost as much excitement here as they have in Del Norte—that is, among those who have seen them.

The eamples of the lead proper vary from an inch to two and three inches in width, and are *literally* the pure gold in mass; perfectly visible to the naked eye and assaying huudreds of thousande of dollars.

Other epecimens taken at random from various parts of the vein, just as they laid on the surface, and which were thought to he of little value, assayed yesterday, at the Mint as high as $36,000 per ton.

Taking all these facts into cousideration, it appears as though this was likely to turn out the richest gold deposit in the known world. The hest judges in our city pronounce the specimens as unequalled by auything ever before known.

Mr. P. J. Peterson is a Swede hy birth, hut has been in our country since he was fifteen years of age. He is a gentleman of fine addrese, pleasiug mannere, and a generous cultivation. He ie now hut thirty-five, and went to San Juau a poor carpenter. He returns, after a comparatively short stay, a millionaire.

Mr. F. H. Brandt is a native of Holstein, but has also been many years in our country. He is an earnest, hard-working, reliable and intelligent gentleman, calculated to win and maintain the friendship of all whose friendship ie worth the having.

These are the fortunate owners of the "Little Annie"—a lead which, if we are not greatly mietaken, ie bound to create more excitement in the mineral and finanoial world than any mine heretofore discovered all the world over.

Mining in Amador.

Under the title "We Must Help Ourselves," the Amador *Ledger* says: It has heen conceded that Amador is the richeet mining county in the State, but its mineral wealth is generally supposed to be confined chiefly to the quartz veins lying so abundautly over the county. This is an error. Time will prove that more gold lies hid in the ancient channels and gravel deposits that underlie our numeroue lava hills, than has ever beeu extracted from quartz-veiue, gulchee and flate. It is known to every practical miner, that channele, once living streams, exiet under the lava hills throughout the oounty, and althongh theee channels have been but elightly explored, yet, wherever they have heen touched gold has heen found in paying quantities, and it is safe to aesert that many of theee ancient channele will prove more productive, if ever reaohed, than have the surface gulchee. Indeed, there can he little doubt that the gold found in the gulohes and flate came originally from gravel deposits nnderlying the lava hills throughout the couuty; and hence, if the energiee of our mining population should be directed toward exploring these hills and hidden channels thereuuder, we helieve new and exhaustlees mining fields would be opened up, and of far more value than ever were our eurface placere. This matter ie worthy the oonsideration of the active business men in the varioue mining towne in the couuty. It will not require a large amouut of capital to drive tunnele into theee lava hills, and wherever favorahle localitiee exist for euch an enterprise, companies should be organized for tunnel operations. Volcana has set a worthy example to other towne in the county, and which example it would be well to follow. In fact, we must help ourselvee, and not wait for foreign capital to develop our mines. We have the gold nuder our hille, hid away in dead channels, awaitiug industry aud enterprise to bring it forth and prove the fact, that, inetead of our placer fielde being exhausted, placer mining hae really scarcely commenced. Companies eimilar to the one at Volcano ehould he formed in all our mining towns, for the purpoee of exploring oue or more of the hills in the vicinity of each town; a single success would lead to the formation of other mining associations, and thus important discoveries made that would give a new phase to the mining interests of the county. Our surface diggings are well nigh exhausted, hence, if new discoveries are not made, our miniug towns, with a few exceptions, must coutinne on the downward grade, but as it is reasonahle to suppose that the gold taken from our gulches and flats originally came from deposits under the hills, if these hiddeu deposits can he discovered, a new and wide field will he opened up, employing as many in the eearch for gold as did the excitemeut of forty-niue.

The American Mining Company.

The Nevada *Transcript* containe the following. If any of our friends wish to see one of the most exteusive and best worked hydraulic claims on the Pacific Coast, we would advise them to visit the claims of the American Mining Company, located at Sebastapol, in this county. These worke furnish an example of what industry, good judgment and skill can accomplish in bringing to light the vast treasure concealed in these mountains. The present eight of these claims is an extensive artificial cañon glittering with houlders, where once stood a high hill crowned with primeval forests of oak and pine. Under this hill have hlasted out of eolid rock vast tuunels thousande of feet in leugth, through which the mountain, loosened hy powder and pick, and hy the means of immense hydraulic pressure, has been sent rolling and foaming into the deep gorge of the Yuha helow. Into these sluices are ewept, indiscriminately, rocks, sand and pay dirt, but the nnder enrrente, an ingeniously contrived eaving apparatue, placed in these sluices and at the mouth of the tunnele allow nothing of value to escape. In these, at the close of the season, the honest miner finds the reward of his lahor, and we are assnred by the smiling faces and good cheer of the American Company that theirs is alwaye a rich reward. This company own good ground. But there is another eecret of success which no one visiting the mine can fail to notice—each one of the share-holdere is a working man. There are no droues in the hive. Here can he found the stalwart Supervisor of the Third Di trict, in checkered shirt and coarse boots, trundling a wheelharrow with ae much satisfaction as though deliherating with the other wise heads at the county eeat. Here too, is Mr. Spooner, the courteous Superintendent, spooning ont the coarser gohs of gold that stick fast in the hed-rock. Believing that work never prospere unless they are with it, each had something to do, and each did that something well. These claims were opened in 1853, and, although conetantly worked, they have increased in extent and value ever since, additions having been made by the purchase of other claims at a cost varying from ten thousand to a hundred and fifty thousand dollare. The main channel extende a mile to the front of their present worke. The company employ ahout fifty men the year round. Water is low now, and they are running only five nozzles of the largeet kind, carrying over twelve thousand inchee of water. Should theee streams continne to play at thie rate for ten yeare, this mine would not then be played out. A trip over theee claims would satiefy any one that the foot-hills of the Sierrae possese attractions found in no other portions of our country.

Lake Mining District.

E D. Town, lately conuected with the Manhattan mill in this place, and a gentleman whom long experience in mining matters hae made familiar with the value of such properties, givee ue eome points of information regarding a new district called Lake District. Situated 22 milee in a southerly direction from Mineral City, Robinson District, and near the liue of roads travelled by the Pioche teams, it is easily accessible to the prospector and partiee in search of mines. The district was originally located by one Tyler, who was firet attracted to the locality by the appearance of the ledge while riding along the road eome distance from the same. We are informed that the formation of the ledge is pure, unadnlterated quartz, and can he traced a distance of six miles, running north and south, with its dip toward the east. The croppings aloug the entire length are large, and, as far as work has progreseed, indicative of an immense lead of pay ore. Mr. Town informe us that he found some piecce of rock which aesayed $273 in eilver, without a trace of base. The district derivee ite name from two large eprings which, from their eize, have been called lakee, affording ahundance of pure water. In the near vicinity of the mines, timber of a large growth abounde in almost inexhaustible quautities. The entire length of the ledge, yet discovered, has been located by the present residents, eome eix or eight in number, and they are all eteadily at work developing their respective locations. From present indications hut little can he said of the permanency of the veins, but that ore of high grade abounds on the surface is a fact settled beyond a doubt. It ie proposed to extract rock as rapidly ae possible and send it to the Watson Company's mill, at Mineral City, for reduction. We shall give information from thie sectiou from time to time which we ehall take paine to give to onr readers.—*White Pine News.*

Cheap Transportation.

At the late meeting of the California State Grange of Patrons of Husbandry, in San Jose, the Committee on Transportation and Legislation reported as follows:

Your Committee, to whom was referred that portion of the "Declaration of Purposes of the State Grange" of California having reference to the subject of transportation and legislation, heg leave to report, first,

On Transportation.

It has been said that "cheap transportation of persons and property is a national necessity." Nowhere can the force of this axiom be more fully realized than here in our favored State. With a territory great in extent, affording within its limits the productions of both torrid and temperate zones, with a climate varied as its productions, and with a population gathered from all parts of the globe, we can readily understand how facilities for bringing producer and consumer together will contribute to our comfort and convenience. Our wheat, our wool, our wines, our fruit, our minerals, all sources of wealth, health and luxury, must be transported either in a raw or manufactured state; to fetch and carry them, so that the greatest good will ensue to the greatest number, is a study well worthy of the political economist, and its solution will remove an oppressive hurden which now hangs like a millstone aroud the neck of the producer of our State. Our present avenuea for trausportation of freight are either insufficient or do not perform their proper work. Our inland water courses are blockaded for months during the dry season by sand hars and shoals. The exorhitant rates in many cases charged for transportation on railroads make the cost of moving our crops to market almost prohihitory, and in years of plenty the producer can scarcely realize the cost of production. These things, with the unjust discrimination sometimes made, cause fluctuations, which at times unduly excite, at other times depress and destroy, the agricultural and manufacturing interests of our State, and have a tendency even to depopulate it.

While we recognize in the railway an effectual instrument to aid in developing the agricultural resources of the State, and helieve that the public interests of the country and its producers would he subserved hy fostering the further development of the railway system, provided such a judicious management can be obtained as will secure equitahle and just treatment in the way of fares and freight to all localities through which they pass, yet we are satisfied that the present system of building and managing railroads is injurious to the best interests of the producer.

1st. In companies having such special privileges granted them as enables them, after obtaining large aubsidiea and stock subscriptions from individuals, corporations aud counties, to depreciate the value of stock to such an extent as to onable an interested ring to secure the entire control of the road and deprive those who aided in its constructiou, by furnishing funds, from having any voice in the management of it. Then giving this ring the power to build and equip the road at a fictitious cost, the profits of which go into their own pockets, and farther permitting them, in order to have large dividends, to compel the producer, consumer and traveler to pay excessive fare and freight on such road.

2d. In permitting the consolidation of what should he rival lines in our State, inasmuch that such action is contrary to puhlic policy in building strong monopolies which defy competitiou, facilitato the charging of exorhitant rates and discriminates unjustly in favor of or against localities, and enahles such monopolies to attain their objects by introducing into our legislative and judicial halls, and hy the use of our safeguards for their own selfish ends, carry out a policy which builds up the carrier at the expense of the producer or consumer.

Farmers should encourage the opening and establishing of new routes, under proper restrictions, and retain controlling interest in them. Canals from interior points to communicate with our navigahle streams should he constructed; narrow-gauge railways, so much cheaper in construction and operation than the present hroad-gange, are well adapted to cheap transportation and would help meet the exigencies required. All farmers, as well as Patrons of Husbandry, should unite in an effort to secure a reduction of freight and fare and charges on inland as well as ocean routes, and withhold their voice, their votes and subscription from all transporting corporations which will not agree that such uniform, equitable rates shall he fixed by the State authorities as will afford a fair remuneration to them and at the same time will not he an oppressive hurden to the producer and consumer.

Another and true way to correct and alleviate the present trouhle and assist the producer of this State would he to create a home consumption for our products by encouraging and drawing to us manufactories. These, hy affording us consumers at home, would do away with all need of transport ation of much that is now surplus. If a moiety of the subsidies hy farmers to railroads in this State, had heen invested in manufactories, our population would have heen so increased, that the homo market for produce would he douhle what it is now. If the demand for traosportation was curtailed this much, the surplus we have to spare would find a ready market at compensating rates.

The aubject of Oceanic and Internal Transportation is ot such a varied nature and of such vast importauce, that your committee have approached it with reluctance. Especially as the whole aubject is now in the hands of the special committee of the United States Senate, who, with a great deal of care and considerable expense, are now gathering facts and statistics to make a report which will, no douht, he made public in time to enahle us to derive as much or more real information and henefit therefrom, than from any report your committee, with the limited means at their command, could posaibly make.

Legislation.

The agriculturists of this aa well as other States, may justly complain of the unequal hurdens imposed upon them for the support of State and Federal Governments, while they receive no more, and in many cases not near so much, care and protection from the Government as other industries; yet the statistics show the producers (we include in this class — the farmer, the stockman, the fruit-grower and the mechanic), either directly or indirectly, pay nearly all the taxes that are required for the machinery of the Government. Our lands are taxed, our stock is taxed, our crops are taxed, our improvements are taxed, and in addition to this we pay most of the tax and tariff which is required by the Government from manufacturers. We pay in addition to the cost of transportation on all articles which are brought from abroad, whether of luxury or comfort, the revenue which the Government receives from their importation.

The capitalist who has his money invested in bonds or other securities, or is engaged in manufactures, compels the party who uses or consumes the same to pay all the tax which is imposed on *him*, so that it matters not to him how excessive or oncrous the tariff may he. All he has to do is to add the percentage necessary to cover thia expense and collect it without diminishing his profits.

The government has fallen into the hands of the consumers rather than the producers of the country, and per consequence a system of unjust discrimination has been adopted and carried out, which makes the producers mere hewers of wood and drawers of water, to their more favored fellow citizens.

This atate of affairs has heen hrought ahout mainly hy the fact that the producers, as a class, have had their time so occupied with the attention necessary to the successful management of the particular industry in which they are engaged that they could not or have not taken that active part in the administration and control of State and National affairs which they should. Demagogues have usurped power; chicanery and fraud have been successfully used to control the masses; party tactics and selfish intrigue have been permitted to usurp the place of hrain and muscle.

The remedy for this is for the producers to aronse from their lethargy, to awake from their slumbers, and not only assist hut carry out the measures necessary to reform these abuses. Let their power he seen, and felt, and heard in every part ot our Government. In the administration of their local affairs, in our Legislative forums, in our Judicial halls. Let the mechanics and farmers see to it that none hut good, honest and true men fill our State and county offices, none hut the true repreacntatives of our interests appear for us either in our State or National capital, men who are closely identified with the bone and sinew of the laud, who have suffered from the same ills as ourselves, who have felt the crushing, grinding power of the monopolies which have weighed us down.

We respecttully submit as the most practical way to accomplish these objects and secure the reforms we need, that such legislation shall he had as will make in each county the District Attorney ex-officio chairman of the Board of Supervisors, with the power to veto all appropriations made hy the Board for the payment of moneys which in his judgment are illegal or not actually necessary for public uses. The District Attorney to he liahle on his official bond for any malfeasance in office while acting as Chairman of the Boards. This, we helieve, would effectually check the extravagant and illegal appropriations so often made, and provide for the impartial action of bodies which combine the functions of the Legislative, Judicial and Executive hranches of government without, in many cases, heing ahle to properly discharge the duties of either.

Again, believing, as we do, that the subject of freights and fares of railroads should he controlled hy the legislature, their right to do so having generally been admitted under these powers which give the States the right to compel common carriers to establish *reasonable* rates of freight or fare (the Supreme Court of Minnesota has so decided, and the statutes of New York and Massachusetts expressly declare it) we, therefore, propose that our legislature at its next session do establish a uniform standard of fares and freights on the railroads and steamhoats of this State, which shall give a reasonahle and just remuneration for the distance traveled and service performed. These rates to he conclusive and absolute, but subject to revision at specified times hy the legislature, and that a commission of three or five taxpaying citizens he appointed by the legislature, whose duty shall he executive and supervisory, to whom shall he referred all matters of controversy growing ont of any illegal charges or arhitrary and oppressive acts on the part of railways or steamers, and who shall see that these carriers comply with the requirmeuts of their charters, and perform all the services for which they were created. The commission would afford protection and redreas to every individual having dealings with the companies, without ohliging them to apply to the courts at great expense or delay.

In order to secure more uniform and equal taxation, we recommend that the duties enjoined upon our assessors he more definite and specific, and penalties be inflicted upon them when it can he shown they have made unfair or unjust discrimination in fixing valuation or assessing land and property in the same locality, or when they consent to receive any special favors from large property-holders or taxpayers, even if it is hut a *railroad pass*.

We recommend that our representatives both at Sacramento and at Washington, he petitioned to interfere in our behalf, and redress our grievances by carrying out the measures proposed, or if the plans suggested are not practicable, or will not have the desired effect, let them devise some other way by which taxation shall be reduced and made uniform and equal; freight and fares he regulated so as to prevent unjust discrimination and oppressive rates; additional facilities for transportation he encouraged and huilt up, and the agricultural and mechanical industries of our country receive more fostering care from the hands of our Government.

J. M. HAMILTON,
T. H. MERRY,
G. W. HENNING.

THE VALUE OF A GOOD WORKING MINE TO THE COUNTY.—The *American Manufactory* gives the following estimate of what one manufactory will do. "One manufactory employing a hundred men will support an additional 500 people. Three hundred familiee will disburse annually, on an average, $250, or $75,000 in the aggregate. Thie money will be drawn into the town from the outeide, where the manufactured goods are consumed, and the interest on this $75,000 at ten per cent. would be $7,500. Three hundred families, too, would require a hundred houses, thousande of pounde of agricultural produce, and thousands of yards of cotton and woolen goods, thus giving health ond impetus to every branch of industry." Now after the same etyle of reasouing what would a good working mine do, employing fifty men daily—a low estimate. They would support an additional, 250 people, making in all 300 people. Single or married theee three hundred people will spend at least $500 each a year in this county, or in the aggregate $150,000. This would all go to the people of the county either directly or indirectly. It would como first to the storekeepers, some of it would then go to the producere, and some of it below for goods. It is fair to presume that at least 10 per cent. of it would he expended on improvements in our midst or $15,000 annually. This is a very low estimate of the value of such a mine to the county. The Patterson mine of Tuttletown where they employ some 20 or 30 men is worth nearly that much to our couuty. Can't some one open up another such mine?—*Sonora Democrat.*

NEW ZEALANN MINES.—In the *Provincial Government Gazette*, published on the 30th of June, the statements of sixteen different gold-mining companies are given. Many of the companiee are well known, and have heeu in active operation for several yeare. The aggregate nominal capital of these sixteen companiee ie £483,800, hut the actual paid up capital is £303,471 18s. 5d. This eum, put out at ten per cent. interest, would give a yearly return of over £30,000. Of theee sixteen companies, nine have not declared dividends. The aggregate amount of dividends paid by the whole of these companies is £48,144 14s. 2d. Of this eum no less than £43,625 was contributed by the Tokatea. As the Tokatea hae a declared paid-up capital of £80,000 the amount of dividends already paid is not a very high rate of interest for the money for the whole period the company has heen iu operation. There is one company mentioned which is stated to he in operation, although it has no paid-up capital.

Useful Information.

Sulphuric Acid and Weeds.—A correspondent of the *Journal of Horticulture* (English) writes: "Take an old blacking bottle, with a wire round it to carry it by, and a stick to dip with. The stick should not be pointed, but should be notched round for an inch or two at the end, the better to hold the liquid. Just one drop quite in the heart of the plaintain is sufficient to cause death and the notched stick will contain at one dip enough to destroy three or four plants. If the acid is good, the work of death can be both seen and heard, for the vitriol hisses, and it burns up the plaintain in a moment. A row of plaintains a foot wide sprang up on a lawn here where an iron fence formerly ran. The owner, seeing at a place he visited the good effect of vitriol, put the hint in practice. The plaintaine were killed in an hour and have never appeared again. It is three years ago, and it is impossible to recognize the line of the fence; it completely burns the roots out. I have tried it on large dandelions with the same result. One of the young gentlemen here amused himself by hunting out the longest thistles he could find to experiment on; the vitriol completely killed them by eating the roots out. One drop will do. Care is required that it does not touch the skin, boots or clothes; it is not safe in the hands of children, but a man or woman with ten minutes' practice can kill plaintains much more quickly than any lad can eat gooseberries.

Vegetable Glue.—Gum Arabic solutions are frequently employed instead of glue and mucilage, but are objectionable on two accounts. First, they render the unsized paper transparent, and if a piece of common printing paper is attached to any dark or printed surface the color shines through, and beside it does not attach it firmly to other paper. Neither can paper be attached to wood or pasteboard. Paper pasted on metallic surfaces with gum arabic usually separates from it in a short time. As a cement for glass, porcelain and earthenware, it is utterly useless. We are informed on good authority that all these disadvantages are overcome by simply adding an aqueous solution of sulphate of aluminum, two grains of the crystalized sulphate of aluminum being sufficient for 250 grains of concentrated gum solution prepared from two parts gum to five of water. The salt named dissolves in ten times its quantity of water, and is added directly to the gum solution. A solution of alum does not answer as well as the simple sulphate of alumina, which can be prepared from alum by precipitating the alumina with ammonia, washing thoroughly on a filter and dissolving in sulphuric acid. The vegetable glue thus prepared will not, of course, ferment, sour or mold, which will be appreciated by those using it.—*Jour. of App. Chem.*

To Measure the Height of Trees.—There have been, heretofore, various plans given for measuring the height of trees, by which a close approximation to the height may be had. One of the simplest and at the same time a nearly correct plan is to take a rod of any given length, say five feet above the surface when driven in the ground so that it will be firm. Make the rod stand perpendicular by means of a plumb line; then, as the length of the shadow is to the height of the rod above ground, so is the length of the shadow of the tree to the height of the tree itself. As an example, if your rod cast a shadow just its own length, the length of the shadow of the tree will be the height of the tree. Or if the rod, being five feet long, cast a shadow seven and one half feet long, and the tree cast a shadow 120 feet long, the height of the tree will be just 80 feet. The rule is to multiply the length of the shadow of the tree by the height of the stick, and divide by the length of the shadow of the stick.

Useful.—Carbolic-acid paper, which is now much used for packing fresh meats for the purpose of preserving them against spoiling, is made by melting five parts of stearine at a gentle heat, and then stirring in thoroughly two parts of carbolic acid; after which five parts of melted paraffine are to be added. The whole is to be well stirred together until it cools; after which it is melted, and applied with a brush to the paper, in quires, in the same way as in preparing the waxed paper so much used in Europe for wrapping various articles. It will be found that stearine is the great key to the perfect assimilation of carbolic acid, with many saponaceous compounds.

Metallic Soap for Canvas.—The following is highly recommended as a cheap and simple process for coating canvas for wagon tops, tents, awnings, etc. It renders it impermeable to moisture, without making it stiff and liable to break. Soft soap is to be dissolved in hot water, and a solution of sulphate of iron added. The sulphuric acid combines with the potash of the soap, and the oxide of iron is precipitated with the fatty acid as insoluble iron soap. This is washed and dried and mixed with linseed oil. The addition of dissolved India rubber to the oil greatly improves the paint.

Three-Horse Clevis.—Fasten the clevis to the plow beam, at a point twice as far from the top of the clevis as from the bottom. The single-tree must be fastened to the clevis at the top, and the double-tree at the bottom. Any good blacksmith can make the clevis. The single horse will only draw his share of the load—one third. Have the double-tree made wide enough to allow space for three single-trees to work well (although only two are fastened to it), and the plow will take "land" enough. Any one who sees this clevis can never be made to use a triple-tree again.—*Country Gentleman.*

Plaster as a Protection from Fire.—After the conflagration in Paris it was generally found that, with good plaster-work over them, beams and columns of wood were entirely protected from the fire. In cases where limestone walls had been utterly ruined on the outside by the flames passing through the window openings, the same walls, internally, escaped almost unscathed, owing to their being coated with plaster. On many such plastered walls the distemper decorations were still to be made out.

To Remove Rust from Finely-Finished Steel.—Rub the rust with any kind of soft animal fat, and lay the articles by, wrapped in thick paper, for two or three days; then, after cleaning off the grease with a piece of soft flannel, rub the spots well with powdered rotten stone and sweet oil, after which the polish may be restored by rubbing with powdered emery, on a soft leather; and the process may be finished with finely-powdered chalk or magnesia.

Good Health.

Wholesome Air.

There are some very interesting facts brought to light in the analysis made in various localities to determine the quality of the air. On this subject an exchange says:

Analyses show that air in open and exposed localities varies in the amount of oxygen, which it contains from 20.4 to 21. The most favorable localities, as on the heaths of Scotland, show the latter; while it is necessary to go underground into a mine to find the former. Well ventilated mines where it is possible to labor, rarely go below 20. These results are delivered from thousands of careful analyses. Cavendish made 500 in the course of his inquiries.

The cursory reader may think that the difference between 21 and 20, and in the per cent. of oxygen in the atmosphere can have but little importance, and is hardly worth inquiring into. It is true that the deficiency named is small when considering in figuring; but when we reflect that while 21 represents the largest amount of oxygen ever found in the best natural atmosphere a candle goes out at 18.50, and life can be barely sustained for a short time at 17.20, the importance of a small per cent. of difference becomes apparent. Even so small a difference as that between 21, and 20.981 is equal to 190 in a million; and if we place impurity in water at that rate it will amount to 13 grains in a gallon. This amount would be considered enormous, if it consisted of putrifying matter or any organic matter usually found in water.

But we drink but a small quantity of water and with such a percentage we might be several days in swallowing the whole 13 grains; whereas we take into our lungs from 1500 to 2000 gallons air each day. Moreover the blood receives such impurities almost entire, very little being filtered out in its passage to the lungs; while the stomach has powers of disinjection and destruction which renders very much of the organic impurities in water harmless. But if we take the air found in the pit of a theater, generally about 20.740, we find that minute analysis becomes a matter of the highest importance.

The senses are bad and inefficient guides to the wholesomeness of air as regards the amount of oxygen and carbonic acid, save when the former is reduced and the latter increased to such an extent that the lungs seem to refuse to expand and the whole vital action is threatened with paralysis. Rooms badly ventilated, which contain less than 20.7 per cent. oxygen, are very unwholesome, and the necessity of taking into consideration the proportion of oxygen and carbonic acid in the sanitary inspection of factories and works is abundantly evident from the results obtained by Dr. Smith.

Mr. Clemson, a French chemist, made public, in 1856, a theory with regard to the presence of living organisms in the atmosphere, so minute as to be almost or quite unobservable by the best microscope, and which organisms exerted a marked influence on health—in fact, were the origin of most diseases to which men are subjected. He also argued that there is phosphoric acid in the air, derived from the successive generations after generations of myriads of these organisms, produced, living and dying in the atmosphere, that such organisms exist and are at work, food for more perfect organisms from the microscopic points of life to the most perfect animal existence. He also entertained the idea that the increased fertility of the earth by being broken up and exposed to the atmosphere, was due to the presence of such animalculæ.

The latest plan for obviating sea-sickness is the following: Construct a large well in the ship; around the center of gravity is the best position for it. This well should have no bottom. The water in it will appear to have a rising and falling motion, but will in fact be at rest, while the walls of the well slide up and down. In this well float a small ship, and you are secure against seasickness. The proposer of the plan calls this "taking a small harbor to sea."

To Keep Teeth Healthy.

It is surprising that so plain a duty as cleanliness of the teeth should be so often entirely neglected. And yet there are people who pride themselves on being scrupulously clean, who forget all about those hardworking servants, the teeth. Dr. Lane has the following with regard to their care:

The great enemies of our teeth are acids. A source of acid is the decomposition of sugar in the mouth, which changes to lactic acid. The saliva of the mouth in its normal condition is an alkaline, and is an excellent preservative. If the enamel is smooth it furnishes no lodging for foreign bodies, but if it is rough, foreign matter accumulates and turns to acid. This, having eaten through the enamel, proceeds inward with a rapid march, and hollows the tooth in a short time if not arrested.

Extreme care should be taken that acids do not remain in the mouth, neither should sugar nor other substances be suffered to undergo decomposition there. The greatest panacea for poor teeth is cleanliness. Thoroughly brush the teeth, not only night and morning, but always after eating. An error frequently made in using a brush on the teeth, is that of drawing it transversely across them, from one side of the mouth to the other. This practice long-continued produce transverse fissures, which finally become so deep that the teeth present an appearance of having been filed into. This transverse brushing also has the pernicious effect of forcing the mucous into the interstices between the teeth. The teeth should be brushed from above downward and from below upward—never from side to side. The inner surface should also be as carefully cleaned, and care should be taken that no particles of food are left in the interstices.

Dark tooth powder should not be used, because it works up under the gums, and discolors the edges. Pure soap is a good dentrifice. A tooth powder, must above all things, be alkaline, and should contain nothing capable of becoming sour, such as the sugar of milk, which is sometimes used. Whenever a tooth powder is praised for rendering the teeth very white, it should be looked on with distrust since it is pretty sure to contain some agent that will attack the enamel. Tooth powder should be so fine grained that when rubbed between the fingers no particle can be felt. As the chief ingredient of tooth powder, there is nothing better than carefully prepared oyster shell or carbonate of magnesia. To flavor it, a small amount of calamus root may be added, which has good effect on the gums. Prepared chalk mixed with a small amount of camphor also makes a good tooth powder.

In the preservation of the teeth, the three following rules should be observed:

1. Careful avoidance of acids and careful cleansing of the teeth with such substances as render acids inert—for example, alkalies.

2. Occasional examination of the teeth, in order that a commencing cavity may be detected in due time and the proper remedy resorted to.

3. Immediate removal of such teeth as are decayed beyond reclamation.

Growing Plants in Sleeping Rooms.

It is a current notion that growing plants contaminate the air of an apartment by the exhalation of carbonic acid during the night. Professor Kedzie, of the Michigan Agricultural College, has been making experiments to test the truth of this view, and gives the results as follows: "Not to leave this matter in the condition of mere conjecture, I have gathered and analyzed specimens of air from a room where the influence of growing plants would be exhibited in a greatly exaggerated form. Thus, instead of taking the air from a room containing a few plants, I gathered it from the College greenhouse, where more than 6,000 plants are growing. I gathered the air before sunrise on the mornings of April 16 and 17. The room had been closed for more than 12 hours, and, if the plants exhaled carbonic acid to an injurious extent, the analysis of air from such a room would certainly disclose this fact. The three specimens of air gathered on the morning of April 16, from different parts of the room, gave 4.11, 4.00, 4.00 parts of carbonic acid in 10,000 of air, or an average of 4.04 in 10,000. The two specimens gathered April 17 gave 3.80 and 3.80 parts of carbonic acid in 10,000, or an average on the whole of 3.94 parts of carbonic acid in 10,000 of air; while the outdoor air contains 4 parts in 10,000. It will thus be seen that the air in the greenhouse was better than "pure country air." This deficiency of carbonic acid was doubtless due to the absorption of carbonic acid and consequent accumulation of oxygen during daylight, since the windows of the greenhouse were closed day and night on account of the cool weather. To ascertain whether the air of the greenhouse had more carbonic acid by night than by day, I gathered two specimens of air in different parts of the house, at two o'clock P.M., April 17. These gave 1.40 and 1.38 parts of carbonic acid in 10,000, or an average of 1.39 parts, showing that the night air contained more carbonic acid than did the air of day. Now, if a room in which there were more than 6,000 plants, while containing more carbonic acid by night than by day, contains less carbonic acid than any sleeping-room on this continent, we may safely conclude that one or two dozen plants in a room will not exhale enough carbonic acid by night to injure the sleepers."

Domestic Economy.

Salt and Milk Rising Bread.

For salt rising, take a half teaspoonful of salt to a pint of warm water and stir in flour enough to make a thick batter. The dish used, which with the spoon should be thoroughly cleansed and scalded, should be a little more than two-thirds full, and set in a warm place until the batter rises so as to fill it. The most common way is to put the dish of rising in warm water and set it where it will keep at quite a warm temperature; but some use a cloth or a paper to exclude the cool air instead of placing in water. The time in which the rising will sufficiently ferment, is usually from five to seven hours, according to the degree of warmth and the kind of flour used.

When "light," take a quantity of flour corresponding to the amount of bread desired and stir in scalding (not boiling) water enough to scald one-third, then add cold water (or milk, which is better,) enough to cool the scalded flour so that it will not scald the rising; put in the rising and stir altogether vigorously until you have a thick batter and put in a warm place to rise. When light and puffy stir as thick as possible with a spoon, then mix with the hands until kneadable, cut off in loaves of a size to half fill your baking tins, knead thoroughly, shape to and put in your tins and again put in a warm place to rise. When the loaves have doubled in size put in a moderately heated oven and bake from one-half to three-quarters of an hour according to size of loaves, and you will have bread as moist, spongy and eatable as fermented bread can be. Bread of unbolted flour can be made in the same way, but is better stirred to a stiff batter and baked in deep dishes instead of being kneaded and baked in shallow tins.

Milk rising and salt rising bread are the same, with the exception that one-half a teacup of new milk is added to the rising for the former and is preferable to all water. As you value good bread and good health, never put ginger, saleratus, or any other useless things that some people deem necessary, into your sponge or rising.—*Rural New Yorker.*

House Vermin.—Cockroaches are the plague of many housekeepers, and yet a little Paris green is death to them. Keep it in a common flour dredging box, label it Poison, and apply it weekly to their haunts. Bed-bugs or chinch-bugs can also be dispersed and utterly routed with this remedy, and both cockroaches and bed-bugs will flee from powdered borax. Travelers should always carry a paper of borax in their bags, and sprinkle it under and over their pillows, if they fear they shall become food to the last named wretches. Sprigs of wormwood will drive away large black ants; and none of them, whether black, brown, or red relish wintergreen, tansy, Paris green, cayenne or kerosene; so if they invade our pantries we can, by a judicious application of some one of these articles, make the premises too unpleasant for them. Fly paper should be kept around the house as early as the middle of May. Put it in every open window, and thus destroy every intruder.

Rice Croquettes.—Half a cup of rice; 1 pint milk; two tablespoonfuls sugar; 3 eggs; a little grated lemon-peel; 1 tablespoonful melted butter; a saltspoonful salt. Soak the rice three hours in warm water enough to cover it. Drain almost dry, and pour in the milk. Stew in a farina-kettle, or one saucepan set in another of hot water, until the rice is very tender. Add the sugar, butter and salt, and simmer ten minutes. Whisk the eggs to a froth, and add cautiously, taking the saucepan from the fire while you whip them into the mixture. Return to the range or stove, and stir while they thicken, not allowing them to boil. Remove the saucepan, and add the grated lemon-peel; then turn out upon a well-greased dish to cool. When cold and stiff, flour your hands and roll into oval or pear-shaped balls; dip in beaten egg, then in fine cracker crumbs, and fry in nice lard.

Tapioca Cream.—Soak two tablespoonfuls of tapioca in just enough water to cover it, all night. The next morning, boil one quart of milk with the soaked tapioca, add two-thirds of a small cup of sugar to it and a little salt. Beat the yolk of three eggs thoroughly, and when the milk has boiled for ten minutes, stir them into it, remove it from the fire, and stir rapidly for five minutes, so that they will not curdle. Flavor it with vanilla; heat the white to a stiff froth, and put over the top of the pudding dish into which you have turned the tapioca; sift sugar over it, and brown for five minutes in the oven; serve it cold. This makes a more delicious dessert than pastry, and can be prepared the day before it is needed.

Tomato Omelet.—Beat up six eggs, mix two tablespoonfuls of flour, with a little butter, and add some salt and pepper. Peel four tomatoes, and chop very fine. Stir altogether and fry. Oyster omelet is made in the same way, substituting a dozen chopped oysters for the tomatoes.

Moths in Carpets.—To prevent moths from injuring carpets, buy half a pound of gum camphor, and that will save all the carpets in your house for a year, by placing a few little crumbs under the edges of the carpets, without moving them.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, Nov. 1, 1873.

Legal Tender Ratea.—S. F., Thurs., Oct. 30.—buying 92; selling 92¾.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Peer & Lundquist's Concentrator and Riffle; The Largest Gold Bar in America; Lick Observatory; Bad for Mill Operatives, 273. Encourage Inventors; Vein Geology of Cal. Gold; The True Road to Success, 280. Patrons to the Relief of the Workingmen; Order of United Mechanics and Grangers, 281.

ILLUSTRATIONS.—Peer & Lundquist's Concentrator and Riffle, 273. The Tarantula, 281.

MECHANICAL PROGRESS.—Cheap Motors; The Manufacture of Paper; Waste of Power, 275.

SCIENTIFIC PROGRESS.—The Altitude at Which Men Can Live; Alcohol in Bread; Grenade, a New Dye-Stuff; Finding Breaks in Ocean Cables; The Manufacture of Glycerine; Gas from Water, 275.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 276.

MINING SUMMARY from various counties in California and Nevada, 277.

USEFUL INFORMATION.—Sulphuric Acid and Weeds; Vegetable Glue, 279.

GOOD HEALTH.—Wholesome Air; To Keep Teeth Healthy; Growing Plants in Sleeping Rooms, 279.

DOMESTIC ECONOMY.—Salt and Milk Rising Bread; House Vermin; Rice Croquettes, 279.

MISCELLANEOUS.—Foreign Corporations—Their Right to Mortgage Mines in California; Chemicals in Pan Amalgamation; Hydraulic Mines in South America; Fissures or Deposits; The Mining Interest, 274. The San Juan Mines; Mining in Amador; The American Mining Company; Lake Mining District; Cheap Transportation; The Value of a Good Working Mine to the Country; New Zealand Mines, 278. By Rail to Bullionville; The Polaris Investigation; Golden Smelting Works; What a Colorado Mine has Done; The New British Columbia Mines; Germany to Stop Coining Gold; Sutro Tunnel, 282.

Building Matter.

There never was a more husy season in bnildiug in San Francisco than the present one; as many buildings are now under construction, as formerly could be boasted of in half a year. Theee are chiefly in the weetern addition, but there is more or less building going on over the whole city. There cannot now be less than five hundred going up, amongst them many which, if constructed of marble, would from the heanty of their architecture and the magnificence of their appointmeute be entitled to be called palaces. In no other city in the world do we find private residences built entirely of lumber, costing as high as one hundred thoneand or a qnarter of a million of dollars. It is to be hoped ere long our citizens forgetting their rather nsedlese dread of earthquakee, will build their private residencee of something more enduring than wood. Besides the large nnmber of fine private residences, there are many splendid blocks of stores and tenement houses. In the hnsiness portion of the city all those buildinge that we have noticed from time to time are completed or nearly so, and some of them preeent a fine appearance. It will not be long before the new Opera Houee begins to give promise of what it will he in a few monthe henoe. The work of getting in the foundatione, etc., ie going on rapidly. The total oost of the buildinge now in oonrse of construction, (exclnding pnblic onee,) is not less than two million dollare, and there are upwards of fifteen hnndred workmen employed on them. We hope to be able to continue to notice that the aotivity now manifeeted will be rather increased than diminished.

THE famone snit of McGarrahan against the New Idria Quicksilver Mining Co., is to come up in the Distriot Conrt at Sau José, on Monday next. McGarrahan's claim is for possession of the mine and $5,000,000 damages.

THE Exchequer mine at Cherry Creek has been sold to parties in this oity for $32,000. Thie is the property known as the Rye Patch Consolidated, and is being developed with a five etamp mill.

THE ATLANTIC AND PACIFIC TELEGRAPH CO., has added 2,000 miles of wire to ite telegraph eyetem during 1872, and has made large additione thie year. Is now constructing new lines and proposes to oontinne extending.

Encourage Inventors.

At the last meeting of the State Board of Agricnlture, two new departments were added to the preminm list. One is to he devoted exclnsively to California inventione and the other to articles produced and exhibited by youths. That this a step in the right direction no one will deny. Similar features were adopted at the St. Joeeph Industrial Fair held last month at St. Joseph, Mo. The Board of Directors of that association thonght that patentees and owners of patents deserved more than a passing notice at Expoeitions, and held out special inducements to inventors and owners of patente only to exhibit their inventions. Inventors were allowed to advertise in the building and gold and silver medale were offered for the hest and moet useful of specified inventions. Whether quite so much encouragement to inventors will be given by the State Board is doubtful, bnt we are glad to see that the California inventors will hereafter be recognized as a distinct class and will be able to gain premiums when merited.

That youthful inventors should also be enconraged is eminently correct. Tbey are the ones to whom the nation will look during the next few generations. When a boy exhibits preoosity in this direction, his efforts shonld be encouraged in every poseible way. The days have gone by when the pnblic fail to appreciate new things of valne, and if an inventor patents anything of real utility there is little danger but that he will find some one to introduce it. The tronble with a good many inventors, however, is that they think their articles are of real value, when perhaps they are too complecated or expensive ever to merit nnivereal introdnction, and are therefore of little valne. Advioe on this eubject is generally thrown away, unfortunately, for the inventor has probably studied np his subject so mnoh and epent so mnch time npon it that he naturally dislikes his talents to be depreciated and the value of his invention qnestioned. Consequently he looks npon the snbject from one side only and grumbles because the community fails to appreciate his efforts.

Our State Fair has never been np to the work of what it should he in relation to mechanical or industrial exbihitione, and has come to be looked npon more as a horse-racing institntion, than anything else, by a large portion of the public. Conseqnently it is only patronized by a certain class. It is argned by the managers that it is necessary to devote a great deal of time and money to the speed programme, in order to create interest enongh among the people to make the institution self-snpporting. Because they bave devoted so much time and money to this department is prohably the reason it wae necessary to oontinne it. The faire of the Mechanics' Institute in this city are always very well attended, and pay well; bnt the reliance is placed mainly on the mechanical display to draw people. Of conrse many come merely to promenade and eee the crowd and the pictures, or to lieten to the fine music furnished. But thousands visit the machinery department, and that is where the main interest centere.

Horee races are perhaps very well in their way, and suit and entertain a certain class of people, but the majority of the people care very little for them really, while they are at the eame time somewhat excited on the snbject while a race is in progrese. We are sure, however, that the recent action of the State Board, in adding to the premium list a department devoted to California inventions and another to articlee prodnced and exhibited by yonths, will be of much more benefit to the people and to the Fair, than if a hundred times the amount had been set aside to angment the "speed" department. Enconrage inventors and inventions as mnch aa possihle, and labor-saving machinery will be incteaeed and improved. Incite an interest in our youth to develop their mechanical ingenuity and we assist a class who will be of benefit to our children. Give inventors a chance not only to show their articles but to dispose of them, and it will surely bring abont beneficial results not only to our State but to a olass of people in much need of assistance.

A BED OF COAL hae been found abont 15 miles from Walla Walla, which promises to be of great importance to that section. It is said that this eame material was etruck in 1863 bnt it attraoted no attention, as the existence of coal in that part of the country was not euspected.

Vein Geology of California Gold.

It can hardly be necessary for practical purposes to enter into the question so tenaciously argned by Murchison and others since 1849, of the predominating Palæozoic, or Mesozoic (the ancient or middle) age of our planet's gold bearing rocks. Geologists will strain (legitimately) to deduce a law, where they are sure they have fonnd a repetitiou of what the prospector designates as his "indications."

Such indications had been observed by Murchison as seemed to place the gold-bearing rocks of all the gold-producing conntries known, uniformly in the form of elates, into the dark ages of geological history.

But as checkere will range in line four different ways, so may the trnth. The primary indicatione, and the secondary indications, or results of the truth, can be easily distinguished; the latter are stars of reflected light. They are echoes, or caroms of the firet. The law of gold distribution is a broader one.

Of the fifty or sixty elementary substances to which chemistry reduces all matter, gold, one of the most independent of all alliance or mineral intermarriage, and silver the next following in tractability, once it is gotten, are now believed to be ae truly ae iron and olay and quartz, universally distribnted. Silver ie found in eolution in sea water, the world'e universal envelope, and in all countries pretty much the world over. Gold, thongh more scarce, is also fonnd in all countries. It has been found crystallized in veins and precipitations helonging to all geological ages, including even, it would seem, the Post Tertiary in California. Gold and silver are both soluble in the natural waters of the earth. They are extracted from their ores in California and Nevada in fact, largely by solution, or "in the wet way."

Going back to the palæozoic, or dark ages of geology, and remembering the high specific gravities as well as the firet choice of affinity of these metals, we should expect to find all the gold that there was within eome vertical miles of the eurface disseminated through the semimolten azoic mud which geology tells us of, arranging iteelf and finding its place as truly in accordance with the lawe of gravity and affinity, as do gold, pyrites, quartz, and soil now in the sluice or cradle of the washer.

But chemical affinity or solution was enough to prevent all the gold and eilver we now obtain from "going to the bottom," either of mud or sea, in proportion to their simple gravity. And along with the fluvial replacements of material attendant upon the everlasting rising and einking of lands, chemical affinity or solution, has kept thie gold and eilver moving, ever since, wherever water moves—precisely like all the rest of the 50 or 60 elements of matter, and conforming as faithfnlly to the laws of phyeics and chemistry, that govern all matter.

Thie may be taken as a reeume of best judgment on this subject of the most noted mining geologists and miners in older mining countries, where the vein geology of silver and gold has been stndied a thonsand years.

Of course the "indicatione" of this law can be eeen abnndantly. We find rich silver and gold veine on the eummit, and on the eastern slope of the Sierra Nevada, not merely in the middle age slates, but (in Nevada, Waehoe, Alpine and Esmeralda counties) in the comparatively modern volcanic rocks.

We find gold not only in the "dark age" (Silurian) slates of the Ural and of Auetralia, hut in the "middle age" (Jurassic and Triasaic) slatee of California, and even in the pyritee—possibly mechanically intermixed—of the extinct Pliocene rivere of the Pacific Slope.

The latter occurrence has been repeatedly reported in the pyrites that cryetallize on the carbonized wood, found in placer mining; but we are not assured of a sufficient degree of care having been taken in the test, to exclude all possible mechanical admixture. Preeumptively we know of no reaeon to doubt the statement. Some of the placer pyrites in Nevada and Sierra counties, after ordinary separation by specific gravity in water, are certainly rich in gold.

The Jnrassic and Triassic mude were no sooner deposited than they were distnrbed. The Sierra Nevada began to rise before the Cretaceoue rocks on their flanks (near Shasta, Folsom, etc.) were deposited—eince we see the latter lying nearly horizontal, on the nptnrned edges of the slates.

In the usual natural method of surface oscillation that caused the principal mountaine and valleys of the globe, the slate-muds must have been sinking and piling np thicker and thicker, at the same time that the axis of the Sierra wae rising. This much we may infer from the fact that the valley of Alta California is a valley of depression. The coal mines of Mount Diablo and Corral Hollow will easily convince us of the latter, by showing how their veins, on the top of the Cretaceons, pitch under San Joaquin Valley, where they have been aleo explored, and are about to he worked. Veins are cracke. What etronger evidence then ie needed of the age of the gold-bearing veins of the Sierra, than that of their general parallellism to the axis of uplift and depression?

The True Road to Success—Patrons of Industry.

It hae been snggested that if the mechanics of this conntry wonld unite in eome organizatiou, similar to that of the Patrone of Hnshandry, excluding therefrom all direct action in political matters, and shutting out all such from their conncils as make politics a trade or a specialty, mnch more could be accomplished for that branch of industry than is now heing done or can be reached by the eemi-political organizatione now in vogue among that class of our people. Our brethren of the hammer and plane have labored much longer to obtain their just rights, through the aid of co-operation and co-organization, than have thoee who earn their living by the spade and the plow. While the latter have as yet had but a single year of earnest, active work, we verily believe they have accomplished more (or at least will have done so within another year) than the former have in twenty years.

It is interesting to notice with what intense interest the development of the Farmers' Movement, as it is sometimes called, is watched by politicians and leading men everywhere. The opinion ie very generally expreesed that it possesses an iuherent power and vitality which promise large, most important and satisfactory results, not only to our own country, but to the world at large. Millione of eyee are turned towarde it from abroad, anxiously inquiring of the purposes, plane and methods of action adopted by the Patrons of Hnsbandry.

To our hretbren of the shop we wonld say:—Act wisely and honestly. To be permanent, any reform mnet be based upon honesty and mutual confidence. Look into yonr organizatione, and see if there is not something radically wrong. To effect a thorongh, radical reform, the reformers themselves must he circumepect, and begin the work of reformation in their own persons, their families and their class. Evil-minded men and men who, in common parlance, "have axes to grind" are but poor helpers in such work. So are those who are lacking in moral stamina, in the eyes of the community. Better do without them.

Why may we not have an Order of "Patrons of Industry" as well ae "Patrons of Hnebandry," working separately, but in harmony, and for the eame end, both based upon the same general principles—both laboring for social, commercial and political reform, and for honeety, economy and pnrity in every official, commercial and social relation, and both laboring to secure this end by the eilent hut all-powerfnl lever of moral force alone?

Nearly one half of all the adults in the Union are eugaged, either directly or indirectly, in agriculture. If to that number we add the great maee of the mechanics of the land, and let the better portion of this vaet army be organized so ae to readily co-operate in every desired reform—they would present a front so formidable ae to make a short end to bad men forcing themselves upon the people throngh corrupt partiean nominatione. No party under such a condition of thinge would presume to present for the suffragee of the people any bnt thoee whose records were nnimpeachable. How much better and nobler to stand thns as the controller and elevator of all parties, than to be recognized as the leader of bnt one. An organization which admits politicians and partisan politics into ite councils, contains within iteelf the snreet seeds of disorganization and dissolution.

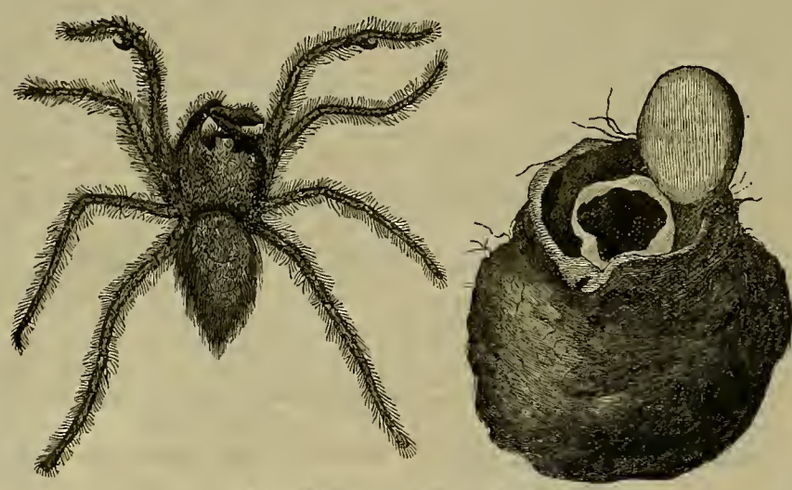
HOLT'S MAP.—There ie no call that we are aware of for repnblicatione from worn out and retouched plates of maps, that were poor indeed when they made their first appearance years ago. The latest edition of Holt's Map of California and Nevada, compiled by Charles Drayton Gibbes, C. E., ie a *bona fide* and very valnable map of this and onr sister State, which, as a specimen of drawing, engraving and printing, surpasses anything heretofore pnbliehed. It is also the most acourate in every respect, and has compressed within ite limits a wonderfully large amount of information, snch ae is reqnired by residents for office nse and constant reference, as well as by etrangere, who are not familiar with this part of our country. All exieting official and other eonrces of reliable information, have been resorted to, and ite accnracy is affirmed by the Government and railroad engineers and local officers, most of whom have been applied to originally to supply information, to correct the draughts before pnblication, and since the appearance of the first edition to make all necessary additione.—*Alta.*

The Tarantula.

The Tarantula, *(Aranea tarantula)* is so named because supposed to be originally a native of Tarentum, Italy, but there is no reason why it should not equally well be termed a native of California. Here it occurs of three times the size attained in Italy. There can be no doubt that each variety belongs to the same genus as the common spider. It may differ in size and habits, but its organism is in all respects similar.

A short time since, Mr. Wm. C. McDougall, of Chinese Camp, Tuolumne Co., left at our office a specimen of this attractive creature, of which we now present an illustration. The body is composed of two parts, united at the thorax, nearly midway between the head and the abdomen. It has eight legs, four on a side. Between the fore legs there are a pair of sharp and serrated nippers, which are used very rapidly when about to seize upon their prey. Between these, again, and somewhat beneath the nippers, are two horny, sharp and hollow fangs, curved inwardly, through which a poisonous fluid escapes, when attacking an enemy. Each animal of this species has six or eight eyes—generally the latter number—which are variously distributed in the different genera. Every portion of the body is covered with a soft downy hair, of a dark slate or chocolate color. Under the extremities of each of the fore-legs there is a claw, or hook, which is used to open and close the doors of its habitation. The propagation of the Tarantula, as of all other spiders, is effected by means of eggs, which are carefully enveloped in a cocoon of silk. They subsist principally upon flies and other insects that may chance to stray too near their dwellings. The Tarantula is very expert in the capture of its prey, which it drags to its nest and devours at leisure.

The nests are holes of its own construction, some of which are closed by a trap-door, which renders them difficult to find, and affords a protection to the ingenious constructor. The trap-door is wider externally than internally, or slightly conical, and is so arranged that on the entrance or exit of the spider, it closes automatically. Near the margin of the inner side of the lid and opposite the hinge, the Tarantula forms a series of small holes, to enable it to insert its claws in case of an attempt to raise the lid from without, but if a knife be inserted so as to run beneath the Tarantula and then lifted up, the deceived animal, circumvented in this unexpected manner, suffers itself to be captured without opposition, and yields unconditionally. We have also heard of a method, practiced sometimes by boys in the country as follows: When the lid has been successfully raised, a looped bit of string is offered the Tarantula, who, on seizing it, is lifted out of his nest and becomes a sadder if not a wiser Tarantula by being deposited in a tin can by the triumphant juvenile.



THE TARANTULA AND ITS NEST.

A Long Prospecting Trip.

A party of prospectors, five in number, have been since September, 1872, examining the country northwest of British Columbia. They visited Omineca river, Peace river, Half-way river, Nelson river—prospecting all along for gold, but found no gold until they arrived at the junction of Nelson and Liard rivers, where they got a few colors to the pan, but nothing to pay for working. They then came down the Liard to Mackenzie river, down that 200 miles to the mouth, then up Peel river to the summit of the Rocky Mountains, recrossed the mountains to the west side, carrying their boat until they came to the headquarters of the Rat river, down which they came to Fort Yukon, on the Yukon river, arriving there on the 25th of July, 1873.

The members of the expedition write to the *Alta* that the country through which they traveled shows few indications of gold or silver. In all their journey they saw very little quartz to speak of, most of the rock being limestone, sandstone and chalk. These men must have traveled some 1,500 miles during their ten months trip, carrying their boat and a year's provisions, without any draft animals, depending on boat and sled. They started originally from the Omineca mines, and must have had an adventurous trip. The same men are now about to prospect the head waters of the Yukon river.

The names of the men in the party, as given in the *Alta's* letter, are A. S. Kanzler, G. W. Finch, Fred. Hart, Samuel Wilkison and A. Harper. They most assuredly deserve better success than they have met with in their arduous search for gold and silver. Men with the enterprise shown by this party must, however, be successful in the end, as they will keep on until they do find something. The whole expedition was undertaken at their own expense, but of course if any gold mines are found they will make the fact public.

Patrons to the Relief of the Workingmen.

Active and practical steps are being taken by the Patrons of Husbandry at the West, to aid the working men of the East by placing Western productions more immediately before Eastern mechanics and other consumers, without the intervention of the present expensive circumlocution of middlemen. There is no reason why all such productions may not be shipped directly from Grange agents to agents appointed by the mechanical associations of the various Eastern cities to receive and distribute them from proper storehouses directly to the consumers as they are wanted, and at wholesale prices. The commissions of agents so appointed would add to the original cost and freight but a tithe of the percentage now charged.

Propositions have also been made, with the same benefit in view, to employ the capital of Eastern mechanics now locked up in savings banks, where it is of but little use, for moving the Western crops to the Atlantic seaboard, for consumption there, and for shipment to Europe. In this connection the New York *World* recently published the following interesting item:

In the Workingmen's Lyceum which recently met at the Cooper Institute, a proposition was made that whereas millions of bushels of grain are locked up in the West for the lack of currency, and millions of currency are shut up by Eastern workingmen in their pockets and the savings banks, the workingmen's societies should choose reliable business men for treasurers, put a large portion of their money in the hands of these treasurers and say to them, "Move this grain and other food produce into our cellars and garrets to an amount sufficient for our winter's use." Thus shall we supply ourselves with necessary food and unlock a large amount of produce and greenbacks. J. B. Hodgkins, late Secretary of the Erie railroad, was suggested as a friend of workingmen who would be a fit man to be trusted with funds to begin the work, and he was invited to address the Lyceum and the citizens generally, upon the remedies that should be adopted in this crisis.

There is no doubt but great good may and *will* yet come from the co-operative action of the Patrons of Husbandry and the various mechanical associations throughout the country. Their interests are mostly identical, and the two classes comprise the total of the great producing army of the Republic. Why then should they not work in harmony for a common end?

ACCURATE WORK AT SUTRO TUNNEL.—Connection was made on the 27th of October, at 11 A. M., between shaft No. 1, and the mouth of the Sutro Tunnel. The distance between the mouth and the shaft is 4,884 feet. Shaft No. 1 was sunk 21 feet from the line of the tunnel, and a drift run to the line, when tunneling was begun. The surveys were so accurately made that the grade hit within half an inch, and the line within seven-eighths of an inch. Mr. H. Schuseler, engineer in charge, formerly Chief Engineer of the Spring Valley Water Works, telegraphs to Mr. John Roach, Instrument Maker in this city, and says much of this accuracy is due to the perfection of the instruments used, which were made by Mr. Roach. By reading an article in another column of this issue, on the Sutro Tunnel, the difficulties of the undertaking will be apparent.

Order of United Mechanics and Grangers.

Joint Action Proposed—The State University to be Examined—Joseph Arch Invited to this State.

The Mechanics' Deliberative Assembly, having accomplished its work in preparing bills for labor schools and training ships, now desires to unite with the farmers and look into the workings of the State University. It is claimed that the departments of agriculture and mechanical science deserve a more prominent place in the management of that institution. The Joint Committee of the Assembly and State Grange will be a formidable body, considering the backing they have to sustain them, and their strength of constituency will command the attention of the Legislature.

The Joint Committee publishes the following correspondence:

Winn to Wright.

Hon. J. W. A. Wright, State Lecturer, etc.—Dear Sir:—The interests of all producing classes are identical, and there are substantial reasons why the Patrons of Husbandry and the Order of United Mechanics should unite their influence in obtaining necessary legislation for the benefit of both institutions. We are informed that your order has appointed a Committee to inquire into the condition of the State University, with a view to making it produce more good to the industrial classes. The Mechanics' Deliberative Assembly has elected Hon E. D. Sawyer, Hon. C. C. Terrell and M. J. Donovan a Committee for a similar purpose. Judge Sawyer is the Chairman. * * *

I have the honor to be your obedient servant, A. M. WINN, Pres. M. D. A.

Wright to Winn.

GENERAL A. M. WINN—Dear Sir:—Our Committee of the State Grange on the interests of the University will gladly avail themselves of the opportunity to confer with the committee appointed for the same purpose by the Mechanics' Deliberative Assembly. We are satisfied our purposes are identical, and wish to coöperate cordially with your association to secure the mutual interests of our industrial classes. My co-workers in the committee are W. H. Baxter of Napa, and O. L. Abbott of Santa Barbara. Yours respectfully,

J. W. A. WRIGHT.

San Francisco, October 23, 1873.

According to agreement, these gentlemen met at Judge Sawyer's office and had a very pleasant and satisfactory interview. The Executive Committee of the State Grange will meet in San Francisco on the 11th of next month, when, in all probability, the committees will make to their respective bodies an agreed report in relation to the University, and ask for a permanent Committee of Conference to act together during the session of the Legislature.

These committees were raised without any collusion of the two orders, and were brought together by publication of the committee of the Assembly. This is an important movement for the future of the producing classes. Mr. Wright is a man of ability, and having served as the Master or chief officer of the State Grange, is well prepared for his duties as Lecturer. His labors have taken him off into the country, but he will try to be here at the meeting with the Executive Committee.

The State Grange has invited Joseph Arch to come to this State, where he will find ample room for all of his agricultural emigrants. The mechanics will no doubt unite in this invitation.—*Call.*

SCHELL CREEK MATTERS.—The Eureka *Sentinel* of the 26th, says: In receipt of telegraphic information from Schelburn that the new mill erected by the McMahon Company went into operation yesterday morning. The machinery moved off smoothly and gave satisfaction to all concerned. E. B. Dickinson, late of this place, has been appointed Superintendent of the company.

Quicksilver.

When we read of the discovery of so many new quicksilver mines and the rapid development of so many more, with accounts of the production of certain others, we wonder why the high price of $1.10 per pound is kept up, and why the production is not larger. According to the *Commercial Herald*, for the first nine months of this year, we have exported by sea 3,205 flasks, valued at $228,560, of which 1,758 flasks went to Mexico. In the first nine months of 1872, 9,383 flasks, valued at $613,257 were shipped, and in the same period in 1871, 14,603 flasks, valued at $805,905 were exported.

We do not know what the home consumption amounts to, but it must be a very enormous burden to our miners to pay the exorbitant prices now ruling. The New Almaden mine is said to be producing only about 800 flasks per month the new Idria about 500 flasks, the Redington 350 flasks, the Great Western flasks. Quite a number of other mines turn out a limited quantity per month, but still the price is high. We see by the Colusa *Sun* that the Chapin mine is now taking out a great deal of rich cinnabar, and thinks that this is the neatest strike of quicksilver that has been made in the State. The *Sun* thinks that the quicksilver mines of that county will be the best in the world. The region where it is found is south of Wilbur Springs. The veins already opened are doing well, and with imperfect works they have more than paid expenses. Extensive smelting works are about to be put up and the mines systematically opened.

The steadily increasing price of quicksilver exercises an important influence on our mining interests, and its production, at a cheap rate, is a matter of great interest to our mining population. Still, cheap production seems to benefit no one but the men who control the sale of the product. We possess in this State the broadest fields of this necessary article in the world, and this coast uses more of it than any other locality—and we may add we have to pay the highest price for it too. Last year we had to pay 85 cents per pound, and thought the figure a high one, and now we have to pay $1.10 per pound. It is absolutely necessary for the purposes for which it is mainly used, and for amalgamating particularly, where is is now used with a sparing hand, a more plentiful and cheap supply would be a material benefit. It is greatly to be hoped that the prospectors now out will find as many more mines as there are now, and that competition among them will bring the price down to a reasonable figure.

AN ORIGINAL and noteworthy conception appears in connection with the invention of Mr. J. Berger of Manchester, Eng., for improvements in the generation of steam, in economising the heat contained in waste steam, the essential principle of which consists in the use of fluids, whereof the boiling points are higher than 212° Fahrenheit, for the absorption of the heat of waste steam, and applying the same for super-heating the steam from the boiler.

QUICKSILVER MINE.—Capt. R. Battereby, the Mining Engineer, tells us that he has had placed in his hands for sale some quicksilver property of surprising richness. It is in one of the counties north of this city, and has been worked only a few months. According to his account of the mine, the deposit is 25 feet wide and contains large quantities of perfectly pure quicksilver mingled with the debris. Particulars may be learned by those interested, by calling on the above-named gentleman, over the Hibernia Bank.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., October 24th, 1873.

FOR WEEK ENDING OCTOBER 14TH, 1873.*

AMALGAMATING PAN.—Ira S. Parke, Virginia City, Nev.

APPARATUS FOR COMPRESSING AIR.—Richard S. Pardee, San Diego, Cal.

DIVINER NUT DEVICES FOR FEED SCREWS.—Frank A. Huntington, San Francisco, Cal.

BOTTLE CORKING MACHINE.—James Armstrong, San Francisco, Cal.

LUBRICATOR.—John M. L. Power, Port Discovery, Washington Territory.

LOCKING LATCH FOR DOORS—Edward Halsey, San José, Cal.

STIRRUP.—Nels. C. Thompson, San Francisco, Cal.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

By Rail to Bullionville.

The Nevada Central Railroad.

An erroneous opinion prevails in some quarters in regard to the Nevada Central Railroad, connecting the mines of Pioche with Bullionville; and we regard it as a duty, as well as a pleasure, to set the railroad right before the public. In order to report understandingly about the road, an enterprise in which our people have a very great interest, we rode down and back in the cars yesterday, and found a very marked improvement in the road since we previously inspected it. The train left the depot here at 10 o'clock in the morning. In the train were nine ore cars and one passenger car, the latter capable of accomodating 30 passengers very comfortably, although there were only about 20 persons in the passenger car, exclusive of the officers of the road. The cars now used were constructed under the direction of Mr. Nesbitt, Superintendent of the road. The engine is of ample capacity, and brought the train up the steep grade of 192 feet to the mile without difficulty. At present there are but 460 feet of trestle-work on the whole route, and it is Mr. Nesbitt's intention to dispense with even that amount, and to straighten the line very materially. The trip from Bullionville to Pioche was made in an hour and a half; the distance from the Raymond & Ely mine, where the cars are loaded, to the mills at Bullionville is just 21 miles. Two trips down and back are made daily, making 84 miles in all. The public may rest assured that the road is in good working order, and perfectly safe. Mr. Nesbitt, the Superintendent; H. C. Chapin, bookkeeper, and C. R. Taylor, conductor, accompanied the train yesterday, and each manifested a lively interest in the success of the enterprise and a determination to exert all their energies to make it a complete success.

Bullionville.

The several quartz mills at this place, together with the machine shop of the railroad company, make it a very busy and lively little place. The mills and foundry have so often been described in our columns that we need not repeat anything in regard to the admirable working of both mills and foundry. Mr. Vickery, foreman of the foundry, gave us all needed information in regard to it. From him we learned that the company propose building a new foundry a quarter of a mile from the present one, and that a track leading to the new foundry will be constructed and all trestle-work will be dispensed with.

Want of time prevented us from examining the mills, which, however, are all doing good work, and which, though so often visited by us, are never without interest.

The Canon.

No one can ride by in the cars from here to Bullionville without being profoundly impressed with the beauty of the scenery in the cañon, for a distance of about four miles. The rugged mountains on either side, green grass, brooks of clear running water, and flowers of every hue, render the cañon sublimely and impressively beautiful.

Another Engine.

Yesterday afternoon Mr. O. R. Ford, an engineer, connected with the company, arrived from Toano, from which point he arranged before leaving for the shipment to Pioche of a first-class 20-ton locomotive for the Nevada Central Railroad.—*Pioche Record.*

The Polaris Investigation.

A dispatch from New York says: The *Times*, in its story to-day of the "Polaris" investigation, says Mr. Manton denies absolutely that he ever had any suspicion of foul play in the death of Captain Hall, or that he ever, to the best of his knowledge and belief, told any one he had, or gave any one reason to suppose he had. When Dr. Hall returned from the sledge expedition, Dr. Bissell was employed in the observatory about two hundred yards from the "Polaris." As he saw Dr. Hall and party approach, he went down and greeted and shook hands with them, and then returned immediately to his work at the observatory. Dr. Hall and party went to the vessel, and all partook of some coffee, which all the crew of the vessel had previously drank. The coffee was prepared by the cook, and was given to the party either by him or Joe or Hannah. The party were unaffected by the coffee, except Dr. Hall, who was immediately attacked with vomiting. After vomiting, he fell into a state of insensibility. It was about half an hour after the return of the party when Bissell was summoned from the observatory, and found Dr. Hall already in a comatose condition. When Dr. Hall revived from this state of insensibility, it was found that his left side was paralyzed. This is considered by medical men an absolute refutation of the charges of poisoning. The suspicion that Dr. Bissell caused the death of Hall is baseless, as it undoubtedly is felt by his friends, many of whom were also warmly attached to Hall, to be most harsh and cruel. The symptoms and medical treatment of Hall have been submitted to the most eminent medical men of the country, and by them his death has been unhesitatingly pronounced to have been due to natural causes, and the treatment employed by Dr. Bissell is endorsed as exactly that which was required, and the only treatment proper under the circumstances.

Golden Smelting Works.

This important industrial enterprise, says the Colorado *Miner*, is now in full tide of successful operation, with a capacity for reducing ten tons of ore daily. Messrs. Bagley & Sons, the proprietors have spared no expense to make this establishment complete in every respect; and Mr. West, the Superintendent, the originator of the system of reduction and separation in use, has brought the several operations to such perfection that he is ready to treat any ores that may be brought him, no matter how low in grade, so that they contain a fair percentage of lead.

When the ores are delivered, they are crushed and carefully sampled, and then assays are made to ascertain their value. After this is ascertained, the prepared ores are mixed with appropriate fluxes, which vary according to the character of the ore, and are then roasted, preparatory to smelting. When the mass is drawn from the roasting furnaces it comes out in a semi-fluid condition, of a cherry-red color, but in consistence about like soft dough. This is now in a proper condition for smelting. The slag from the blast furnaces is drawn off into pots and wheeled away, when the molten lead is run out into a pool. On the surface of this pool the copper cools and is skimmed off, and the lead is then ladled up into moulds. The copper is subsequently treated by a process which we cannot fully describe in a brief article like this, but so thorough is it that all the lead and silver contained in it are separated by a series of chemical baths to which it is subjected.

The lead bars, as they leave the pool, contain proportions of gold and silver varying with the richness in these metals of the ores treated. The lead is again melted in a furnace where a certain metal is added which immediately combines with the precious metals, leaving the lead comparatively free. The clean lead is then run into bars for shipment, and the matte containing the precious metals piled up for subsequent treatment. "Matte" is perhaps not the technical name for this combination of metals, but the reader will have to accept it for want of a better term. It is a metallic mass of great value, and far more beautiful than either pure gold or silver—varying in color from a brilliant pink, through all the grades of purple, to a lustrous blue.

The machinery in these works is of the most approved pattern. Mr. West had many years experience in ore-reducing in Europe, but he informs us that the Golden Works are the result of his experiments and investigations made upon the refractory ores of Colorado—his previous experience aiding him but little. He certainly deserves great praise for his patient study, and credit for the success that has attended it.

We learn from the *Transcript* that during the week succeeding our visit, these works turned out $5,000 worth of gold and silver bullion, and fifteen tons of clean lead were made ready for shipment. Superintendent West will locate works shortly in South Park, for the treatment of low-grade ores that will not pay for transportation to Golden.

What a Colorado Mine Has Done.

It is well known to every body in this part of the country that the Pelican mine is one of the best in the mountains, but of those who tacitly admit this there are doubtless many who are not aware of the extent of its richness and capacity.

For the information not only of home readers, but of many persons in the States to whom the *Miner* is a regular visitor, we will give a few figures, that are authentic and official, just to show what one mine is doing here. There are many persons in the States who do not yet believe that there is any profitable mining being done in Colorado. They are laboring under the delusion that for every dollar taken out of a mine a dollar is spent to get it; and while they admit the fact that the mines are producing largely, they think the production is not remunerative.

We do not wonder that many who have invested in wild-cat schemes and in experiments that were not successful, should be slow to believe that others have succeeded where they failed; yet such is the case, as the figures from many mines will show.

Some weeks since, we spoke of the discovery and present state of development of the Pelican; and we will now briefly allude to its yield of silver.

The balance sheet up to the first of the present month shows the gross product of ores from its various workings to have been $664,303, minus at an expense of $224,434, leaving a net profit of $439,869, to which must be added the amount now in the dump—at a low estimate $50,000, making a grand total of profits of $489,869.

These figures, large as they appear, do not, however, convey anything like a proper impression of the value of the mine at present. A very careful estimate of the ores now exposed and ready to be taken out has been made by Mr. Stoelting, Territorial Assayer, calculated upon the basis of the past product of the mine, as shown by the books, and from a careful computation of the number of fathoms ready to be taken down, after deducting twenty-five per cent. for barren ground. This estimate gives 3,300 fathoms of productive ground, that will yield a net profit of one million two hundred and sixty-four thousand six hundred and seventy dollars.

A splendid deposit has just been struck in an easterly drift, of which we will say more to-morrow.—*Colorado Miner.*

The New British Columbia Mines.

The following is a brief account of the new mines taken from the *Colonist*:

On May 1st gold was discovered by Henry Thibert, Xavier Loayon, and T. Talfair, on a creek now known as Thibert Creek. They got a few colors at first, but nineteen days afterwards, on the 20th of May, the ice broke up and they got $10 to a prospect. On the 23d of May they commenced work with rockers, and made from an ounce to $20 a day to the man in coarse gold. On the 1st of July they set steadily to work with rockers, and made ever afterwards from $11 to five ounces to the hand per day. The main diggings are on a bar of the creek. They also worked on the bench ten feet above high-water mark, the frost being still on the ground. On the bench they made from one to three ounces a day to the hand. The pay gravel is from six to twelve inches in thickness. They built a wingdam, and made from two to five ounces a day to the hand on the bar.

This creek is thirty to fifty feet in width. It runs from west to east, and empties into the Dease Lake, but where it heads is not known. It runs through a range of low hills, and the banks are well clothed with spruce timber, while fish abound in the lakes.

Dease Creek, fifteen miles to the south of Thibert's Creek, running in the same direction, and about the same size, was discovered by Moore & Co., who got good prospects of $10 to $22 to a pan. When these informants left, they were working on a bar with rockers, and making two and a half ounces a day to the hand.

Mr. Thibert has great confidence in the richness of the diggings. Their extent, of course, is not yet known. William Waldron is entitled to the honor of taking out the largest nugget yet found in the new diggings. He found a perfect beauty, weighing three and a half ounces, which is now in town. Mr. Thibert took but the next largest, weighing $22. In coming out, the party met three men from Nanaimo, half way between Buck's Bar and the diggings. They met six more men at Pack Saddle Creek, fifteen miles above Buck's Bar, and saw twenty-five men at Wrangle who had come up. Several miners from Omineca arrived yesterday.

Mr. Griffiths, of this city, from Lost Creek, brought $2,000. A miner who left the diggings three weeks ago came down by Frying Pan Pass. There was no snow on the creeks, and mining was going on as usual. On Lost Creek several claims were paying good wages. On Mansion several parties were also taking out gold. Jim May and party have gone to prospect the Bear Lake country at the headquarters of the Skena. The news of gold discoveries at Cassiar had reached Omineca, and men were leaving daily for the new gold fields.

Germany to Stop Coining Gold.

The Berlin *Borsen Zeitung* makes the important statement that the German Government proposes to stop coining gold for the present, after the existing stock of bars is used up, and to occupy itself exclusively with the coining of the new silver currency. It has been obvious for some time that the coining of silver as well as of gold would require to be undertaken; but this is the first authoritative statement that we have seen that the coinage of gold would be intermitted, even for a time. It may be useful to point out, however says, the London *Economist*, that some of the inferences which have been drawn in advance from this expected action of the German Government are not well founded. It is uncertain even yet when the intermission will begin, as the German Government is still a purchaser of gold in the London market, but assuming that no more purchases are now to be made, the market will not be wholly relieved from the influence of the German demands. The important fact is that the amount now coined, about $225,000,000, will be totally inadequate, according to all reasonable calculation, when the single gold standard is made compulsory throughout Germany, which will be in about two years' time, if not sooner. About 100 or 150 million dollars more will be required at the very least.

At some time or other, therefore, within the next two years, the German demand for bullion may be expected to revive, and the necessary effect will still be what it has been in the past, a perturbation of the money market and a constant tendency to protraction in business, consequent on the scarcity in the medium in which all contracts are expressed. The annual supply from the mines being about $100,000,000 and the annual consumption in wear and tear of coinage and the like about $60,000,000, the extraordinary German demand amounting to about $150,000,000 during the next two years cannot but cause some disturbance. It has been suggested that the present monetary convulsion in America will cause a return to specie payments in that country, and this would be the cause of another extraordinary demand, likely to strain the stock of bullion throughout the world during the next two years. We must not too readily conclude, therefore, that the temporary intermission of the German demand, satisfactory as it is for the moment in tiding us over a difficulty, is at all equivalent to the total cessation of that demand. The introduction of the gold coinage in Germany will be a cardinal fact in the money market for many months to come.

Sutro Tunnel.

Very few people, even professional men, says the *Enterprise*, are aware of the immense difficulties to be overcome in regard to projecting the line from the surface down to the bottom of the shaft, from whence it has to be continued both east and west in order to make an accurate connection of the several drifts on the line of the tunnel. The header, it will be remembered, was started from the month of the tunnel, in the town of Sutro, and is being pushed rapidly ahead in the direction of Mount Davidson. The drift is being run in a perfectly straight line, rising westerly with a grade of two inches to every 100 feet.

Shaft No. 1 is located 21 feet 9 inches off the center line in a northerly direction, and is distant from the mouth of the tunnel 4,885 ft. In order to start a drift from the bottom of shaft No. 1, to meet the header coming from the town of Sutro, it was found necessary to first run back 21 feet 9 inches in a southerly direction from the bottom of the shaft, until the center line of the tunnel was reached, thence to turn a right angle eastwardly, and run in this course until the header is met. In order to effect an exact connection between header and shaft extreme accuracy was necessary in surveying these lines. A serious embarrassment to correct surveying originated from the placing of a boiler on the surface just at the point where the line of the tunnel crosses the offset line of the shaft, so as to prevent placing the instrument over this very important point. It therefore became necessary to lay off the rectangular offset lines in front of the boiler past the shaft, thence to measure with offsets so as to get a parallel line over the top of the shaft, and from this parallel line to plum down to the bottom of the shaft, 523 feet 8 inches in depth, thence take this line at the bottom and prolong it southerly 21 feet 9 inches to the center line of the tunnel, and from this point turn a right angle and start east and west drifts. From the above mentioned statement it will be seen that the difficulties encountered in making the survey were much greater than those connected with the Hoosac Tunnel, the shaft of the latter being exactly on a line of the tunnel itself. The longest diameter of the Hoosac shaft is 27 feet and is placed in the line of the tunnel so that this line could be projected directly in the line of the tunnel and then be prolonged both ways. The longest base line that could be projected down the Sutro Tunnel shaft was six feet eight inches in length, provided that one plumb bob is hung down the pump shaft, while the other is hanging down in the hoist shaft, but the pump shaft is almost entirely filled with steam pipe, exhaust pipe, pump column and its braces, and a ladder way. Plumbing down the shaft was not considered reliable, as the wire might touch at some point or another; the shaft also being so hot from the exhaust steam as to prevent an inspection of the plumb-bob, therefore, the hoist shaft giving a base line of three feet, one inch in length, had to be depended upon for projecting the line of the tunnel down in the bottom of the shaft. The slightest variation made, even on the surface in this short base line, would result disastrously in throwing the east drift a long way off the true line.

Appreciating the difficulties previously enumerated, the Sutro Tunnel Company cast about for a civil engineer equal to the emergency, and eventually were fortunate enough to enlist in the enterprise Mr. H. Schussler, Chief Engineer of the Spring Valley Water Company, and still later of the Virginia and Gold Hill Water Company. Mr. Schussler entered upon the work with his usual energy and ardor. Under his careful and accurate surveying the drifts have been run straight as an arrow. He has been ably assisted by Ross E. Browne, a young engineer of marked ability. The driving of the tunnel is being prosecuted with the greatest vigor. Our reporter rode into the tunnel nearly a mile on a back-action car, an ill-natured mule being the propelling power. The two headers at present are only 102 feet apart, and the blasting and drill hammering can be distinctly heard in the respective faces.

A Colusa Mine.—The Colusa *Sun* of October 18th says: From all we can gather, this is perhaps the best quicksilver mine in the State. They have now a perfect mountain of ore in sight. Thousands of tons of ore have been laid bare with a few weeks work from three or four men. This ore averages as much perhaps as twenty per cent. pure silver. Chapin went below to-day to see about having a furnace put up. He is somewhat afraid he cannot get all the necessary material out there before the rain sets in, and he will order one or two retorts from the Marysville foundry to be sent out immediately. The other mines in the vicinity are also doing well. No capitalists have as yet taken hold of any of them.

Circular Saws.—An exchange says: Circular saws in America, except for timber cutting, are generally without guides to support them, and without packing boxes to keep the saw oiled and clear of gum. The result is that the saws have to be at least one-third thicker in order to be rigid enough for their work, consuming power, and wasting kerf in proportion. This needs thorough reform, and all benches where the top is not arranged to adjust for grooving should have guides and packing boxes.

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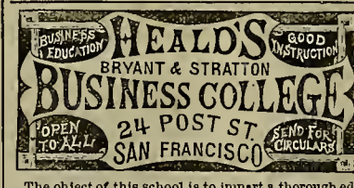

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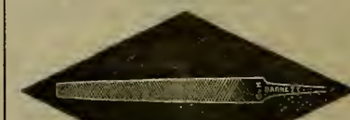

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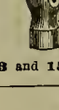

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[Continued from Page 277.]

JACOB LITTLE.—Driving the main northwest tunnel is again being prosecuted with the utmost vigor night and day.

JUSTICE.—The ore-body in the north drift at the 300-foot level is opening out finely, and the extraction of ore has already commenced.

AMERICAN FLAT.—The west drift from the main southwest drift at the third station is being energetically driven ahead, the face within a very short distance of the point where it is expected that the ledge will be reached.

YELLOW JACKET.—The pump is steadily gaining on the water from the 1,500-foot level, and it is expected that the wator will be sufficiently drained to again commence work on that level by Monday next.

CHOLLAR-POTOSI.—Daily yield 140 tons of ore, which is worth $33 per ton, assay value.

CALEDONIA.—Enlarging the shaft for another compartment is not yet finished, hnt is making good progress.

OPHIR.—There is no change of value to report of the prospecting drifts at the 1,700-foot level.

SIERRA NEVADA.—Daily yield 60 tons of ore. The ore hreasts are looking and yielding finely as usual. Nothing new to report of the prospecting drifis.

OVERMAN.—Opening the new station at the 1,200-foot level of the shaft is making excellent progress.

JULIA.—The main southwest drift at the 900-foot level is making excellent progress, and is expected to reach the ledge in a very short time.

UTAH.—Opening the new station to drift for the ledge is making good progress.

IMPERIAL.—Sinking the incline is making fair progress, although the rock hlasts hard and tough.

SUTRO.—The main southwest drift at the 100-foot level of the new shaft is still driven ahead with excellent indications of the development of a hody of good ore.

BUCKEYE.—The yield of ore continues ahout the same, and there is little or no change in the qnality.

GOULD & CURRY.—Prospecting the lower levels of the mine continues as usual, with no change of interest to report.

PICTOU.—Work progressing as usual, with no change of importance to note.

SAVAGE.—There is no change of importance to note in the prospecting operations of the lower levels.

Dividend Paying Mines.

The Idaho mine of Grass Valley is a dividend paying mine. The San Francisco MINING AND SCIENTIFIC PRESS is a paper which professes to make a specialty of mining matters. It persistently leaves the Idaho mine out of its list of dividend paying mines. The Idaho declared its fifty-first dividend on the 6th of this month, and that dividend was for $62,000, or $20 to the share of capital stock. The MINING PRESS may have accidentally overlooked the Idaho's dividends, hut no such accidents should occur. —*Grass Valley Union.*

We heg to inform the *Union* that our list of dividend paying mines comprises only those mines which ar e regularly called on the Stock Board in this city. If the *Union* will take a moment to think it will readily see that it is utterly impossihle to ohtain a correct list of all the dividend paying mines of this Coast. By far the larger portion of onr mines are held hy private parties who are not compelled to puhlish any statement and who, therefore, do not take the trouhle to do so. In the eemi-annual and annual compilation of dividends, aseessments, etc., by the daily papers of the city, the commercial papers, stock journals, etc., no mines are mentioned save those whose offices are located in thie city, or whose names are on the lists of the Boards. The United States Mining Commiseioner, in his annual report totally ignores, in hie acconnt of dividends, any hut incorporated mines called on the Stock Boards. If it were possihle for ue to obtain any list of other mines which could he kept even approximately correct, we should be very glad of it, since many people hase their impressions entirely on the published etatements of dividends and assesements and the difference hetween them. We are eure to hear of the asseesments, for they must he advertiscd, hut when a really good mine is found, it is soon "gohhled" up hy the knowing ones, and they do not want to liat it on the Boards.

We have time and time again endeavored to imprese these facts upon casual obserers. We call the attention of the *Union* particularly to an article on this subject in our issue of May 10th, the present year, in which after summing up the amount of dividends paid hy companies the following paragraph occure:

It must he remembered, however, that these figures only represent the dividends of those mines dealt in at the Stock Boards, a point always to he horne in mind. Thousands of mines scattered over the Pacific Coast pay out large snms to their owners, of which the puhlio hear nothing. Some of our heavy mining capitalists town these mines alone or associated with one or two others, and as only private reports are made, the figuree are not made puhlic. We know of a numher of such instances. The hydraulic mines of our own State, owned hy a few hard working men, pay large sums monthly which do not find their way into the statistics. An example of this is shown in another column, where it will he seen that the Spring Valley Canal & Mining Company, of Cherokee Flat, Cal., turned out $50,000 in gold in April. Consequently people shonld not say: "Mining does not pay," hecause they see in the papers that during 1872 only $6,731,100 was paid out as dividends, while the bullion production was $62,236,914. This money not only went into husiness channels, hut supported many thousand men and made fortunes for thousands more.

We would also call the attention of the *Union* to the fact that we always mention the dividends of the Idaho, and with pleasure; hut always state that it is not a Stock Board mine. We mention in our issue of this week the fact that the Spring Valley Canal Company lately sent down $41,000 in gold, and still more recently sent down a har of gold worth upwards of $71,000, we do not know how much the mine pays in dividends, a great many mines like this and the Idaho heing worked hy private parties or corporations who do not want to sell any stock. They are therefore not noticed, as the California street Arahs cannot speculate in them. Whenever good first-class mines like the Idaho are found, the owners would rather hold on t o them themselves, than trust them in the douhtful and variahle form of stock on the Board. A great many of our heavy stock operators own such mines, hnt they never list them unless they hegin to peter out. They know too much for that.

We hope the *Union* will seo the force of our reasoning. If we put the Idaho on our list of mines, when it is never qnoted on the Boards, the statistics compiled at the end of the year will present great inaccuracies ae compared with those of other journals. Moreover it would not do to have hut one "outside" mine there, for we always strive to make our readers understand that onr list comprises only Stock Board mines and that hy far the majority of the good mines of the State are in comparative ohscurity as far as newspaper mention is concerned. We do not helieve in Stock miniug much ourselves and do not consider it a legitimate method of mining, and we are rather glad that such good mines as the Idaho and a few hundred others are free from the pernicions influence of California street operators.

Mining Suits.

A suit has heen commenced in the Fourth District Court in this city, hy John Perrault, against the Kossuth Mining Company, Joseph P. Cautin and Augustus F. Everett to secure certain interests in mining property. The complaint alleges that on January 15th, 1871, the plaintiff and H. Vallie were in possession of the Kossuth mine, in Devil's Gate District, Nevada. There was an outstanding claim against the mine, which they determined to purchase. To do this they proposed to form a company, and proposed that if Cantin & Everett should advance the necessary eum they should he entitled to one-third interest in the mine. The proposition waa accepted, and it was agreed that Perrault and Vallie should have each one-third. The title could he purchased for $5,000, and plaintiff urged its immediate purchase. But defendant urged that thie title was not neccssary, and that hy delay it could he purchaeed much cheaper. Plaintiff having occasion to go East, Cantin & Everett, learning of the real value of the mine, purchased the title for $3,500, and wrongfully obtained poseeseion of the mine hy repreeenting to Vallie that they would hold it for the henefit of the plaintiff. The Kossuth Company was then organized, with a capital stock of $1,350,000, and Cantin & Everett transferred the title to said Company, which it now holds. Since the return of Perrault from the East he has demanded hie one-third interest, equal to 9,000 shares, hut they refnsed to give it to him. He alleges that the stock is worth $10 per share. He praya judgment to compel the transfer of 9,000 shares, or in default thereof that the defendants, Cantin & Everett, pay him $90,000. He also asks for an order enjoining the defendants from selling or transferring the etock now held hy them.

Another suit of some interest is that hrought this week in the Twelfth District Court hy Joseph Mather against H. C. Kihhe, Joseph Marks, L. P. Drexler and T. F. Crouise, Secretary of the South Eureka Mining Company. The complaint alleges that the plaintiffs, Cronise and Ramage, were elected Trustees of the South Eureka Company in April, 1871. Plaintiff was chosen President and Cronise Secretary. Ramage resigned and S. Kilgore was elected in his stead as Trustee. Cronise and Kilgore tendered their resignations, hut they were not accepted. The plaintiff says that stockholders holding less than two-thirds of the capital stock obtained an order from H. L. Joachimsen, a Justice of the Peace, held an election and elected Kihhe, Marks and Drexler, Trustees. He claims that the order was absolntely null and void, and saye that the pretended Trustees have passed resolntions calling for payment of assessments, and Cronise, in accordance with instructions, has advertised certain stock for sale. He says that they have levied an assesment of 20 cents per share on the stock, which the plaintiff avers is nnnecessary, and levied in order that the Trustees can huy in the stock at a low rate and control the Company; and he charges that they are conspiring for this fraudulent purpose. Plaintiff asks for an injunction restraining the defendants from selling the stock, or exercising any of the powers of Trustees.

The Eureka Mine Report.

The Eureka mine, of Grass Valley, is one of our favorite California mines, and the annual report of the company makes an excellent showing of operations for the past year. The mine has paid out as dividends the sum of $260,000, and prodnced $486,854 worth of hullion. The report of the superintendent, Mr. Wm. Watt, states that up to the 30th of Septemher, during the fiscal year, they have driven 1,556 feet of drifts, 714 feet of cross-cuts, and they sunk 99 feet of winze.

They hoisted 7,820 tons of quartz, and crushed 7,852½ tons in 305 rnnning days as follows: Eighty-eight days with 15 stamps, and 217 days with 10 stamps, averaging 2¼ tons per day to each stamp.

They concentrated 86¾ tons of sulphurets, and worked 84¾ tons, and have now on hand 32 tons, which is valued at $3,500.

There are 247½ tons of qnartz on the surface, and 250 tons broke in the mine ready for hoisting.

The amount of quartz extracted during the past year from the various levels, has heen 7,820 tons, and there are upwards of 5,000 tons in sight which will pay well on an average.

The expense of extracting the ore is unusually large, owing to the inconvenience of getting to it, a large amount having to he handled twice, and the smallness of the ledge during the first half of the year; also the very hard nature of the ground reqniring the strongest hlasting agents to make any headway. The superintendent regrets not heing ahle to report a more favorahle result, hut hopes for better luck. Regarding the future prospects of the mine, he says; "I can form no decided opinion, as the solution of the question lies deeper than we have heen; although in the eighth level the walls are good and regnlar, and four feet apart, the ledge is small and very poor. The mill, hoisting and pumping machinery are all in gocd order." The Secretary's report gives the following statement of receipts and disbursementa:

RECEIPTS.

Cash account Oct. 1, 1872	$ 55,654.54
Bullion account	485,854.04
Construction account	95.00
Sulphuret reduction works	2,933.07
Milling account	413.50
Wood ranch	2,013.44
Wood account	13,879.97
Premiums and discounts	1,225.34
McDougal works	1,004.81
Interest	5,430.13
	$570,503.84

DISBURSEMENTS.

Dividends	$260,000.00
Mining account	102,591.02
Mining account, prospecting	38,208.50
Milling account	21,690.13
Sulphuret reduction works	2,709.07
Roannaise mine	1,509.00
Mohile mine	4,310.25
Wood account	14,580.37
Sulphuret concentration	1,723.59
McDougal works	388.00
Wood ranch	2,009.75
General expenses	5,261.84
Bullion expenses	1,812.42
Discount account	53.65
Cash account Sept. 30, 1873	113,556.25
	$570,503.84

The assets of the company eqnal $207,260.72, and there are no liahilities. In the assets the mill is valued at $40,000; improvements, $30,000. The cost of mining 7,780 tons of ore for the ycar was $100,046.50; the cost of milling 7,852½ tons of ore for the same time was $21,226.03. The average cost of mining was $12.71 per ton; the average coat of milling was $2.70 per ton, During the year 127½ tons of sulphurets were concentrated at a cost of $19.87 per ton, and reduced at an average of $23 per ton. Average yield, $80.57 per ton.

Since the company first hegan operatione, Oct. 1et, 1865, up to Sept. 30th, 1873, it has extracted $4,071,547.89 in hullion, and other receipts added up the total receipts to $4,099,473.21. Of this they paid out for sundry titles $301,906.50; for construction, $141,844.71; to dividends, $1,974,000; to rnnning milling and other expenses, $3,974,035.71. The officers for the past year were as follows: George W. Beaver, President; William Watt, Superintendent; Francis Berton, Treasurer; R. Wegener, Secretary. The Trustees were G. W. Beaver, Wm. Watt, R. F. Morrow, L. S. Adams and S. B. Sherwood.

PLUMAS COUNTY farmers are digging a canal to protect their ranches from the overflow of tailings from the mines on Spanish creek and the small streams which empty into it above the American valley.

Asiatic Cholera in China.

ALMOST EVERY CASE CURED WITH

PAIN-KILLER!

DEAR SIRS: During a residence of some ten years in Siam and China, as a missionary, I found your Pain-Killer a most valuable remedy for that fearful scourge, the Cholera.

In administering the medicine, I fonnd it most effectual to give a teaspoonful of Pain-Killer in a gill of hot water sweetened with sugar; then, after about fifteen minutes, begin to give ahout a tablespoonful of the same mixture every few minutes until relief was ohtained. Apply hot applications to the extremities. Bathe the stomach with the Pain-Killer, clear, and rub the limhs briskly. Of those who had the Cholera, and took the medicine faithfully, in the way stated above, eight out of ten recovered.

REV. R. TELFORD, Missionary in China.

DEAR SIRS: During a long residence in China I have nsed your valuable Pain-Killer, both in my own family and among the Chinese, and have found it a most excellent medicine. In the summers of 1862 and 1863, while residing in Shanghai, I found it an almost certain cure for cholera, if used in time. Indeed, using it in a great many instances, I do not remember failing in a single ease. For three years I have been residing in this place, more than fifty miles from a physician, and have heen obliged often to fall upon my own resources in cases of sickness. The Chinese come to us in great numbers for medicine and advice. Though without medical knowledge ourselves, the few simple remedies we can commend are so much in advance even of their physicians, that we have almost daily applications. We allow them to come, because it hrings us in contact with them and opens a door of usefulness. In diarrhea, colic, vomiting, cholera, coughs, etc., your Pain-Killer has been my chief medicine. Yours, very truly,

REV. T. P. CRAWFORD, Tungchow, China.

Those using Pain-Killer should strictly observe the following directions:

At the commencement of the disease, take a teaspoonful of Pain-Killer, in sugar and water, and then hathe freely across the stomach and bowels with the Pain-Killer clear. Should the diarrhea and cramp continue, repeat the dose every fifteen minutes. In this way the dreadful scourge may he checked and the patient relieved in the course of a few hours.

N. B.—Be sure and get the genuine srticle; and it is recommended by those who have nscd the Pain-Killer for the cholera, that in extreme cases the patient take two (or more) teaspoonfuls instead of one.

The PAIN-KILLER is sold hy all the Druggists and Dealers in Family Medicines.

☞ Price, 25 and 50 cents and $1.

PERRY DAVIS & SON,
Manufacturers and Proprietors, 136 High street,
oc11 Providence, R. I.

MR. L. P. MCCARTY, corresponding agent of the MINING AND SCIENTIFIC PRESS, PACIFIC RURAL PRESS, JOURNAL OF COMMERCE and ILLUSTRATED PRESS, paid us a visit this morning. The SCIENTIFIC PRESS is well known to our people as a reliable vehicle of mining information, and Mr. M.'s "Notes of Travel" are also familiar to them. Mr. McCarty will examine our leading mines and will go hence to Belmont, visiting Galena and Battle Mountain on his way homo.—[Reese River Re eille, Sept. 12th.

A Good Binder for $1.50.

Subscribers for this journal can obtain our Patent Elastic Newspaper File Holder and Binder for $1.50—containing gilt title of the paper on the cover. It preserves the papers completely and in such shape that they may be quickly fastened and retained in book form at the end of the volume, and the hinder (which is very durahle) nsed continuonsly for subsequent volumes. Post paid, 25 cts. extra. It can be used for Harper's Weekly and other papers of similar size. If not entirely pleased, purchasers may return them within 30 days. Just the thing for libraries and reading rooms, and all who wish to file the PRESS. 1amhp

HINTS FOR INVENTORS. We will send on receipt of stamp for postage, FREE, our 52-page Circulars containing 112 Illnetrated Mechanical Movements; a digest of PATENT LAWS; information how to obtain patents, and about the rights and privileges of inventore and patentees: list of Goverment fees, practical hints, etc., etc. Address DEWEY & CO., Publishers and Patent Agents, San Francisco.

ASSIST NATURE IN HER EFFONTS to shake off a congh or cold, or she may revenge herself hy giving up the contest. Remember that with *Hale's Honey of Horehound and Tar* for an ally, she will extinguish the worst cough in a few days. Crittenden's, 7 5th Avenue. Sold by all Druggists.

Piko's Toothache Drops cure in 1 minute. *

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B Roherts, 315 California Street, San Francieco, is general agent for thie Coast. Send to him for circulars and information of this reliable, first-class company.

CONTINENTAL LIFE INSURANCE Co., No. 302 Montgomery street, corner of Pine, San Francisco. *

SHAREHOLDERS,

TRUSTEES, and

SECRETARIES of

ALL MINING COMPANIES,

Should see to it that their Notices are advertised legally in the MINING AND SCIENTIFIC PRESS, at much less cost than the usual rates of daily publications. Every person interested in the prosperity of legitimate mining enterprises should favor such practical economy. Send for circular of convenient dates for advertising, free blanks, and a copy of the New Code Corporation Assessment Law.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements.

Bunker Hill Quartz Mining Company.—

Location of works, Amador, Amador county, Cal. Location of principal place of business, 19 First street, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 11) lavied on the 10th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wales L. Palmer	113	20	$200 00
Wales L Palmer..	120	20	200 00
Wales L Palmer	121	20	200 00
Wales L Palmer	122	20	200 00
Wales L Palmer	124	20	200 00
Wales L Palmar	125	20	200 00

And in accordance with law, and an order of the Board of Directors, made on the 10th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 19 First street, San Francisco, Cal., on Monday, the third day of November, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, Cal. oc18

Buena Vista Petroleum Company.—Location

of principal place of business, San Francisco, State of California. Location of works: Buena Vista, Kern county, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 26th day of September, 1873, an assessment (No. 1) of one dollar per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 430 Jackson street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 7th day of Novemhar, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on tha 25th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

L. AGUAYO, Secretary.

Office, No. 430 Jackson street, up stairs, San Francisco, California. se27

Black Mountain Coal Mining Company—

Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, at the office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. no1

Cupel and Tiger Silver Mining Company

—Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mobave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directars of the above named Company, held on the 25th day of Octoher, 1873, an assessment af Twenty Cents per share was levied upon the capital stack of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Wednesday, the 26th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Satnrday, tha 20th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

Office, Room 12, Express Building, San Francisco, Cal. San Francisco, October 25, 1873.

Commercial Coal Mining Company of

San Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 402 Montgomery street, room No. 23, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assesement together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office—No. 402 Montgomery street, room No. 23, San Francisco, California. oc18

Cincinnati Gold and Silver Mining Com-

pany. Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 18th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ayer, W, Trustee	56	500	$250 00
Boynton, A A W, not issued.		680	340 00
Bruce, Donald, Trustee	7	100	50 00
Bruce, Donald, Trustee	8	50	25 00
Bruce, Donald, Trustee	9	50	25 00
Bruce, Donald, Trustee	10	50	25 00
Bruce, Donald, Trustee	11	50	25 00
Bruce, Donald, Trustee	46	100	50 00
Clapp, R W	27	100	50 00
Clapp, R W	28	50	25 00
Cuthbert, Wm	12	100	50 00
Cuthbert, Wm	38	200	100 00
Gates, Geo A, Trustee	19	750	375 00
Ganz & McLaren,	50	250	125 00
Ganz & McLaren,	51	50	25 00
Ganz & McLaren,	59	100	50 00
Ganz & McLaren,	60	100	50 00
Ganz & McLaren,	61	100	50 00
Ganz & McLaren,	62	100	50 00
Ganz & McLaren,	63	100	50 00
Ganz & McLaren,	64	100	50 00
Ganz & McLaren,	65	100	50 00
Ganz & McLaren,	66	100	50 00
Ganz & McLaren,	67	100	50 00
Ganz & McLaren,	68	100	50 00
Ganz & McLaren, not issued		5	2 50
Hans, C W	52	100	50 00
Hanc, C W	53	75	37 50
Hinckley, G E	36	25	12 50
Hinckley, G E	54	300	150 00
Hinckley, G E	55	25	12 50
Hudson, G B, Trustee	24	100	50 00
Hudson, G B, Trustee	42	400	200 00
Hudson, G B, Trustee	45	250	125 00
Hudson, G B, Trustee (not issued)		530	265 00
Kenney, Frank	43	150	75 00
Penniman, Mrs M	57	50	25 00
Penniman, Mrs M	58	50	25 00
Small, W, Trustee	32	1400	700 00
Small, W, Trustee (not issued)		434	217 00
Whitney, Jacob	35	500	250 00
Woods, A	44	1000	500 00

And in accordance with law, and an order of the Board of Directors, made on the 18th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office, of the company, No. 331 Kearny street, Room No. 14, San Francisco, Cal., on the 10th day of November, 1873, at the hour of 1 P. M., of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office, 331 Kearny street, Room No. 14, San Francisco, California.

Equitable Tunnel and Mining Company—

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the seventh day of October, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the tenth day of Novemher, 1873, will be delinquant, and advertised for sale at public auction, and, unless payment is made hefore, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc11

Hayden Hill Mining Company—Location

of works, Hayden Hill, Lassen County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 1) of Fifteen Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 331 Montgomery street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 14th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expense of sale.

W. H. KNIGHT, Secretary.

Office, No. 331 Montgomery street, San Francisco, Cal.

Caution.—Ida and Rhoda Lewis Consoli-

dated Mining Company.

The following certificates of stock were sold this day to pay delinquent assessment, No. 1, levied August 28th, 1873:

No. Certificate.	Name.	Shares.	Shares Sold.	Shares Left.
76	John Clarcsy, Trustee	200	200	
79	John Clarcsy, Trustee	100	100	
98	John Clarcsy, Trustee	20	20	
102	John Clarcsy, Trustee	10	10	
255	John Clarcsy, Trustee	100	100	
257	John Clarcsy, Trustee	100	100	
258	John Clarcsy, Trustee	50	50	
142	John Cody, Trustee	100	100	
143	John Cody, Trustee	100	100	
144	John Cody, Trustee	100	100	
146	John Cody, Trustee	50	50	
148	John Cody, Trustee	50	50	
150	John Cody, Trustee	25	25	
151	John Cody, Trustee	25	25	
267	A E Davis	300	300	
270	Wm Cory	113	113	
271	Wm Cory	100	100	
273	Wm Cory	100	100	
135	L A Johnson, Trustee	50	50	
137	L A Johnson, Trustee	50	50	
138	L A Johnson, Trustee	50	50	
139	L A Johnson, Trustee	50	50	
140	L A Johnson, Trustee	50	50	
277	L A Johnson, Trustee	25	25	
281	L A Johnson, Trustee	25	25	
283	L A Johnson, Trustee	25	25	
291	L A Johnson, Trustee	50	50	
157	F R Lewis, Trustee	100	100	
169	F R Lewis, Trustee	100	100	
38	J de Sta Marina, Trustee	100	100	
41	J de Sta Marina, Trustee	100	100	
44	J de Sta Marina, Trustee	100	100	
46	J de Sta Marina, Trustee	100	100	
210	J de Sta Marina, Trustee	20	20	
218	J de Sta Marina, Trustee	100	100	
219	J de Sta Marina, Trustee	100	100	
220	J de Sta Marina, Trustee	100	100	
179	A C Morse, Trustee	10	10	
180	A C Morse, Trustee	10	10	
182	A C Morse, Trustee	10	10	
183	A C Morse, Trustee	20	20	
184	A C Morse, Trustee	20	20	
189	A C Morse, Trustee	50	50	
191	A C Morse, Trustee	50	50	
193	A C Morse, Trustee	100	100	
235	Charles Spencer	100	100	
236	Charles Spencer	100	100	
241	Charles Spencer	500	375	125
296	W H Smith, Trustee	100	100	
298	B F Scott	250	250	
299	B F Scott	250	250	
300	B F Scott	200	200	
301	B F Scott	300	300	
302	George Scott	1000	1000	

The public is hereby cautioned against negotiating any of the above mentioned certificates.

C. J. EATON, Secretary.

San Francisco, October 20, 1873. 1t

Ida and Rhoda Lewis Consolidated Min-

ing Company. Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 27th day of October, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 29th day of Novemher, 1873, will be delinquent and advertised for sale at public anction, and, unless payment is made hefore, will be sold on Wednesday, the 24th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale

C. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, Cal. San Francisco, October 27, 1873.

Lady Franklin Gold and Silver Mining

Company. Location of principal place of business, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office, No. 507 Montgomery street, San Francisco, California. oc18

Lemon Mill and Mining Company—Prin-

cipal place of business, San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Directors held on the 27th day of Septemh r, 1873, an assessment of Fifty Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 608 Merchant street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the third day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of Novemher, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

I. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal. oc4

Lady Esten Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directars held on the 7th day of Octaber, 1873, an assessment (No. 5) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 10th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made hefore, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. oc11

Ohio Consolidated Gold Mining Company.

Principal place of business, San Francisco, California. Location of works, West Point, Calaveras County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifteen cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 116 Leidesdorff street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 15th day of Novemher, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 8th day of Decemher, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Secretary.

Office—No. 116 Leidesdorff street, San Francisco, Cal. oc18

Phenix Tunnel and Mining Company----

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 2) of 20 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the first day of Novemher, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Thursday, the 20th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc4

Revenue Cons. Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of Octaber, 1873, an assessment, (No. 1) of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary at the office of the company, room No. 1, 113 Leidesdorff street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 12th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 10th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. H. BARNEY, Secretary.

Office—Room No. 1, 113 Leidesdorff street, San Francisco, California oc18

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 27th day of October, 1873, an assessment (No. 6) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary. Any stock upon which this assessment shall remain unpaid on the 29th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 22d day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

H. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, Cal. nov1

State of Maine Mill and Mining Com-

pany—Principal place of business, San Francisco, California. Location of works, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 1st day of October, 1873, an assessment (No. 4) of Five Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 4th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office—306 Montgomery street, San Francisco, Cal. oc4

San Francisco Co-operative Land and

Building Association. Office and principal place of business, 306 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co-operative Land and Building Association, up to and including those for the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale. By order of the Board of Directors.

H. B. CONGDON, Secretary.

San Francisco, September 20, 1873. ec20-1m

Stevens Pacific Smelting and Mining Com-

pany—Location of principal place of business, No. 320 Montgomery street, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Holt, Thomas H	150	5	$ 50
Holt, A L	57	66	6 60
Holt, A L	58	66	6 60
Irelan, L	66	500	50 00
Irelan, L	61	500	50 00
Irelan, L	62	500	50 00
Irelan, L	63	500	50 00
Irelan, L	64	500	50 00
Irelan, L	65	500	50 00
Irelan, L	66	500	50 00
Irelan, L	67	50	5 00
Irelan, L	68	50	5 00
Irelan, L	69	50	5 00
Irelan, L	70	50	5 00
Irelan, L	71	50	5 00
Irelan, L	72	50	5 00
Irelan, L	73	50	5 00
Irelan, L	74	50	5 00
Irelan, L	75	50	5 00
Irelan, L	76	50	5 00
Irelan, L	77	25	2 50
Irelan, L	78	25	2 50
Irelan, L	79	25	2 50
Irelan, L	80	25	2 50
Irelan, L	81	25	2 50
Irelan, L	82	25	2 50
Irelan, L	83	25	2 50
Irelan, L	84	25	2 50
Irelan, L	85	25	2 50
Irelan, L	86	25	2 50
Irelan, L	87	25	2 50
Irelan, L	88	25	2 50
Irelan, L	89	25	2 50
Irelan, L	90	25	2 50
Irelan, L	91	25	2 50
Irelan, L	92	25	2 50
Irelan, L	93	34	3 40
Irelan, L	94	300	30 00
Irelan, L	146	25	2 50
Irelan, L	147	25	2 50
Irelan, L	148	25	2 50
Knight, J M	95	100	10 00
Knight, J M	97	100	10 00
Knight, J M	121	95	9 50
Murphy, Daniel	138	33	3 30
Murphy, Daniel	139	33	3 30
Murphy, Daniel	140	33	3 30
Murphy, Daniel	141	34	3 40
Stevens, Levi	47	500	50 00
Stevens, Levi	48	500	50 00
Stevens, Levi	49	500	50 00
Stevens, Levi	50	500	50 00
Stevens, Levi	51	500	50 00
Stevens, Levi	52	500	50 00
Stevens, Levi	53	500	50 00
Stevens, Levi	54	500	50 00
Stevens, Levi	55	500	50 00
Stevens, Levi	56	500	50 00
Shackelford, R M	38	667	66 70
Vanderhurst, Wm	11	166	16 60
Vanderhurst, Wm	12	167	16 70
Vanderhurst, Wm	13	133	13 30
Vanderhurst, Wm	14	34	3 40
Vanderhurst, Wm	15	10	1 00
Vauderhurst, Wm	16	10	1 00
Vanderhurst, Wm	17	10	1 00
Vanderhurst, Wm	18	10	1 00
Vanderhurst, Wm	19	10	1 00
Vanderhurst, Wm	25	25	2 50
Vanderhurst, Wm	26	25	2 50
Vanderhurst, Wm	27	25	2 50
Vanderhurst, Wm	28	25	2 50
Vanderhurst, Wm	30	25	2 50
Vanderhurst, Wm	31	25	2 50
Vanderhurst, Wm	33	50	5 00
Vanderhurst, Wm	34	50	5 00
Vanderhurst, Wm	35	50	5 00
Vanderhurst, Wm	30	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Company, No. 320 Montgomery street, San Francisco, California, on Monday, the third day of November, 1873, at the hour of 3 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. KNIGHT, Secretary.

Office, 320 Montgomery street, San Francisco, California. oc18

Thompson Coal Mining Company—Prin-

cipal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of Decemher, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, California. no1

Virginia Consolidated Mining Company.

Principal place of business, San Francisco, State of California. Location of works, Kearsage Mining District, Inyo county, State of California.

Notice is hereby given, that at a meeting of the Board of Directars, held on the 13th day of October, 1873, an assessment of five cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary at the office of the Company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. P. WHIGARD, Secretary.

Office, No. 318 California street, (Room, No. 13,) San Francisco. oc18

Wyoming Gold Mining Company—Loca-

tion of Principal Place of Business, San Francisco, California. Location of Works, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 18th day of September, 1873, an assessment of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the eighteenth day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the eight day of December, 1873, at 1 o'clock P. M., to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. J. GUNN, Sec'y.

Office, 410 Montgomery street, San Francisco, California.

Umpire Tunnel and Mining Company—

Principal place of business, No. 230 Kearny street, San Francisco, Cal. Location of works, Big Cottanwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of October, 1873, an assessment (No. 2) of Six Cents per share was levied upon the capital stack of the corporation, payable immediately, in United States currency, to the Secretary, at the office of the company, No. 230 Kearny street, San Francisco, California, or to W. A. Beal, President.

Any stock upon which this assessment shall remain unpaid on the 24th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

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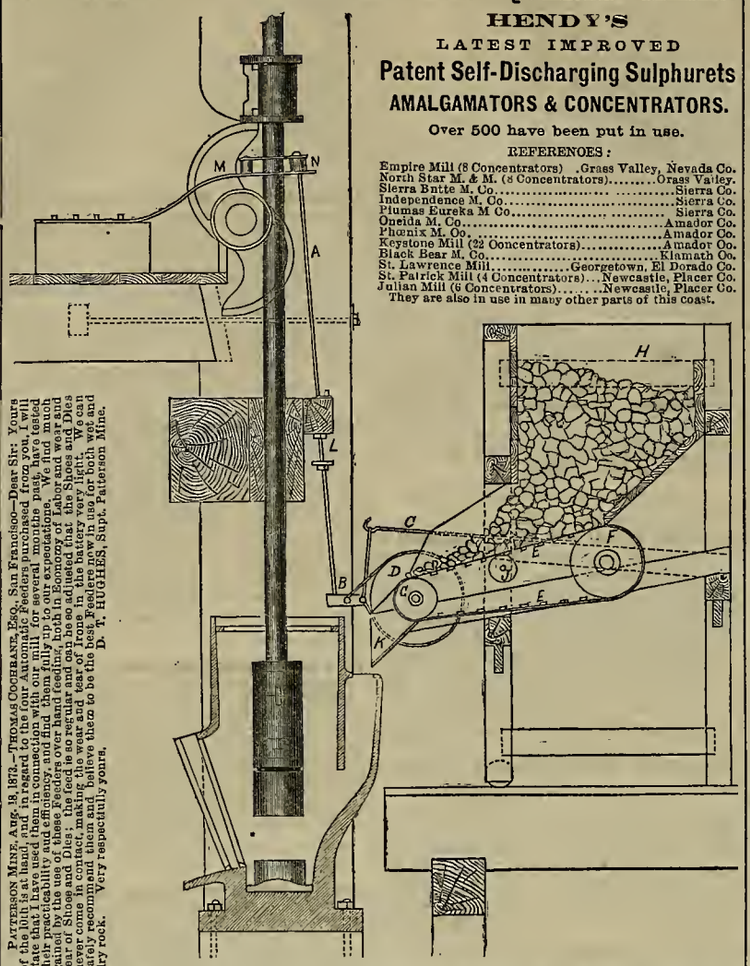

PATTERSON MINE, Aug. 19, 1873.—THOMAS COCHRANE, Esq., San Francisco—Dear Sir: Yours of 18th inst. to hand. In reply would say that we have had your Ore Feeder in use for several months past, and have tested their practicability and efficiency, and find them fully up to our expectations. We find much state that I have used them in connection with our mill for several months past, have tested gained by the use of these Feeders over hand feeding, both in economy of Labor and wear and tear of Shoes and Dies; the feed is so regular and can be so adjusted that the Shoes and Dies last double the time they do when fed by hand. We take pleasure in saying that we can safely recommend them and believe them to be the best Feeders now in use for both wet and dry rock. Very respectfully yours, D. T. HUGHES, Supt. Patterson Mine.

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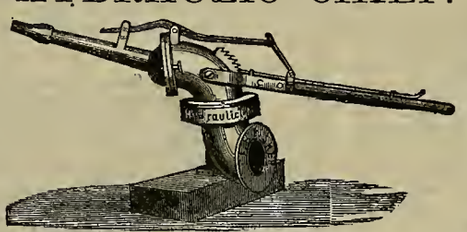

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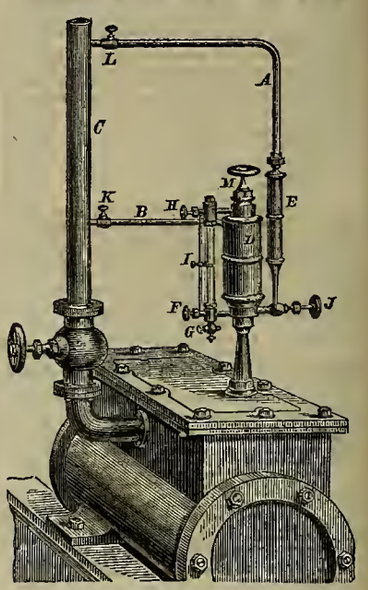

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The Machine itself is also an infringement on another patent owned by the same parties.

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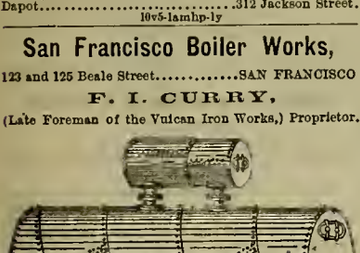
Factory.....145 Natoma Street.
Depot.....312 Jackson Street.
10v5-1amhp-1y

San Francisco Boiler Works,

123 and 125 Beale Street.....SAN FRANCISCO

F. I. CURRY,

(Late Foreman of the Vulcan Iron Works,) Proprietor.



High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTURERS OF THE CELEBRATED

SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attendad to. 17v25-3m

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Sncccssor to D. McDonald,

Oregon street, below Front, San Francisco.

All Sorte of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

San Francisco Cordage Company.

Established 1856.

We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared to fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.

TUBBS & CO.,
17v26-tf 611 and 613 Front street, San Francisco.

JOS. THORNHILL, 1612 Mason Street, near Green. C. W. WHITE, 47 Clay Street.

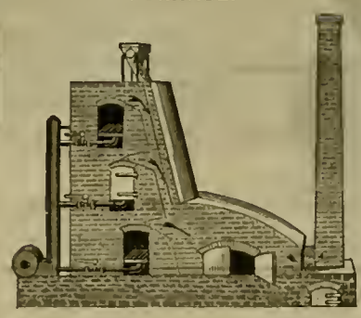
JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.
Austin, Nev., July 15, 1873. 6v27-tf

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,

Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

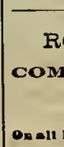
Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Oralus Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.



Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention PAID TO CONSIGNMENTS OF GOODS.

4v16-3m

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,

(Opposite the U. S. Branch Mint.

SAN FRANCISCO CAL. 7v21-3m

G. W. STRONG. W. L. STRONG.

C. W. STRONG & CO.,

Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

THE WHELPLEY & STORER ORE MILLS,

215 and 217 Main street, between Howard and Folsom,

SAN FRANCISCO.

For Crushing and Sampling all kinds of Ores.

We have the most complete machinery and appliances for sampling, together with ample storage room for any amount of goods.

Special attention paid to consignment of Ores and Minerals.

Ore Sacks

Of Every Variety for Sale.

INSURANCE is obtained at our mill at LESS RATES than any other in the city.

P. O. Box 2028. GEO. D. WYMAN,
5v27-3m Superintendent.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco

Nevada Metallurgical Works,

21 First street.....San Francisco.

Ores worked by any process,
Ores sampled.
Assaying in all its branches.
Analysis of Ores, Minerals, Waters, etc.
Plans furnished for the most suitable process for Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

E. N. RIOTTE,
C. A. LUCKHARDT,
Mining Engineers and Metallurgiste.

KROM'S DRY ORE CONCENTRATOR

Separates the METALLIC ore from the BARREN gangue by means of AIR instead of WATER. Cost nominal; concentration perfect. Every miner and business man interested in this invention, which renders the working of low grade and "refractions" ores PROFITABLE. The machine is in operation daily between 10 and 1, at 105 First street.

For information and pamphlets address

W. H. STERLING, M. D.,
Corner Taylor and Vallejo,
FRANK MOYER,
oc25tf 137 Third street, San Francisco.

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation, Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 23v26 1y

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 411 DRUMM STREET,

San Francisco.

COPPER ORES.

The undersigned, agent of Messrs. POPE, COLE & Co., proprietors of the Baltimore Copper Works, purchases for cash all grades of Copper Ore above 16 per cent, paying the full value of same in Baltimore less Freight, Insurance, Interest and Commission.

HORACE D. RANLETT,
16v27 218 California st., San Francisco.
P. O. Box 2045.

ORE BAGS FOR SALE

IN QUANTITIES TO SUIT.

Apply to

CROSS & CO.,

stf 316 California street, San Francisco.

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.

For all Laboratory and Manufacturing Purposes

H. M RAYNOR,
25 Bond street, New York.

Platinum Scrap and Ore purchased.

The California Powder Works

No. 314 CALIFORNIA STREET,

SAN FRANCISCO.

Manufacturers and have constantly on hand

SPORTING,

MINING,

And BLASTING

POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

BURLEIGH ROCK DRILLS

—AND—

Air Compressors.

The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Shafting, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

They are to be used on the St. Gothard Tunnel, Switzerland; Tunnel 13 miles long. We refer to the following gentlemen and works:

Gen. Newton, U. S. A..... .....Hell Gate Tunnel, L. I.
Mess. Shanley.....Hoosac Tunnel, Mass.
J. Dutton Steele.....Nesquehoning Tunnel, Pa.
Sidney Dillon.....Fourth Avenue Work, N. Y.
Col. Roehling .....East River Bridge Company, N. Y.

For further information, etc., address

L. C. PARKE,
VIRGINIA CITY, NEVADA.
AGENT FOR THE PACIFIC COAST. f15

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

Gravel Claims and Hydraulic Mining.

Special attention given to the development of this important interest in California.

SURVEYS AND REPORTS MADE—COMPANIES ORGANIZED.

Mills, Mines, Mining Machinery, Wood and Timber Lands.

REAL ESTATE BUSINESS OPPORTUNITIES.

Best of References.

W. B. SKELLENGER,
No. 422 Montgomery street, San Francisco.
13v27-3m

Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND-POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices. Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

A. J. SEVERANCE & CO.
Office, No. 315 California street, Rooms 16 and 17.
24v26-tf

THOMAS DAY,

Importer and Dealer in

GAS FIXTURES.

All sizes of Iron Pipe, plain and galvanized, with cocks elbows, tees, etc., for same.

PLUMBERS' GOODS.

Bibbs, Plated Basin Cocks, Copper Boilers, Bath Tubs, Lead Pipe, Carr's and Smith's Patent WATER CLOSETS, Wash Basins and Closet Bowls, singly or by the crate,

As Low as any House in the City.

732 MONTGOMERY STREET.....SAN FRANCISCO.

N. B.—Show Room for Gas Fixtures, 335 Pine street, near Montgomery, where will be found the largest assortment of GAS FIXTURES in the city. 12v27-2m

GENERAL MERCHANDISE.

WEDNESDAY NOON, Oct 29, 1873.

There is only a jobbing trade doing in Bags and Bagging the large stock accumulated having to be carried over til next season. There has been a marked advance in Syrup, as will be seen from our table The Pacific Codfish received this season are now chiefly in the hands of two parties, and the price will be governed somewhat by the imports of Eastern. Australian Coal is jobbing at $9.25@ $9.50 ₱ ton.

BAGS.			
Eng, stand. Wh't	12	@	13
Detrick'e Mach e Sewed, 22 x 36,	—	@	1
Ollroy E...	13½	@	—
do, 22x36, do W	12¾	@	13
do. 22x40, do...	13½	@	—
do, 23x40...	13¾	@	—
do, 24x40...	15½	@	—
Flour Sacks ½s..	12½	@	14½
" " ¼s.	8½	@	9
Stand. Gunnies..	20	@	22
" Wool Sacks.	—	@	22½
" Barley do...	—	@	15½
Hessian 45-in.gde	—	@	11½
do 60	—	@	16
Burlaps, yard....	10¼	@	10¾
CANNED GOODS.			
Asst'd Pie Fruits in 2½ ₱ cans.	3 25	@	—
do Table do...	—	@	2 75
Jams & Jellies 4 00		@	4 50
Pickles ½ gl...	—	@	3 50
Sardines, qr box	2	42½@	2 45
do bf boxes	3	70 @	3 85
COAL—Jobbing.			
Australian, ₱ ton	9	25 @	9 50
Coos Bay.....	—	—	@10—
Bellingham Bay.	—	—	@ 8 50
Seattle.....	—	—	@11—
Cumberl'd, cks..	—	—	@ —
do bulk	21	50	@25 00
Mt. Diablo.....	6	25	@8 25
Lehigh.....	14	—	@15—
Liverpool.....	11	00	@12—
West Hartley..	12	00	@14—
Scotch.....	10	00	@11—
Scranton	10	00	@ —
Vancouver's Isl..	12	00	@14—
Cbarcoal, ₱ sk.	75	@	—
COFFEE.			
Sandwich Island	19¼	@	—
Costa Rica per ₱	22	@	—
Guatemala.....	21	@	22
Java.....	—	@	26
Manilla.....	19	@	20
Gronnd in cs....	25	@	27
Chicory.....	10	@	—
FISH.			
Pac. Dry Cod, new	—	@	7¾
cases.....	8	@	8½
Eastern Cod.....	8	@	9
Salmon in bbls..	8 00	@	9 00
do ½ bbls	5 00	@	5 50
do 2½ ₱ cans	—	@	—
do 2 ₱ cans..	2 80	@	3 00
do 1 ₱ cans..	2 25	@	—
Do Dl. ₱ ¼ch..	—	@	40
Pick. Cod, bbls.	22 00	@	—
do ½ bbls	11 00	@	—
Bos. Sm'k'd Her'g	40	@	50
Mack'l, No.1, ½ bls	11	—	@12—
" Extra....	—	@	12 50
" in kits...	2 75	@	3 00
" Ex mess.	3 50	@	4 00
" Ex mess. ½ bs	—	@	13 00
Sm'k Herr'g, bx.	40	@	50
NAILS.			
Assorted size, ₱ ₱.	6	@	7
NAVAL STORES.			
Tar & Pitch, ₱ bl	7	@	8
Cakum pr bale 50lb	4	@	50
Rosin.....	6 00	@	6 50
Anchors.....	8	@	8½
Chains.....	7	@	7½
OILS.			
Pacific Glue Co. Neat F't No. 1.	—	@	—
Pure.....	1 25	@	—
Castor Oil, No.1..	40	@1	45
do do No.2..	1 25	@1	35
Cocoanut.....	55	@	60
Olive Plagniol..	5 00	@	—
do Possel...	4 75	@	—
Palm..... do	—	@	—
do Bagicalupi.	—	@	—
Linseed, raw...	1 00	@1	05
do boiled....	1 05	@1	10
China nut oils..	—	@	80
Sperm, crude...	1 40	@1	50
do bleached..	1 90	@	—
Coast Whalee...	30	@	35
Polar, refined....	45	@	50
Lard.....	85	@	90
Coal, refined Pet	37½	@	40
Oleophine.....	—	@	33
Devoe'e Bril't....	43	@	45
Long Island.....	—	@	34
Eureka.....	37½	@	40
Osvoe'e Petro'm	37	@	39
Barrel kerosene	30	@	—
Downer Kerose'e	50	@	52½
Gas Light Oil....	37½	@	40
PAINTS.			
Atlan. W. Lead.	11¼	@	12
Whiting.....	1½	@	1¾
Putty.....	—	@	4
Chalk.....	—	@	1
Paris White.....	2½	@	—
Ochre.....	2½	@	3
Venetian Red...	3	@	3½
Red Lead.....	10½	@	11
Litbarge.....	10	@	11
RICE.			
China No. 1, ₱ ₱	5½	@	6¾
do 2, do.	5	@	5¾
Japan.....	6	@	7½
Siam Cleaned...	7	@	—
Patna.....	7	@	—
Hawaiian.....	6	@	7
Carolina.....	10	@	10½
SALT.			
Coal. Bay, per ton.	12	00	@15—
do Common...	5	00	@6 00
Mexican.....	14	00	@15 00
Carmen Island..	14	00	@20—
Liverpool fine...	20	00	@22 00
do coarse	18	00	@19 00
SOAP.			
Castile ₱ ₱....	10½	@	11
Local brands....	5	@	9
SPICES.			
Allepice, per ₱..	15	@	16
Cloves.....	37½	@	40
Cassia.....	27½	@	—
Nutmeg.....	1	12 @	1 15
Whole Pepper...	25	@	26
Gr'nd Allsp'ce	—	@1	00
do Cassia do..	—	@1	50
do Cloves do..	—	@1	25
do Mustard do	—	@1	25
do Ginger do..	—	@1	00
do Pepper do..	—	@1	25
do Mace do...	1	20 @1	30
SUGAR, ETC.			
Cal. Cube per ₱.	11	@	—
Circle A crushed	11	@	—
Powdered.....	—	@	11¼
Dry granulated	10¼	@	11
Extra do.....	10½	@	—
Hawaiian.....	7½	@	9¼
California Beet.	1	0 @	11
Golden C.....	9¼	@	—
do Rey'g grade	7	@	—
Cal. Syrup in bls.	—	@	37½
do ½ ₱ bls.	—	@	40
do in kegs..	—	@	45
do Hawaiian..	20	@	22½
TEA.			
Colong, Canton, ₱	19	@	25
do Amoy...	28	@	50
do Formosa	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	60
do Moyune.	50	@1	00
Cunpo'der, Cant.	30	@	42½
do Pingeney	50	@	90
do Moyune.	65	@1	25
Y'ng Hy., Canton	30	@	40
do Pingsuey	40	@	70
do Moyune..	65	@	85
Japan, ½ chests, bulk.....	30	@	75
Japan, lacquered hrs, 4½ and 5 ₱s	45	@	67
Japan do, 3 ₱ hrs	45	@	90
do pl'n hrs, 4½ ₱	35	@	65
do ½ ₱ paper	30	@	55
TOBACCO—Jobbing.			
Bright Navye....	50	@	60
Dark do	45	@	50
Dwarf Twist....	57	@	62½
12 inch do	57	@	62½
Light Pressed..	65	@	75
Hard do ..	60	@	70
Conn. Wrap'r....	40	@	50
Penn. Wrapper..	35	@	45
Ohio do	30	@	40
Virgi'a Smok'g..	60	@	95
Fine cut obe'g, gr..	8	50 @	9 25
Fine cut chewing, bucts. ₱ ₱..	75	@	90
Banner fine cut..	8	75 @	9 25
Eureka Cala....	8	00 @	8 50
TURPENTINE.			
Eastern.....	67½	@	70

Leather Market Report.

[Reported for the PRESS by Dolliver & Bro.]

WEDNESDAY M., Oct. 29, 1873.

The trade has been more active of late. Prices of all kinds of Leather are stiffening perceptibly. French Kips are in particular request at present. Our quotations are as follows:

City Tanned Leather, ₱ ₱	26@29
Santa Cruz Leather, ₱ ₱	26@29
Country Leather, ₱ ₱	25@28
Stockton Leather, ₱ ₱	26@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 19 Kil., per doz	66 00@ 85 00
Jodot, second choice, 11 to 16 Kil. ₱ doz	60 00@ 70 00
Cornellian, 12 to 16 Ko	57 00@ 67 00
Cornellian Females, 12 to 13	60 00@ 64 00
Cornellian Females, 14 to 16 Kil	66 00@ 72 00
Beaumerville, 15 Kil	60 00@ —
Simon, 18 Kil., ₱ doz	6 00@ 63 00
Simon, 20 Kil. ₱ doz.	65 00@ 67 00
Simon. 24 Kil. ₱ doz.	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₱ ₱	1 15@ 1 35
California Kip, ₱ doz	40 00 to 60 00
French Sheep, all colors, ₱ doz	8 00@ 15 00
Eastern Calf for Backs, ₱ ₱	1 00@ 1 25
Sheep Roans for Topping, all colors, ₱ doz	9 00@ 13 00
Sheep Roans for Linings, ₱ doz	8 00@ 10 50
California Rnsseit Sheep Linings	1 75@ 4 50
Best Jodot Calf Boot Legs, ₱ pair	5 00@ 5 25
Good French Calf Boot Legs, ₱ pair	4 00@ 4 75
French Calf Boot Legs, ₱ pair	4 00@ —
Harness Leather, ₱ ₱	30@ 37½
Fair Bridle Leather, ₱ doz	48 00@ 72 00
Skirting Leather, ₱ ₱	34@ 37½
Welt Leather, ₱ doz	30 00@ 50 00
Calf Leather, ₱ foot	19@ 22
Wax Side Leather, ₱ foot	17@ 19
Eastern Wax Leather	—@—

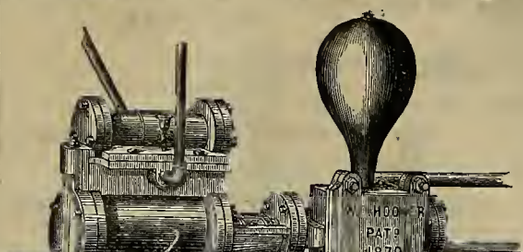
San Francisco Metal Market.

WEDNESDAY, M., Oct. 29, 1873.

Iron for building purposes is meeting good sale here, on account of the large number of buildings now going up, in which Iron is an important element of construction. Our foundries and machine shops are also well employed, and this creates a demand for crude metals, which is always constent, but now quite pressing.

IRON.—			
Scotch Pig Iron, ₱ ton	$52 50	@	— —
White Pig, ₱ ton	52 50	@	— —
Refined Bar, bad assortment, ₱ ₱	— —	@	— 3½
Refined Bar, good assortment, ₱ ₱	— —	@	— 4
Boiler, No. 1 to 4	— 05¾	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 6	@	— 7
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 6	@	— —
Other Irons for Blacksmiths, Miners, etc.	— 5	@	—
COPPER.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
C. Nie'e Pat	— 55	@	— —
Sheathing, ₱ ₱	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₱ ₱	— 40	@	— 42½

Hooker's Patent Direct Acting Steam Pump.



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For medium and seamy Rock, Lime, Marble, Sulphur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, etc.

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NOTICE TO BUILDERS.

SEALED PROPOSALS, for furnishing certain materials and constructing a portion of the Napa State Asylum Building for the Insane, will be received at the office of the President of the Board, No. 204 Sutter street, San Francisco, until 12 o'clock M. of the 30th day of October, 1873.

The printed specifications and printed forms of proposals can be had on application to Messrs. Wright & Sanders, Architects, 418 California street, where plans and drawings can be seen and all further information obtained. No bids will be entertained unless made on the specified printed forms of proposals and accompanied with a certified check or bond with two or more good and sufficient sureties, in a sum equal to ten per cent. of the total sum of the tender, to be returned on the due entering into the contract by the party to whom it may be awarded, or to be forfeited if the party fails to enter into the said contract.

The Board reserves the right to reject any or all bids.

oc4-td J. F. MORSE, President of the Board.

The time for receiving the above tenders is extended until 12 o'clock M. on THURSDAY, November 20th next.

J. F. MORSE, President.

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Laws Concerning Corporations.

[Under the New Cods—January 1, 1873.]

GENERAL PROVISIONS APPLICABLE TO ALL CORPORATIONS.
WAGON ROAD CORPORATIONS.
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Mining Companies, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon ore mine in Freihurg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.,—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 6, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,200 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 660 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe, As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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MINING AND SCIENTIFIC PRESS.

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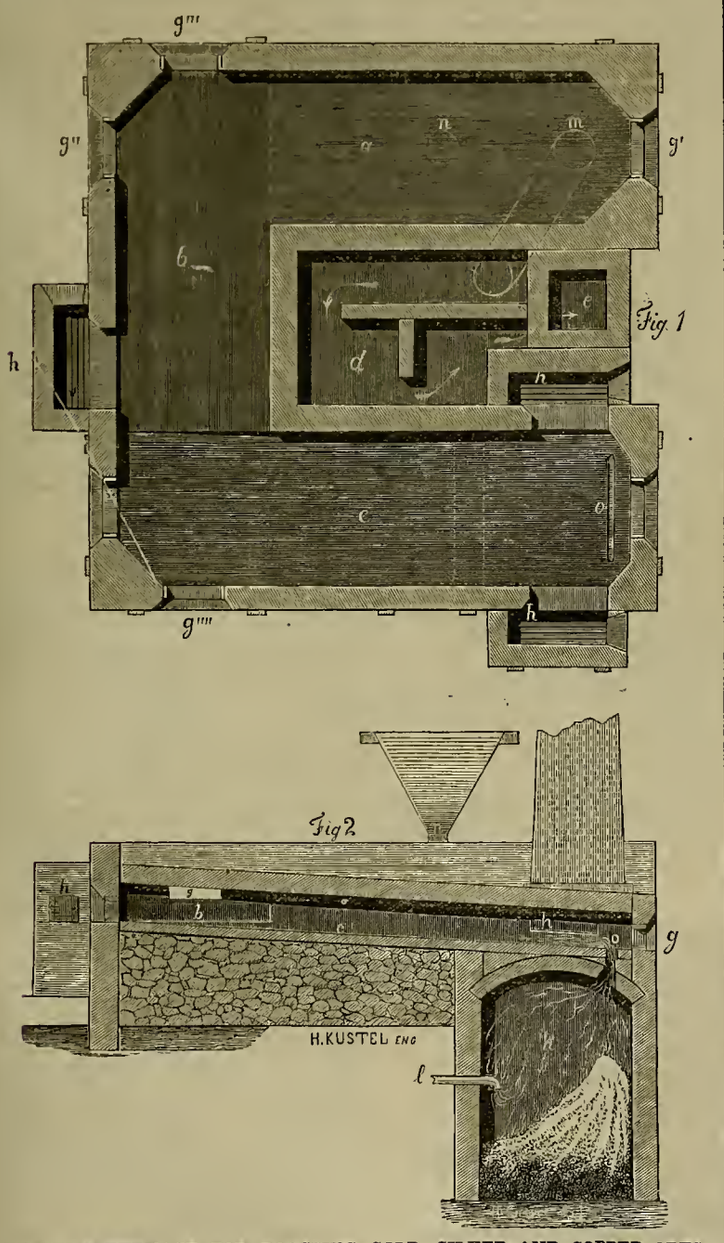
SAN FRANCISCO, SATURDAY, NOVEMBER 8, 1873.

VOLUME XXVII Number 19.

Kustel's Improved Reverberatory Furnace.

Some years ago the introduction of the long roasting furnaces was cousidered a great improvement on the old style, single hearth furnaces, but, though less fuel and labor were required to perform the roasting, it was still a tiresome business. The most laborious part of the work was the lateral pushing of the ore for sixty or eighty feet towards the discharge hole. Another detriment was the comparative length of time required to finish a proper chlorination; but the fact that the roaster has it completely in his power to obtain a final satisfactory result, no matter how difficult the ores may be to treat, keeps the long furnace still in use in preference to all others in Mexico, where labor is cheap.

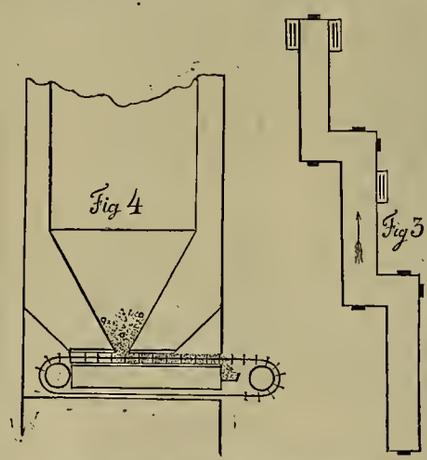
A short time since, Mr. Guido Kustel, who is well known in mining circles on this coast, obtained a patent through the SCIENTIFIC PRESS Agency for an improved reverberatory furnace for roasting gold, silver and copper ores, which is designed to entirely overcome the defects alluded to in this class of furnaces. Fig. 1, of the accompanying engravings, shows a horizontal section of Mr. Kustel's new furnace, and Fig. 2 is a vertical view of the same. The first part of the improvement consists in the adaptation of the broken straight line of the long furnaces so that no hearth is longer than 20 feet, and may be easily reached from the doors, *g*, *g*, by means of hoes. The ore is charged through the funnel, *n*, on the hearth, *a*, which is level, and is spread with a hoe. After an hour's time, the ore is drawn at *g‴* and pushed from *g'* till all of it is on the inclined hearth, *b*, from which it is moved to *c*, and discharged through the opening, *o*. There are three fire-places, *h*, *h*, to keep up the required temperature in the furnace. The gases and fumes pass through the flue, *m*, in the roof, into the dust chamber, *d*, and from there into the chimney, *e*, which may be also outside the building if preferred.



KUSTEL'S FURNACE FOR ROASTING GOLD, SILVER AND COPPER ORES.

This method of having the doors only at the ends of the long sides, facilitates the work of the roaster, there being no tiresome side-work and stirring required, unless a very obstinate ore should be treated. The moving of the ore from one end of the furnace to the other does away with the stirring.

Another very important improvement will be found in the chloridizing chamber, *K*, Fig. 2, into which the ore is drawn through the opening, o, in a red hot state. In this condition the ore may be kept there as long as appears necessary to finish the chlorination of the silver. While this process is going on all the chlorine and volatile metallic chlorides evolved from the mass of ore draw through the narrow opening into the furnace and operate as a chloridizer on the silver ore with which it is in direct contact through the whole length of the furnace. In case the ore, treated is entirely free from sulphur, the chamber may serve as a generator of sulphuric acid for the purpose of setting free the chlorine of the salt, by admitting sulphurous gas through the pipe, *l*, obtained by simply burning brimstone.



METHOD OF DISCHARGE OF ORE.

With the aid of the chamber, from 15 to 20 tons of ore can be roasted in 24 hours, employing two shifts of three men each, and consuming less than one-fifth of one cord of wood per ton. Having the roasting perfectly under control, the highest percentage of chlorination is obtained.

The patent obtained by Mr. Kustel includes not only the shape of the furnace, as represented by Figures 1 and 2, but the broken line of the long hearth generally, by which the lateral forward moving of the ore is avoided. The local arrangements of a mill may be better suited by the form of furnace as represented in Fig. 3. In these furnaces the hand work is easily substituted by an approved mechanical arrangement, with continuous charge and discharge, fed directly from the battery. This makes the furnace more expensive, but it may nevertheless appear very advantageous under certain circumstances.

The discharge of the chamber, *K*, can be also made continuous, or at intervals, keeping the ore in the chamber at a certain level permamently, as shown by Fig. 4, by means of an endless chain. A few holes in the wall would serve as a place to loosen the ore by means of an iron rod, in case any "choking" should take place. If any of our mining friends should desire further information concerning this furnace they may obtain it by addressing Mr. Kustel at 631 Clay street, in this city.

RICH GOLD DISCOVERIES are reported on the Rio Grande, and several parties are preparing to leave Salt Lake City for that region.

News from the Arctic.

News from the whaling fleet in the Arctic on this side this year, under date of August 16, states that the weather has been unusually mild and free from storms. The ocean was quite free from ice in the vicinity of Wrangell's Land and Point Barrow. Capt. Owen, of the "Jirch Perry," writes to the Honoluln *Advertiser* that it has been an open season—in fact too much so. He has been to longitude 151° to the eastward of Point Barrow and has no douht but that a steamer could have gone to the MacKenzie River and, he says: "I dou't know but clear through the northwest passage."

Capt. T. W. Williams, who has returned from the Arctic and who has donated a collectiou of natural history specimens to the California Academy of Sciences, corrohorates these statements. He says that the season has been a very "open" one and unfavorable for collecting, as he was unable to obtain a single whale. He went as high as 72° 15′ and could have gone much further. He says several of the whalers were as far east as Smith's Bay, or 153° east, and could have gone much further had they not been afraid of the ice coming down and cutting off their retreat.

Capt. W. H. Dall of the U. S. Coast Survey and who has been up north in tho U. S. Coast Survey schooner "Yukon" writes a private letter to a gentleman in this city, which contains some interesting statements. He writes from Iliuliuk, Unalashka, under date of September 22nd. Mr. Dall has been very successful in the hydrographic work of the Coast Survey. All his work has prospered, including the collections, and the results are satisfactory, though the reverse of what they all expected. There is hardly a trace of Asiatic influence in *fauna* or *flora* which grow more meager and more Arctic, not to say Continental, the further they went westward. He says: "Of course I have some new and many interesting things, hut no warm water birds. I have, however, full material for working up the distribution, which is rendered all the more simple by the unexpected characteristics now discovered. I have interesting discoveries in prehistorics and altogether the work has succeeded well. The party have been more than usually harmonious. All enjoyed good health and spirits, if not good weather. The vessel has covered herself with laurels." Mr. Dall was to sail the day after this letter was written, for the Sbumagin Islands, going thence to Kadiak, and then set sail for this city, where he expects to arrive early this month.

It will be seen from this Mr. Dall has made some quite interesting discoveries. We would expect to find more of western form in the western Islands of the Aleutian chain, and it was anticipated that Asiatic forms, both as regards manner of life and the vegetation of the islands, would predominate. This seems not to have been the case, and Mr. Dall's report will be looked for with interest. He is not only working for the Coast Survey, hut it will he remembered that he has a distinct appropriation from Congress and is also collecting for the Smithsonian Institution. He does not, however, forget the California Academy in his researches. In view of the fact that there has been an unusually open season, it is to he regroted that the season could not have been utilized in the interest of science for exploration in the "Far North." If there had been any measure taken by which a party had been ready for such occasions, they might have settled some questions which it will take years of hard work to solve. A steamer this year might have made her way directly to that point which has been sought for so long.

No county in the State has a larger area of rich gravel deposits than Nevada, and there are many claims within a few miles of Nevada City.

Engineering at the Sutro Tunnel.

A few weeks ago we had the plsasurs of examining the great work of the Sutro Tuunel, and alluded to the difficulties encountersd by the Civil Engineer Departmeut in effecting en accurete connection betwesn the eest and west drifts. In order to refresh ths memory of our rsaders as to ths nature of those difficulties, we ars obligsd to recapitulate briefly:

"Tbe headsr, it will be remsmbered, was started from the mouth of the tunnsl, in the town of Sutro, and is being pushed rapidly ahead in the direction of Mt. Davidson. The drift is being run in a perfsctly straight lins, rising westerly with a grade of two inches to every 100 feet.

Shaft No. 1 is located 21 feet 9 inches off the center line in a northerly direction, and is distant from the mouth of the tunnel 4,885 feet. In order to start a drift from the bottom of shaft No. 1, to meet the header coming from the town of Sutro, it was found necessary to first run beck 21 feet 9 inchee in a southerly direction from the bottom of the shaft, until the center line of the tnunel was reached; thence to turu a right angle eastwardly, and run iu thie course until the header is met. In order to effect an exact counection between header and shaft, extreme accuracy was necessary in eurveying these lines. A serious embarrassment to correct surveying originated from the placiug of a hoiler on the surface just at the point where the line of the tunnel crosses the offset line of the shaft, so as to prevent placing the insbrument over this very important poiut. It therefore became necessary to lay off the rectanguler offset lines in front of the boiler pest the shaft, thence to measure with offeets so as to get a parallel line over the top of the shaft, and from this parallel line to plumh down to the bottom of the shaft, 523 feet 8 inches in depth, thence take this line at the bottom and prolong it southerly 21 feet and 9 inches to the center line of the tuunel, and from this point turn a right angle and start the east and weet drifts. From the ahove mentioned statement it will be seen that the difficulties encountered in making the survey were much greater than those connected witb the Hoosac Tunnel, the ehaft of the latter heing exactly on the line of the tunnel itself. The longest diameter of the Hoosac shaft is 27 feet, and is placed in the line of the tunnel so that tbis line could be projected directly in the line of the tunnel and then be prolonged both ways. The longest base line that could be projected down the Sutro Tunnel shaft was eix feet eight inches in length, provided that one plumh-bob is hung down the shaft, while the other is hanging down in the hoist shaft; but the pump ehaft is almost entirely filled with the steam pipe, exhaust pipe, pump column and its braces, and a ladder way. Plumbing down the shaft was not conciidered reliable, as the wire might touch at some point or another; the shaft also heing so hot from the exhaust steam as to prevent an inepection of the plum-bob, therefore, the hoiet ehaft giving a base line of three feet, one inch in length, had to be depended upon for projecting the line of the tunnel down in the bottom of the shaft. The slightest variation made, even on the surface in this short base line, would result disastrouely in throwing tbe east drift a long way off the true line.

Appreciating the difficultiee previously enumerated, the Sutro Tunnel Company cast about for a civil engineer equal to the emergency, and eventually were fortunate enough to enlist in the enterprise Mr. H. Schussler, Chief Engineer of the Spring Valley Water Company, and still later of the Virgiuia and Gold Hill Water Compeny. Mr. Schussler entered upon his work with hie usual energy and ardor. Under his careful and accurate surveying the dr.fts have been run streight as an arrow."

We are able to state that all tbe difficulties referred to in the foregoing article, are overcome, and the connection which has been eo much talked of in professioual circles, is *un fait accompli*. Aud right here we may state that even tbe most skilled civil engineers, well acquainted with the subject, decmed a difference in the connection of from two to five feet, a very close hit. As we previously predicted, Mr. Schussler wes equal to the task.

At 10 minutes of 11 o'clock A. M. ou the 27th of October, the two drifts met. In the afternoon of the same day, Mr. Joseph Aron, President, and Mr. Hooper, Director, who were present at the time the connection wae made, forwarded a message to Mr. Adolph Sutro, London, of the following wording:

"SUTRO, October 27, 1873.
Schussler connected tunnel to-day. Grade within ½ inch; center line, ¾ inch.
(Signed) JOSEPH ARON."

On the Saturday previous a dispatcb was seut to the President in San Francisco, to leave there for Virginia on Sunday morning, and thus this gentleman with a party of others interested in the enterprise, arrived at the Tunnel just in time to witness the great event.

Eerly in the morning on Monday Mr. Schuseler sent his old chain-man, John Higgins (who hae followcd his footsteps for ten years and helped to make five tunnel connections during that time), over to shaft No. 1 to measure the progress made since Saturday morning. He came back in breathless haste aud reported that the rock had during the last forty-eight hours turned softer, and that a progrces of about four feet more than was anticipated had been made. Upon hearing this unexpected but favorable news, Mr. Schussler exclaimed excitedly, "Tbsy are witbin thrse feet of one another." He called young Ross Browne, his essistant, and both rushed into ths tuunel up to the face of ths header. Fiftesn minutes after their arrival, a cartridgs of gient powder being placed in a drill hols in the center of the fecs aud ignitsd, blsw a hole about ten inches squers through the remeining barrier of rocl..

The excitsment ceused by this event was intense and the shifts of miners and foremen who were gathsred in the respective faces, gave vent to their joy in an uuearthly ysll that made the old mountain ring, at the sams time Schussler, Browne, and Jacksou, the foreman, rushed forward and shook hands through the opening, with Bob De Noon, ths Mining Superintendent of ths company, Mr. Brew, foreman at Shaft No. 1, and all the boys on the sbift. Enough rock was theu knocked off with a pick to eularge the aperture sufficiently to allow the men to crawl througb from one drift to the other. As a matter of course a drink was had all around. Tbe draught through the opening at the time was almoet strong enough to force a man through it into the opposite drift. At this junctnre tbe President, Mr. Aron, Mr. Hooper and Mr. Clark, who bad just arrived from San Francisco, together with Mrs. Sutro, Mr. Safford and Mr. Pitchford, arrived on the epot, and by the aid of sturdy miners were lauuched through the aperture. Mr. Schussler received witb commendable modesty the warm congratulations of the party upon tbe success of the undertaking, and requeeted them to delay a few moments to witness any discrepanciee whicb might have occurred in his survey. The instruments were placed in position and fore and back sights taken through the opening, and to the great astouishment of everybody, the difference in his eurvey between the opposite drifts amounted to only one-half inch in the level and seven-eigbts of an inch in the liue! This result, although hardly credible, judging from the difficulties he had to contend with in making his eurveys, is a truly wouderful triumph in the line of underground surveying, and adds fresh laurels to the brow of the champion civil engineer of America.

At tbe date of this writing the barrier of rock has been entirely cut away, the track put in position, so that all traces of the point of counection are gone.—*Gold Hill News.*

Chemicals in Pan Amalgamation.

[Continued from page 274.]

The following table will show results obtaiued in workiug on a large scale two different lots of slime:

1. Slimes from various mills.
2. Slime from Savage ore.

RESULTS OBTAINED IN WORKING SLIMES.

Numbor.	Assay value per ton.			Yield per ton.			Per cent. extracted.			Fineness of bullion.		
	Gold.	Silver.	Total.	Gold	Silver.	Total.	Gold.	Silver.	Total.	Gold.	Silver.	Total.
1	$7.28	$28.44	$35.72	$4.01	$20.20	$24.21	55.08	90.01	81.46	005	401	406
2	6.03	35.70	41.73	4.60	31.08	35.68	76.28	87.06	85.50	005	537	542

The results obtained in the working of lot No. 2 are somewhat above the average, which can be estimated at about 80 per cent. of the assay value.

Tbe method of treatment now in vogue is susceptible of modification and improvement. The yield can be increased by charging the chemicals at two different periods, say two-thirds at first and the remaining third two or three hours later. This ie due to the fact that the action of the chloride of copper becomes more feeble as time elapses, and is revivified by the addition of this second portion.

A saving in the amount of salt consumed can be effected by dissolving it together with the sulphate of copper in vats in proportions approximating to their chemical equivalents, and charging the resulting chloride of copper in the liquid state. The plan of putting the sulphate of copper and salt into the pan separately, necessitates a large excess of the latter to insure the complete decomposition of the former. An excess of salt wae originally deemed advantageous on the supposition that it would act beneficially in holding ths chloride of silver in solution, thus prssenting mors surfaces of contact to the action of the quicksilvsr, and, moreover, would convert the Hg Cl formed to Hg Cl^2, in which stats it would bs precipiteted by ths iron of the pans in the metallic form. It is, howevsr, improbable that such re-actions should occur on a largs scele where ths rs-agents represent so small a proportion of the entire mass.

The discovery of a cheap method of working slimes led to important results. The sams process was soon applied to the working of low-grade tailings, of which vast quantitiss had accumulated on ths plains hordering on the Carson River, at Dayton, and at othsr points. Several mills, witb a capacity of working from 250 to 300 tons psr diem each, are now in operation in Dayton and vicinity. The tailings which were formerly allowed to run into the Carson River, are now carefnlly eaved, and in fact to such an extent has the re-action set in against tbe wasteful prac ices of the past, that many mill-owners save the tailings after they have passed through the pans, with a view to reworking them at some future time. The teilings being mostly very poor, it bscomes necessary to work a large amount daily in order to obtain a fair interest on the capital invested. Thie is effected by using very large pans and by rapid amalgamation. Economy in the time devoted to amalgamation cannot, however, be effected without sacrificing a portiou of the precious metals which might otherwise be eaved. It is, however, considered policy to suffer this loss. The method of treatment is practically the eame as in working slimes, with the exception that a smaller proportion of sulphate of copper and salt is ueed, and that in other respects lese attention is paid to the extractiou of a high percentage, the value of the tailings not justifying too careful a manipulation. For the same reason the extra expense of grinding the tailings, which would undoubtedly iucrease the yield, is dispensed with.

As a rule tbe bullion produced is very base, not exceeding on the averags .450, and often going as low as .350.

In the mill of Birdsall & Co., in Dayton, where the crnde hullion rarely exceeds in fineness the latter figure, aninexpensive process has been adopted for partially refining it.

As bullion comes from the retort a great portion of the copper is found in a crust ou the surface of the elab. This slab-crust, whicb contaius some silver and gold, ie eeparated from tbe finer metal heneath, and the latter ie cast into bars 500 to 600 fine. Tbc cupreous crust is roasted in a reverberatory furnace and crushed, and the copper-oxide separated by means of eulphuric acid. The bullion from other mills is sold in the crude etete, and euffers a discount proportiouate to its baseness.

Even with the use of sulpbate of copper aud salt, the percentage extracted from low-grade tailings rarely exceeds 50 to 55 per cent. This is due principally, as above stated, to the necessity of a cheap, rapid, and consequently imperfect treatment. The eame tailings, however, worked without chemicals, but otberwise in the same manner, would not yield over 20 to 25 per cent. of their value, and in some cases not so much as that. Richer tailings give hetter results, aud are aleo treated more carefully.

In a mill of large capecity, and in good working order, the cost of working does not exceed $3 to $4 per ton. Hence tbere is still a margin for profit on tailings assaying only $9 to $10 per ton.

The pans now almost universally in use in the Washoe tailing-mills have a capacity from 6 to 8 tons, and the time of working the charge geuerally does not exceed four hours. More than half an hour, however, is consumed in charging and discharging, in heating the pulps, etc. The actual time of treatment, therefore, is lese than three and a half bonre.

The following table will show the amount extracted from one half hour, to one half hour, from a charge of tailings assaying $15.31 per ton, worked in a pan of eight tous' capacity.

Value of tailings, $15.31.

	Yield per Ton Silver.	
Assay value of sample from pan, end of first half hour	$12.40	2.91
Assay value of sample from pan, end of second half hour	11.70	.70
Assay value of sample from pan, end of third half hour	10.83	.87
Assay value of sample from pan, end of fourth half hour	9.58	1.25
Assay value of sample from pan, end of fifth half hour	9.02	.56
Assay value of sample from pan, end of sixth half hour	8.09	.93
Assay value of sample from pan, end of seventh half hour	7.85	.24
Assay value of sample from pan, end of eighth half hour	7.77	.08
		7.54

Total percentage extracted, 49.30 per cent.

The falling off in tbe yield in the seventh and eighth half hours is due to the insufficiency of chemicals used, their action having spent itself in the earliest part of the treatment.

Until the introduction of the use of sulphate of copper and salt, the working of tailings was confined to rich lots, where a small percentage of the value would still prove remunerative, and to blanket-coucentrations. The richness of the latter consisted to a great extent in amalgam, and its successful extractiou was consequently an easy matter.

[Concluded next week.]

TOBACCO leavee for cigar wrappers are now dried over chloride of calcium or magneeium in euitably arranged chambers, in accordauce with a receut patent.

Base Bullion and Silver Bars.

Iu the present state of financial affairs all ovsr the couutry and the difficulty of gstting coin or currency with which to carry ou ths businsss of the people, it is but natural that some plan should be suggested by which the base bers may rsadily bs reduced to silver bars of .900, and ovsr, fine. The difficulties that surround the men who producs bass bullion are much greater than thoss that mill men are obliged to encounter, and a remedy should bs had, at once, for the discrepancy until the two interests should be more equal. The difficulties now surrounding the ownsrs of furnaces could be relieved in no way so well as by ths erection of separating works near the furnaces. At ths present time the base bullion interest of this State amounts to fully 100 tone per day, and there is no means of getting it into bare except by transporting it to New Jersey or selling it at a price that would not be remuuerative to parties in San Francisco, to be ehipped to Swansea. In our immediate vicinity there is enough of base ore of late discovery to produce many tons of the bullion that would produce in silver from $300 to $500 per ton, but at the present time there is not capital euough in the State, that ie available, to carry on tho works until the usual time; from three to five months is consumed before returns in coin can be had. Unless some new arrangements shall be made, the working of base mines will, in a measure, be retarded. A remedy for this could be had in the establiehing of separating works at the ceuters of the production of base metal that would give to the smelter quick returns for his bullion. The interest account, when separation is delayed the usual time, is a large item and one that smelters should be pleaeed to avoid. In tbis way, only, can it be done, by erecting separating works of capacity sufficient to deliver clear silver bars to the smelter, leaving the lead as the result, to be utilized at a time when transporta ion shall he less. The smelters of Utah endeavored to provide for themselves and save transportation at high prices, and the interest account, by encouraging the erection of the Germania worke in that Territory. In the early smelting operations of Utah, they were sufficient to answer all purpoees of the smelters, but for some time past they have been obliged to sell large amounts of bullion to Eastern parties at a price that is not eatisfactory. Nevada needs works capable of separating one hundred tons per day of baee metal bars, eo that the silver coutained in them may be made ealeable at any commercial point or may be takeu to tbe mint and there made into Trade Dollars. So long as the present state of thinge exiets, there ie an incubus upon the mining and smelting intereet that should be at once removed. The fostering of these intereets is a duty, and much of the wealth of the State must be obtained in this way. It cannot be done without a cbange from the present situation. If there is a better way to relieve the present unfortunate position, it is to be hoped it may be adopted at an early day.—*Virginia Chronicle.*

The Big Gold Bar.

Tbe Butte *Record* of the 25th ult., says: Last week on Friday the Spring Valley Co. brought down from their mine a bar of gold valued at $71,500, the product of 5 weeks' run. We believe this is the biggest bar ever manufactured in the State. Since the completion of their Butte Creek Ditch, they have made two runs, one of four weeks, tbat cleared up over $40,000, and the preeent making a total of about $112,000, since the latter part of July. The boys made some little display over their trophy in briuging it down from their mine to Oroville. The vehicle coutaining it also conveyed several men armed with Henry rifles and revolvers and derringers. This was proceeded by another carriage occupied by Uncle Wm. Gregory, and another gentleman, armed with a Henry rifle aud a double barrelled shotgun charged with buck-ehot. In the rear was another armed guard. On arriving in town, the cavalcade halted at the banking house of Rideout & Smith, to deposit their treasure. While in the bank, and iu the endeavor to remove the caps from the shot-gun it was discharged, the coutente carrying away a portion of the wall, and a map hanging thereon. Some think tbis was done on purpose, and in celebrating their successful clean up. Whether so or not, it clearly demonstrated that, had Uucle William ever emptied the gun into the person of a footpad, who might imagine himself strong enough to walk off with the bar, the Coroner in holding an inquest would have struck an exteneive lead mine. The bar was safely landed in Sen Francisco, and was on exhibition among the attractions of Woodward's Garden on Sunday laet. The Cherokee mines with their preecnt facilities for working, will yield in the neighborhood of $50,000 per month, or $600,000 per annum. Scarcely a scar has been made upon the grounds of the Company.

OZOKERITE CANDLES.—Ozokerite is found in beds in the sandstone of Slanik, in Moldavia, in the neighborhood of mines of coal and rock-salt; it has also been discovered in the Carpathians. The material in ite crude state is brown, greenish or yellow; it is translucent at the angles, and its fracture ie resiuous. It is naturally brittle, but when softened can be kneaded like wax. It blackens on exposure to the air. It becomes negatively electric on friction, and exhales then tbe aromatic odor of a hydrocarbon. It melts at the low temperature of 66°. Its illuminating power is such that 754 ozokerite candles give a light equal to 891 of paraffine, or 1,150 of wax.—*Chemical News.*

MECHANICAL PROGRESS.

Heavy Versus Light Implements.

Many peoplo appear to be unaccountably stupid in regard to the most economical and convenient weight of implements and vehicles, and especially the weight of one-horse and two-horse vehicles. A large proportion of the four-wheeled and two-wheeled vehicles in use are sufficiently heavy and strong to bear three times as much, with entire safety, as they usually carry. The two-wheeled coal and dirt carts are often sufficiently heavy for a single horse without any load on them; and the huge four-wheeled express wagons are almost always built sufficiently heavy to carry with safety all that four or six horses ought to draw. There is great need of an improvement in regard to the weight of almost all kinds of implements and vehicles. A horse of ordinary size will draw, on a smooth road, one ton anywhere, with ease, besides the vehicle of suitable weight for one animal. In hauling earth of any kind, or stone, one horse would take 2,000 pounds with no more fatigue than he now feels when he hauls only seven or eight hundred pounds on a large lumbering cart, many of which will weigh ten to twelve hundred pounds without any load. It is truly surprising that intelligent men do not perceive this fact. By reducing the weight of a vehicle six hundred pounds, which could often be done with consistent strength, the team would be able to haul six hundred pounds more of earth or stone at every load, by exerting only the same strength. The same principles hold true in the construction of hand tools. A laborer shovelling earth with a shovel only one pound heavier than a neatly made light shovel, will exert strength to no purpose sufficient to throw up one pound of earth at every shovelful, which would amount to several tons in a short period of time. Many excellent teams are wellnigh ruined in consequence of a ponderous vehicle, as most teamsters are too apt to be governed by the number of pounds that is placed on the vehicle as a load, rather than by the weight of the wagon or cart, and the load in the aggregate. When farmers are hauling material of various kinds, they are not always aware of the unnecessary weight they require their teams to haul to and from the field. Hay riggings are frequently made more than one hundred pounds heavier than is necessary. If only made as light as consistent strength would admit of, a team might haul one hundred pounds more of hay and grain just as well as to draw the same number of unnecessary pounds of rigging. Plows are frequently made twenty pounds, or even more, heavier than is really essential to secure the necessary strength of materials. Every good plowman knows that an addition of twenty pounds to a plow that is already as heavy as it ought to be, greatly augments the fatigue of the team, and renders plowing far more laborious for the plowman than if his implement were as light as plows might be made for ordinary work. Farmers should study the strength of materials for the purpose of ascertaining as nearly as practicable how light every implement may be made consistent with strength.—*Colorado Agriculturist.*

Boiler Incrustration.

Our ten years' experience (says a writer) with hard water has given us a taste of what we were to expect in future, in the line of labor and expenditure, unless some remedy could be found which would effectually check the rapid destruction of our boilers from the deposits of lime. We were having no end of trouble from the leaking and burning of boiler-tubes, to say nothing of the increased amount of fuel used and dangers of explosion which are very much increased by incrustation.

A chemist having examined the subject of incrustation, proposed the use of tannate of soda. On his recommendation we at once ordered a quantity of the necessary material, and began using it. It required some little time before we could discover any effect produced, owing to the very heavy deposit of hard scale with which our boilers were coated. But in the course of a month we observed that our boilers required less coal to keep up steam, and otherwise seemed to do their work without so much driving. Upon examination we found the tubes perfectly free from scale, and in as good working condition as when first put together.

In June of last year we started a new 30-horse power Denemore boiler. This boiler has been in constant use ever since, using nothing but the hardest kind of water. Having occasion lately to open it, we found the tubes perfectly clean and free from scale of any kind. The inventor of the boiler, who was present at the time, was much surprised at the result, and declared he had never seen anything like it before in all his experience.

In regard to the amount of tannate necessary, much depends upon the character of the water used. At the rate we are now using it, the cost per annum is about $66 for three 30-horse power boilers. But as we use considerably less during the summer, when we get more soft water and require less steam for heating, the annual outlay will not be much over $50, and by it we save nearly $500 a year in fuel.

Ruled Test Plates for the Microscope.

In a recent paper read before the Quekett Microscopical Club, London, Mr. William Webb takes the ground that the alleged ruled plates of Nobert and others, purporting to present 200,000 lines to the inch, are illusions, it being a physical impossibility to cut any such number of distinct lines within such limits. He says:

That a micrometer with the lines the one 200-thousandth of an inch apart ruled on glass is an absolute impossibility. That if it be possible to rule lines themselves of the width of the one 200-thousandth of an inch, to make them definable there must be a clearly defined line between them, and a clearly defined line in the same plane of observation. That beyond the first few coarse bands of M. Nobert's tests, there is not, properly so called, a single line. That in the finest bands, except at their extreme sides, there is not half a line. That in the finest bands the only thing certain, except the edges, is the uncertain polarized aerial lines. That the microscopical world has been pursuing a phantom, and adopting a fallacy. That polarization of light in the examination of these and analagous tests is a deceitful servant of the microscopist.

That oblique illumination is another deceiver. That if M. Nobert were to attempt to fill his incisions with black, his finest bands would be merged each into one black line of the breadth of each particular hand. That a test must be a known thing which some power will either disperse or fail to define, as in the case of a spectacle vendor, who places before an intending purchaser's eyes words printed in types of different sorts as a known test of visual powers. That there are no tests so reliable as a known measured congeries of contorted lines, as in microscopic writings, where the transmitted rays are partially shut off by the black, and in which, the rays transmitted being transmitted by direct illumination, their definition is not interfered with; such rays becoming parallel rays, passing out at right angles with the surface of the glass, the unalterable law of natural optics being that the angle of incidence and the angle of reflection are equal.

Manufacture of Alloys.

An eminent authority gives the following as reliable directions for the most successful manufacture of alloys:

1. Heat the crucible to a red or sometimes a white heat, and then melt the least fusible of the metals composing the alloy. After fusion, heat this metal to such a heat that it will hear the addition of the next least fusible metal without too great a reduction of temperature.

2. Introduce the metals into the pot strictly in the order of their resistance to fusion, each metal being properly melted before the next is added. The danger in first melting one of the most fusible metals lies in the fact that it would most probably volatilize and become oxidized; this would be a source of great waste.

3. Heat each charge of metal thoroughly before adding it to the pot, thus avoiding as far as possible the reduction of the metal in the crucible.

4. When the proportion of zinc is large, and some of the component metals have a high point of fusion, the alloys should be covered with a layer of charcoal dust. If the alloys are rich in tin, the surface of the melted metal should be covered with sand.

5. Stir the metal before casting, and if possible when casting, with a whitewood stick; this is much preferable for the purpose to iron.

6 If possible, add a small portion of old alloy to the new one. If the alloy is required to make sharp castings, and strength is not a very great object, this proportion of old alloy to the new should be increased. In all cases a new or thoroughly well cleaned crucible should be used.

We noticed, in a recent issue of the *Scientific American*, a most curious device for propelling ships. Our readers have become familiar with some very odd plans, doubtless, but the palm of eccentricity should be awarded this. The patentee's idea is to utilize the dash of the waves and the rolling of the vessel in filling tanks along the side of the ship with water. These tanks are made by giving the ship a false exterior skin, through a portion of her length. Near the water line are outlets directed aft. The inventor expects, by means of the reaction of these upon the main body of water, to force the ship ahead. With commendable modesty it is suggested that the plan will, perhaps, be more serviceable as an auxiliary to steam and sails. When the very limited fall obtainable is considered, in comparison with the immense weight of water required to be carried, the absurdity of the scheme is sufficiently evident. We had thought the windmill-propellor man the most original genius, but after reading the *Scientific American's* description of this patent we are willing to hack the now aspirant to any extent.

Water Proof Wire-Work.—One of those very simple inventions which any one might have made, but which nobody did till M. d'Argy thought of it, consists simply in filling up the meshes of wire-work, of any metal or fineness, with an elastic varnish made of gume, oils, or other substances, which shall be merely impermeable and transparent. We can imagine hundreds of applications for such a simple invention.—*Iron.*

SCIENTIFIC PROGRESS.

The Zone of Life.

Insignificant as is the spot we inhabit, the zone of life—the area which not only all that live and breathe and move inhabit, but in which all vegetation is contained—is still more limited. From the submarine forests in the lowest depths of the sea to the highest altitude to which the condor soars, above perpetual snow, is but twelve miles! Within those scanty limits, six miles of air above us, six miles of water beneath, everything that has vitality is confined. If the salamander lives in the central fire, the exception is so small as scarcely to be worth mentioning. The air presses upon the earth with a force equal to 33 feet of water, and upon every average human body with a weight of 15 tons, which only does not squash us flat as pancakes, because the air surrounds us on all sides, including our insides, and thereby the weight is balanced. To most of us nature is one vast mirage, suggesting infinite delusions; and even to the learned many things still remain to be cleared up by slow-moving science in future ages. Who would imagine, upon the face of the matter, for instance, that, in an airless world, not a sound could ever be heard! On the contrary, in still and silent space, one might conceive that we might hear a pin drop from the moon. Hawksbee demonstrated the contrary of this fact in a memorable experiment before the Royal Society, 180 years ago. He placed a clock under the receiver of an air-pump, in such a way that the striking of the clapper would continue after the air had been exhausted; while the receiver was full of air, the sound was quite audible; when it was empty, all was silent. Again, when the air was introduced, there was a feeble sound, growing in intensity as the air grew denser. At the top of Mount Blanc, the report of a pistol is no louder than that of a common cracker let off at the level of the sea. "Above two miles," says Mr. Glaisher, who, as everybody knows, is an aeronaut of considerable experience, "all noise ceases. I never encountered a silence more complete and solemn than in the hights of the atmosphere—in those chilling solitudes to which no terrestrial sound reaches." On the other hand clouds absolutely facilitate the transmission of sound. Above a great city, to a hight of from 1,000 to 1,500 feet, there is always a noise "immense, colossal, and indescribable." The whistle of a steam-engine is heard at 10,000 ft., the noise of a train at 8,200, says M. Flammarion; but Mr. Glaisher testifies to have heard this latter when 22,000 ft. up in the air; the barking of a dog and the report of a gun rise each to 6,000 ft.; the shouts of a crowd of people, the crowing of a cock, the tolling of a bell, to 5,000; and the shout of a human being to 3,300 ft.—*Chamber's Journal.*

French Inventions in Telegraphy.—The French Telegraphic Department is reported the best in the Vienna Exhibition, and some of the inventions are exceedingly interesting. There is a machine that prints an autographic dispatch, not chemically, like the other autographic instruments, but on white paper, with printer's ink. It cannot be described in writing. There is synchronous action of two rollers; one may be in New York and the other in San Francisco, or in any other two places connected with a telegraph wire. A written message, a sheet of music, the portrait of a burglar, anything that can be drawn with a pen—not with a pencil—may be telegraphed from one end of the world to the other and reproduced with printer's ink on white paper, like that on which the patron of the *Journal* reads this item. Then they have a machine by which four operators can work over a single wire at once in one direction, just as one operator does with us; and by putting on four operators the other way you can make the capacity of one wire equal to that of eight by the old system. We are now using in America a system by which a wire can be operated both ways simultaneously. The French machine is exactly four times ahead of us. They have, also, an electro-magnet that works over one hundred miles of wire, and they will tell, within half a yard or so, exactly where a pneumatic tube has become obstructed. Suppose you have a tube between New York and Marquette, and a wad of paper, a rat, or something of that sort gets into it; you don't know exactly where to look for the obstruction, and it is a serious matter to go and dig up from one end until you find it—possibly not one hundred yards from the other. This machine tells you just where to go, although it will not tell you whether it is a rat or a wad of paper that stops the tube.—*Mining Journal.*

Carbolic Acid in a New Role.—In the course of his investigations upon the value of carbolic acid as a disinfecting agent, P. C. Plugge also studied its power as a reducing agent, and discovered incidentally that nitrate of protoxide of mercury containing traces of nitrous acid served as a delicate test for its presence. When a solution of such a salt is boiled with a solution containing carbolic acid, a reduction of mercury occurs, and the liquid assumes sooner or later, according to its dilution, an intense red color. The reaction is distinct in one sixty-thousandth dilution, and is manifest even when the dilution is one two-hundred-thousandth.

The Elements of the Sun.

Mr. Norman Lockyer read before the late session of the Chemical Section of the British Association, a paper on the elements of the sun. His object was to obtain the assistance of chemists in dealing with the sun and stars. After showing the processes by which with the aid of spectrum analysis he was able to discover the composition of the sun, he said Mr. Huggins and Father Secchi had both paid great attention to this subject, and from the result of their observations and his own he had come to the following conclusions:—(1.) The absorption of some elementary and compound gases is limited to the most refrangible part of the spectrum whou the gases are rare, and creeps gradually into the visible violet part and finally to the red end of the spectrum as the pressure is increased. (2.) The absorption of the photospheric light (and therefore the temperature of the sun) is much greater than is supposed. (3.) The lines of compound metallic vapors lie generally in the red end of the spectrum, and this holds good for absorption in the case of spectra like those of the metalloids, which are separated spectroscopically from those of the metallic elements by their banded structure. (4.) There are in all probability no compounds ordinarily present in the sun's reversing layer. (5.) When a metallic compound vapor is dissociated by the spark, the band spectrum dies out, and the elemental lines come in, according to the degree of temperature employed. Again, although our knowledge of the spectra of the stars is lamentably incomplete, he gathered from them that the sun, so far as its spectrum goes, may be arranged between stars with much simpler than those with much more complex strata. Sirius, as a type of the former, is the brightest, and, therefore, probably the hottest star in our northern sky. It is only known to contain hydrogen and magnesium, and the hydrogen lines in this star are enormously distended, showing that its chromosphere is largely composed of that element. There are also many other bright stars of this class. As to the latter class, the red stars may be quoted. They are lower in temperature than our sun, and here the quantity of hydrogen is greatly reduced. He had asked himself whether these facts could not be grouped together in a working hypothesis, which assumes that in the sun and stars are various degrees of celestial dissociation at work preventing the coming together of the atoms.

The young man who accompanied Mr. Light in the balloon sent up the other day, explains that during the descent a quantity of sand ballast was thrown out, but that the balloon fell so rapidly that "the sand flung overboard came rattling into the car as we passed it on our downward course." It will appear to most persons exceedingly odd that a balloon should fall through the air more rapidly than sand, and the aeronaut is of course mistaken in supposing that such a thing possibly could occur. All writers upon the subject of aerostation refer to the fact that when a balloon is in the upper atmosphere it attracts to itself, sometimes with considerable force, small objects which float near to it, and often, also a portion of the ballast that is thrown from the car. Such substances will cling to the balloon for a second or two, and then yield to the superior attractive power of the earth. The sand tossed out by the Herald's aeronauts seems to have been acted upon in this manner, unless, indeed, it was merely blown back into the faces of the aeronauts by a strong gust of wind.—*Philadelphia Bulletin.*

A dragon fly balanced on its wings at the side of a car speeding its way over the rails at the rate of forty miles an hour, appears to be almost motionless. But to keep up with the car its wings must vibrate many thousand times a second. The eye can not detect their up and down action, so exceedingly rapid are the contractions and relaxations of the muscles acting upon them. All at once they dart off at a right angle so quickly that the retina can not have an impression remaining long enough to trace their course. Therefore, those same muscles, to small to be seen but by powerful microscopic assistance, must be urged to still more rapid action. Such intense activity far exceeds the vibration of musical chords, and therefore exceedingly perplexes entomologists, because the nervous system of insects is so extremely minute. The question is: How much power is generated for keeping a dragon-fly's wings in uninterrupted motion for many hours in succession without apparent fatigue?—*Scientific American.*

Whether fish hear has long been a subject of debate among naturalists. Cuvier, Izaak Walton, Professor Cope, Mr. Lamberton and others have argued in the affirmative, but many naturalists of reputation have held to the contrary. Mr. Henry Lee, one of the curators of the Brighton Aquarium, directs attention to the question by citing several examples where it is evident that the porpoises contained in the aquarium tanks certainly heed the whistle used to call them to their meals. That they might not be attracted by the sight of any preliminary arrangements, a time was chosen other than that at which they were usually fed. Having placed an attendant where the movements of the fish could be watched, it was observed that at the first note of the whistle the porpoises instantly moved toward the end of the tank where it was their custom to feed. So far as this evidence of Mr. Lee's is pertinent, it only serves to prove that *porpoises* may hear.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Nov. 5, 1873.

NAME OF COMPANY.	IN MINE.	IN FEET.	SHARES IN MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co	300	6000	50	26½	25	....	....
Alpha Consolidated	3600	....	....	....	....	....	....
Alta	....	30000	5¾	4⅞	....	....	....
American Flat	1900	18000	1⅞	1½	....	⅛	....
Arizona & Utah	65	24000	....	....	....	....	....
Bacon Mill & Mining Co.	....	50000	7½	6¾	....	....	¼
Baltimore Consolidated	1040	104000	75	71	....	1	....
Belcher	224	22400	10	8	....	1⅞	....
Best & Belcher	20	5000	....	....	....	....	....
Bowers	....	18000	....	....	....	....	....
Buckeye	2500	25000	15	15	....	....	....
Bullion	5000	20000	19	17½	....	....	½
Caledonia Silver M. Co	150	10800	14¼	12⅞	1	....	....
Central	100	20000	10¼	10	....	....	¼
Central No. Two	2800	28000	46⅞	43¾	....	....	3⅛
Chollar-Potosi	130	24960	9	6	....	½	....
Confidence Silver M. Co.	34½	20000	....	....	....	....	....
Cons. Gold Hill Quartz	1160	103000	52	42	....	....	5
Consolidated Virginia	1600	40000	....	....	....	....	....
Cook & Geyer	600	100000	116	99	....	....	....
Crown Point G. & S. M. Co	2000	24000	1¼	1	....	⅛	....
Dancy	1200	24000	2½	2⅛	....	....	....
Dardanelles	70	25000	5	4½	....	....	....
Eclipse	75	50000	4⅜	3⅝	....	⅛	....
Empire Mill & M. Co	400	8000	9½	9	....	....	½
Exchequer	3000	12000	....	....	....	....	....
Flowery	....	....	....	....	....	....	....
Franklin	....	20000	1¼	1	....	¾	....
Globe	1200	48000	13⅞	12½	....	....	⅜
Gould & Curry S. M. Co.	400	16000	33½	27½	....	4½	....
Hale & Norcross	184	100000	5⅞	5	....	⅛	....
Imperial	....	....	....	....	....	....	....
Indus	2000	30000	....	....	....	....	....
Insurance	....	....	....	....	....	....	....
Jacob Little	....	....	....	....	....	....	....
Julia Gold and S. M. Co.	2000	30000	3½	2⅞	....	⅜	....
Justice	3000	21000	9	7½	....	....	....
Kentuck	95	30000	14¼	13	....	....	½
Knickerbocker	1200	24000	3¼	3	....	....	⅛
Lady Bryan	....	....	....	....	....	....	....
McMeans	3500	36000	....	....	....	....	....
Mint Gold & S. M. Co	1500	50000	....	....	....	....	....
Nevada	1000	40000	....	....	....	....	....
New York Consolidated	3600	36000	5½	1½	....	4¾	....
Occidental	800	10000	....	....	....	....	....
Ophir Silver Mining Co.	1400	16300	67	63	....	....	....
Overman Silver M. Co	1200	37400	23	20	....	....	1½
Phil. Sheridan	1200	25000	....	....	....	....	....
Picton	2000	30000	....	....	....	....	....
Rock Island	....	20000	¾	⅝	....	20c	....
Savage	800	16000	57	52	....	6	....
Segregated Belcher	160	6400	65	60	....	10	....
Segregated Caledonia	....	10000	....	....	....	....	....
Senator Silver M. Co	....	24000	45c	....	¼	....	....
Sierra Nevada	....	20000	20	14	....	5½	....
Silver Hill	....	54000	11	9	....	....	....
South Overman	....	24000	....	....	....	....	....
Sucor Mill and M. Co	7600	22500	2½	2	....	....	1
Sutro	....	24000	3	2½	....	....	....
Trench	20	50	....	....	....	....	....
Tyler	2200	32000	¾	55c	....	5c	....
Union Consolidated	803	26000	3¼	1⅛	....	2½	....
Utah	....	20000	5	3½	....	1⅝	....
Woodville G. & S. M. Co.	1400	28000	3	1⅞	....	1⅛	....
Yellow Jacket	1200	24000	69	69	....	5	....
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
NEVADA.							
Adams Hill	....	50000	....	....	....	....	....
Alps Silver Mining Co	800	30000	⅞	¾	....	⅛	....
Amador Tunnel & M. Co.	....	....	2	2	....	....	....
American Flag M. & M.	....	30000	11	4½	....	5	....
Arkansas	300	30000	....	....	....	....	....
Belmont	....	....	27	9¾	....	19¾	....
Bowery	....	30000	⅞	⅝	....	....	....
Chapman Mill & M. Co.	....	30000	¾	20c	....	1	....
Charter Oak S. M. Co	1000	30000	....	....	....	....	....
Chief of the Hill	....	30000	2	1¾	....	....	....
Chief East Extension	....	36000	¾	10c	....	....	....
Columbus M. & M. Co	10000	50000	....	....	....	....	....
Condor	....	50000	....	....	....	....	....
El Dorado South	....	....	9	3¾	....	3	....
Eureka Consolidated	....	50000	10	9¼	....	....	½
Excelsior	....	12000	....	....	....	....	....
Harper Silver Mining Co	....	18000	....	....	....	....	....
Hermes	1000	30000	3¼	3⅛	....	⅛	....
Home Ticket	....	....	....	....	....	....	....
Huhn & Hunt S. M. Co.	3600	30000	3	1½	....	1⅝	....
Ingomar Silver M. Co	1000	40000	55c	35c	....	....	20c
Ivanhoe	....	30000	....	....	....	....	....
Jackson	....	50000	30c	¼	....	....	....
Juniata Consolidated	5000	50000	....	....	....	....	....
K. K. Consolidated	....	....	4	4	....	....	½
Kenneky Gold & S. Co.	1000	40000	3	2¾	....	....	⅛
Kinston	1000	30000	....	....	....	....	....
Lehigh	1000	30000	....	....	....	....	....
Lillian Hall	1000	15000	....	....	....	....	....
Lonise	2400	30000	⅞	⅜	....	....	....
McMahon	1000	30000	....	....	....	....	....
Marion	....	30000	....	....	....	....	....
Meadow Valley	24023	60000	15	13¾	....	½	....
Mocking-Bird	1200	30000	....	....	....	....	....
Monitor Belmont	....	....	9	6	....	2	....
Murphy	2000	60000	....	....	....	....	....
Newark Silver M. Co	800	32000	5¾	4¾	....	¼	....
Pacific Tunnel & M. Co.	....	....	....	....	....	....	....
Page & Panaca S. M. Co.	2400	40000	1½	¾	....	⅝	....
Peavine	1000	30000	....	....	....	....	....
Phœnix	....	50000	10c	7½c	....	....	....
Pioche Silver Mining Co.	1000	20000	6¾	5	....	½	....
Pioche West Extension	....	35000	1½	1⅜	....	....	¼
Pioche-Phœnix	....	40000	....	....	....	....	....
Portland	....	....	....	....	....	....	....
Raymond & Ely	5000	30000	60½	56	....	2½	....
Silver Peak	....	30000	1½	⅜	....	1	....
Silver West Consolidated	....	....	....	....	....	....	....
Standard Mill and M. Co	....	....	....	....	....	....	....
Star Consolidated	18000	50000	....	....	....	....	....
Starlight	6900	25000	....	....	....	....	....
Sterling	....	30000	....	....	....	....	....
Spring Mount	....	20000	....	....	....	....	....
Spring Mountain Tunnel	....	20000	....	....	....	....	....
Ward Beecher	....	....	....	....	....	....	....
Washington and Oreole	200	30000	4½	2⅞	3	....	....
Yellowstone	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
CALIFORNIA.							
Alpine	....	12000	....	....	....	....	....
Bellevue	1200	12000	....	....	....	....	....
Calaveras Gold M. Co	8000	24000	....	....	....	....	....
Cederberg Gold M. Co	2200	20000	....	....	....	....	....
Consolidated Amador	....	24000	....	....	....	....	....
Cottonwood Creek	....	20000	39½	35	....	....	....
Danderberg M. & M. Co.	....	....	....	....	....	....	....
El Dorado Ind. Quartz M	....	....	....	....	....	....	....
Eureka Gold Mining Co.	1630	20000	24½	22½	2	....	....
Gillis	....	24000	....	....	....	....	....
Independent Gold M. Co.	1500	25000	3	1¾	....	....	....
Keystone Quartz	....	10000	....	....	....	....	....
Mt. Jefferson	1500	25000	....	....	....	....	....
Oakville Quartz M Co	....	....	....	....	....	....	....
Rye Patch	....	....	11¼	7½	....	3⅜	....
St. Lawrence M. & M. Co	....	....	....	....	....	....	....
St. Patrick	1800	20000	9	3¾	....	3½	....
Tecumseh	3000	30000	....	....	....	....	....
Yule Gravel	400	10000	....	....	....	....	....
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
IDAHO.							
Empire	....	25000	3½	3	....	....	⅛
Golden Chariot	750	30000	15	14	....	....	9½
Ida Elmore	1300	10000	2	1½	....	....	5½
Mahogany G. & S. M. Co.	720	10000	6¾	6¼	....	....	....
Minnesota Gold & Silver	1070	20000	....	....	....	....	....
Red Jacket	....	....	2	70c	....	1½	....
South Chariot	650	20000	6½	4⅝	....	1⅝	....
War Eagle	1000	10000	....	....	....	....	....
WHITE PINE.							
General Lee	1000	20000	....	....	....	....	....
Mammoth Silver M. Co.	1800	36000	10c	10c	....	....	....
Noonday	1000	20000	....	....	....	....	....
Orig. Hidden Treasure	800	21333	4	4	1	....	....
Silver Wave	....	....	....	....	....	....	....
Ward Beecher	....	24000	....	....	....	....	....
UTAH.							
Deseret Consolidated	2400	30000	....	....	....	....	....
Wellington	....	50000	....	....	....	....	....
OREGON.							
Virtue	2300	20000	....	....	....	....	....

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thureday from Advertisemente in the Mining and Scientific Press and other S. F. Journale.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt.	Levied.	Deling'nt.	Sale.	Secretary.	Place of Business
American Flag M. & M. Co.	Ely Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K. Spinney,	325 California st
Belmont M. Co.	Nevada	2	1 50	Oct 14	Nov 15	Dec 5	O. H. Bogart.	411½ California st
Bowery Cons. M. Co.	Ely District.	4	50	Nov 5	Dec 16	Jan 9	C. E. Elliott.	419 California st
Cederberg 1st. Southerly Ex.	Cal.	5	10	Oct 29	Nov 13	Dec 1	C. N. Peterson,	420 Montcomery st
Deacy G. S. M. Co.	Washoe.	7	50	Oct 9	Nov 14	Dec 15	G. R. Spinney,	320 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Oct 13	Nov 18	Dec 13	Wm Willis,	419 California st
Emerald Hill M. Co.	Utah		25	Oct 2	Nov 11	Dec 3	F. Madge,	Merchants' Ex
Empire M. & M. Co.	Idaho	5	1 00	Oct 4	Nov 8	Dec 2	W. Willis,	419 California st
Equitable Tunnel & M. Co.	Utah	4	10	Oct 7	Nov 10	Dec 1	O. S. Healy,	Merchants' Ex
Globe M. Co.	Gold Hill	4	50	Oct 14	Nov 17	Dec 8	Joseph Maguire,	419 California st
Hale & Norcross S. M. Co.	Washoe	41	5 00	Oct 3	Nov 6	Nov 26	J. F. Lightner,	438 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Dec 15	Wm. Willis,	419 California st
Imperial S. M. Co.	Washoe.	17	1 00	Sep 26	Oct 31	Nov 19	W. E. Denn,	419 California st.
Independent G. M. Co.	Cal	4	50	Sept 29	Nov 3	Nov 24	G. T. Graves,	240 Montg'y st
Julia G. & S. M. Co.	Washoe	16	1 00	Oct 16	Nov 17	Dec 6	A. Noel	419 California st
Kentuck M. Co.	Washoe.	11	1 00	Sept. 16	Oct. 21	Nov. 11	Frank Swift.	415 Montgomery st
Lady Esten Tunnel M. Co.	Utah	5	10	Oct 7	Nov 10	Dec 1	O. S. Healy,	Merchants' Ex
Mammoth S. M. Co	White Pine		10 ots	Oct 22	Dec 1	Dec 22	J. E. King	434 California st
New York Cons. M. Co.	Gold Hill		25	Oct 13	Nov 17	Dec 8	H. C. Kibbe,	419 California st
Chlo Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp,	116 Leidesdorff st
Overman S. M. Co.	Washoe.	27	2 00	Sept. 16	Oct. 21	Nov. 8	W. W. Stetson.	414 Califorina st
Ophir S. M. Co.	Washoe	27	5 00	Oct 3	Nov 11	Dec 2	Jos. Marks,	Merchants' Ex
Picton S. M. Co.	Washoe.	4	25	Oct 28	Dec 1	Dec 18	S. Phillips,	408 California st.
Phœnix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Dec 10	J. Maguire,	419 California st
Phenix Tunnel & M. Co.	Utah	2	20	Sept 29	Nov 1	Nov 20	Chas. S. Healy,	35 Merchants' Ex
Pioche S. M. Co.	Ely District.	5	1 00	Oct 30	Dec 10	Jan 6	J. E. Elliott	419 California st
Red Jacket M. Co.	Idaho	1	1 00	Oct 3	Nov 6	Dec 1	Wm Willis,	419 California st
Silver Peak M. Co.	Ely District.	3	50	Sept. 19	Oct. 27	Nov. 17	G. T. Grimes.	240 Montgomery st
Silver Cloud G. & S. M. Co.	Cal.	6	3 00	Sep 30	Nov 6	Dec 3	A. A. Erquest, cor.	Minna & N Mon.
Trench Gold Hill M. Co.	Nevada	1	1 00	Oct 17	Nov 21	Dec 11	J. Marks	Merchants' Ex
Union Consolidated	Washoe.	4	50	Oct 20	Nov 20	Dec 15	J. M. Buffington	Merchants' Ex.
Virtue G. M. Co.	Oregon	3	75	Oct 4	Nov 12	Dec 15	C. F. Balcom	426 Montgomery st.
Woodville G. & S. M. Co.	Nevada	3	75	Sept 13	Oct 18	Nov 6	A. Noel	419 California st
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Dec 15	T. B Wingard.	318 California st
Washington & Croole M. Co.	Ely Dist		1 00	Oct 15	Nov 17	Dec 9	F. D. Neary	Merchants' Ex
Wyoming G. M. Co.	Nevada Co., Cal		25	Sept 13	Nov 13	Dec 8	W. J. Gunn.	410 Montg'y st

Other Companies (not on the Lists of the Boards.)

Adams Hill Con. M. Co.	Nevada.	4	10	Sept. 24	Oct. 28	Nov. 20	W. W. Traylor.	419 California st
Buena Vista Petroleum Co.	Kern Co	17	1 00	Sept 20	Nov 10	Nov 25	L Aguayo,	430 Jackson st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6	6	Oct 6	Dec 5	Jan 5	A. Noel,	419 California st.
Black Mountain Coal M. Co.	Cal.		2½	Oct 8	Dec 1	Dec 29	W. H. Parshley,	602 Montgomery st.
Calaveras G. M. Co.	Calaveras Co.		25	Sep 25	Oct 30	Nov 20	T. B. Wingard,	318 California St
Commercial Coal M. Co.	Santa Cruz Co		25	Oct 8	Nov 17	Dec 15	S. B. Hanson,	402 Monty'g st
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Cincinnati G. and S. M. Co.	Kelsey Dist		50	Sept 18	Oct 20	Nov 10	Wm. Small,	331 Kearny st
Cunel & Tiger S. M. Co.	Arizona,		20	Oct 25	Nov 26	Dec 20	C. J. Eaton,	Express Building
Eclipse Winters & Plato Cons. M. Co		1	50 ots	Oct 17	Nov 20	Dec 10	J. Marks	Merchants' Ex
Gold Run M. Co.	Nevada Co., Cal.		25	Sept. 13	Oct. 20	Nov. 10	C. C. Palmer.	Cr. Market & Sts
Granite Tunnel M. Co.	Cal.		5	Oct 8	Nov 15	Dec 6	W. G. Holmes,	cor. Wash. & Battery
Gold. Mountain M. Co.	Amador Co Cal.		25	Oct 31	Dec 13	Jan 5	W. Aug. Knapp,	116 Liedesdorff st
Homestead Farm Ass.	S. F.		7 00	Oct 6	Nov 6	Nov 27	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Cal	1	15	Sept 29	Nov 14	Dec 15	W. H. Knight,	Merchants' Ex
Ida & Rhoda Lewis C. M. Co.	Arizona.		10	Oct 27	Nov 29	Dec 4	C. J. Eaton,	Express Building.
Independence Con. M. Co.	Grass Valley		10	Nov 3	Dec 9	Dec 29	F. J. Herrmann,	418 Kearny st.
Leo M. Co.	Washoe		10	Oct 6	Nov 10	Dec 4	C. J. Eaton,	Express Build'g
Lady Franklin M. Co.			50	Oct 14	Nov 22	Dec 16	J. S. Lutz,	507 Montg'y st
Lemon M. & M. Co.	Eureka District		50	Sept 27	Nov 3	Nov 24	T. T. Milliken,	608 Merchants' Ex
Lane & Kurtz Cariboo M. Co.	British Col		1 00	Oct 3	Nov 6	Nov 28	B. B Minor,	411½ California st
North Bloomfield Gravel M. Co.		28	1 00	Oct 17	Nov 24	Dec 15	T. Derby	320 Sansome st
Nichols n Pavement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Pride of the Mountain M. Co.	Nevada		10	Aug 25	Sept 20	Oct 20	T. W. Coburn,	419 California st
Revenue Cons S. M. Co.	Arizona	1	25	Oct 11	Nov 12	Dec 10	R. H. Harney,	113 Leidesdorff st
Rising Star M. & M. Co.	Nevada Co. Cal.	6	10	Oct 27	Nov 29	Dec 22	J. M. Buffington,	Merchants' Ex.
Stanislaus River M. Co.	Cal	1	10	Sept 25	Oct 27	Nov 12	Wm. Stuart,	113 Deidesdorff st
Silver Wave M. Co.	White Pine		40	Sept 20	Oct 30	Nov 25	J. W. Clark,	418 California st
Southern Pacific Cons. G. M. Co.	Cal		10	Sept 11	Nov 25	Nov 25	C. A. Eaton,	12 Express Build g
Santa Cruz Coal M. Co.	Cal	3	5	Aug 19	Oct 22	Nov 10	L. Kaplan,	Merchants' Ex
State of Maine M. & M. Co.	Cal	4	5	Oct 1	Nov 4	Nov 24	H. B. Congdon,	406 Montg'y st
Teoumseh G. S. & C. M. Co.	Cal		25	Sept 15	Oct 20	Nov 11	F. J. Herrmann,	418 Kearny st
Thompson Coal M. Co.	Cal.			2½ Oct 3	Dec 1	Dec 29	W. H. Parshley,	602 Montgomery st.
Umpire Tunnel and M. Co.	Utah T	2	6	Oct 21	Nov 24	Dec 15	P. A. Eakins,	230 Kearny st
Wellington M. & S. Co.	Utah.	2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener.	414 California st.
Washington M. Co.	Mariposa Co. Cal.		1 00	Oct 30	Dec 8	Dec 31	T. B. Wingard,	318 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Emma Hill Cons. M. Co.	Utah	Called by Trustees,	302 Monty'g st	Special	Nov 14
Condor S. M. Co.	Ely District.	Ira G. Hoitt.	240 Montgomery st	Special.	Nov 12
Calaveras G. M. Co.	Cal.	T. B. Wingard.	318 California st.	Special.	Nov 10
Confidence S. M. Co.	Nevada.	R. Wegner,	414 California st.	Annual.	Nov 19
Gold Quartz Cons. M. Co		[Nov. A. A. Pardow,	420 California st.	Annual.	Nov 19
South Overman M. Co.	Washoe.	D. Wilder,	Merchants' Exchange	Special	Nov 12
S anford S. M. Co.		Joseph Maguire	419 California St.	Annual	Nov 10

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Cliver,	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	P. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	4 00	Nov 5
Crown Point G. & S. M. Co.	Washoe.	O. E. Elliot.	419 California St.	3 00	Oct 11
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Apr. 1
Derby M. Co.		F. Cunningham,	304 Monty'g st	50	Oct 22
Diana M. Co.		N. C. Fassett.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Nov 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor,	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Coburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Monty'g St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor,	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington,	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

THURSDAY EVE., Nov 6, 1873.

The Stock Market has been pretty lively this week under favorable reports from various localities. The Consolidated Virginia stock has created considerable excitement. The mine has been closed to writers for eome time past, hut the uhiqnitous newepaper man has been down in the depths, and, from what he saw, thinks a first-class mine is fast heing heing developed. Aesays average from $379 to $443 per ton. The ore was struck on the 1,167-foot level, while the vein dips eaet at en angle of 46 degrees; hut a winze bas heen sunk 60 feet perpendicnlarly, all the way in rich ore. This shows the ore-hody to be wide. The reporter of the *Enterprise*, who has visited the mines, obscrves that the miners work away as if they were not afraid of breaking into harren ore, bnt hlast in all directione with the utmost confidence. On the third inst. the mine sent down $40,000, making altogether $111,000 from ore which milled about $100 per ton, and runs a little more than half in gold. The total bullion yield for the month was about $125,000.

The Belmont mines are attracting a good deal of attention just now on account of rich strikes in that quarter. The Belmont is sitnated in Nevada, ahout 150 miles from Hamilton, White Pine. The letter from Belmont, dated Oct. 29tb, saye: "Up to 6 o'clock this afternoon, at which time I left the mine, we had penetrated ore chute in winze cross-cut, Moore & Martin ground, to the extent of seven feet, with ore still in the face, and from appearances very eolid and of the same rich black ore. The entire seven feet in thickness now developed will not mill less than $1,000 per ton. Mr. Wright, of the Monitor Company, to-day made four assays of tbe richest and pooreet piecee, which gave the following reenlts: No. 1, $3,-024.92 per ton; No. 2, $3,468.51; No. 3, $197.91; No. 4, $508.96. In tbe bottom of Camfield North no more work will he done in the qnartz for eome time, as our mein object there is to connect witb tbe large body of ore, ae shown in winze, as speedily as poseible. The width of the ore seam struck in the 180-foot level of the Highbridge is twenty inches. It extends into our ground thirty-seven feet. As this gives ns little or no ore above tbe level, it is of little importance for preeent results, but owing to its pitching eouth guaranteee a large body of ore in tbe new level, for which we are now einking."

Reports from the Consolidated Virginia under date of Novemher 1st are as follows: "I have shipped to your address thie day, as per Assayer's certificates, likewise to be forwarded, bullion as follows: 2 bare, Nos. 25 and. 26, valued at $6,375.79, from Mariposa Mill; 4 bare, Nos. 27 to 30, valued at $12,996.88, from Bacon Mill; 4 bars, Nos. 31 to 34, valued at $4,411.13, from Bacon Mill; 2 hars, Nos. 35 and 36, valued at $403.38, from Mariposa Mill —12 hars, aggregating $40,187.13, heing final returns of hullion on Octoher account from the above mills."

Tbere is considerahle interest also manifested in American Flag, the Superintendent of which telegraphs Nov. 3d. "Drift is in 10 feet; ore, 4 feet wide: aseays, $140." Under date of Octoher 29th, the Superintendent says: "Since the last there hes heen eome improvsment in the shaft. Tbe vein is 20 inchee wide, ehowing some ore on the foot and hanging well quartz, etc., in tbe center. Full depth of shaft helow the eighth station is 26 feet. No other changes of importance.

The New York Consolidated has also been creating some excitement on the etrength of an expected strike. Under date of November firet the Superintendent writes: "We sunk 30 feet during the last month, which makee the shaft 387 feet deep. We used 45 cords of wood. We hoisted 3,800 gallons of water per hour on an average. The main body of quartz hae left the shaft, pitching to the east, hut tbere are otber small seams running in on the west, which ehow eigns of running into fine ore, and from the looks and formation of the rock and the amount of water that we have, I thiuk we are liahle to run into a large body of good ore at any time."

Consolidated Amador turned out $52,000 in October, and a dividend ie to he declared this month of 50 cente per share. It is turning out about $100,000 per month.

Eureka (Graes Valley) has already declared a dividend of $1 per share, and Belcher will pay $4 per share, or $416,000.

Water in the Careon river is on the increase, and very soon the bullion production will begin to inorease materially. Altogether the mining proepects for the coming season are very good, indeed.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

M. & N. W. S. M. Co.—Alpine *Miner*, Nov. 25: A emall force has heen working on the dam during the week. The heavy stone and timber foundation is about completed, and the timhers for the beavy apron are in place. The judgment in favor of L. L. Lewie, upon which the execution mentioned last week was haeed, has heen set aside by order of the Circuit Court, and work on the Silver Glance shaft will he resumed in a few days. Some of the men have already resumed work.

THE SCHENECTADY MILL made a clean-up yeterday from a rnn of 11 tons, and obtained 48 pounde of amalgam, worth about $400, or nearly $37 per ton. This crushing comprised the entire width of the vein, inoluding the waete rock contained therein. The vein ie gradually getting wider ae they sink, and the rock taken out now looks hetter than ever. If tbe body of ore continnes ae good as at present, all will he well with the Tarshieh.

THE SCHENECTADY MILL,— *Miner*, Nov. 1: This mill ie not running, and we understand that Superintendent Hunter has discharged most of his working force, witb the intention, however, of starting again as soon as some necessary repairs are made and financial arrangements completed.

M. & N. W. S. M. Co. has resumed work botb at the dam and in the Silver Glance mine. Tbe steam pump is rapidly emptying the S. G. ehaft and levele of water. The 75-ft. level is already clear, and tbe deep mining movement that has been lately interrupted will he resumed in a few days. In the face of the west drift some rich feeders appear, and the seams ars increasing in breadth.

SILVER MOUNTAIN.—There is little of interest to report in tbis department the present week. We heer encouraging reports from the I X L and Excbequer, near Silver Mountain, hut are not sufficiently well posted to warrent any definite report from that locality.

THE *Chronicle* saye that Mr. Chalmers struck ore in tbe 100-ft. stope of the Exchequer mine last week that aesayed over $2,000 per ton. Tbat is very rich ore; but the Tarshieh of this place still takee tbe lead, having produced ore that assayed over $9,000 per ton.

IMPORTANT DECISION.—The Sscretary of the Interior, in a recent deciein in an appealed case between Francis Blain & John Watt vs. the North Bloomfield Gravel Mining Co. of Nevada county, awards tbe lands in dispnte (over 1500 acres of valuahle mining ground) to tbe mining company.

AMADOR COUNTY.

WEST POINT MINES.—Sutter *Independent*, Nov. 1: The eighteen stamp mill now in erection at Mosqnito will he in full blest in from twenty to thirty days. The Wolverine mine is red hot, and still heating. It ie producing an ample amount of rich rock, and ie running the mill up to its full capacity. The Harrie mill at Sandy Gnlch still breake with its perpetual crach the gold bearing rock.

NORTH AMADOR.—Prospecting shafts are heing snuk on both the east and west side of Tncker Hill, near the North Amador hoisting works. The body of ore struck recently in tbe main ehaft still holds ont well, bnt tbe company seem determined to continue their proepecting until they find another lead.

THE BERLIN MINE.—This mine is evidently destined to he

about 60 ft. and we are informed that they have struck rock which will pay $200 per ton, and the ledge continues to widen as they go down.

MINK SOLD.—We understand that the Bunker Hill gold mine, near Amador City, has been sold to Mayor Joseph Brown of St. Louis.

CALAVERAS COUNTY.

BIG CHUNK.—Calaveras *Chronicle*, Nov. 1: A miner working near Jesus Maria, the other day—an Italian—picked up a piece of gold weighing twenty-five ounces. That is the biggest "find" we have heard of for some time—quite remarkable for these degenerate mining days. A bushel basketful of such chunks would add considerably to a fellow's stock of contentment.

RICH ROCK.—We learn that extremely rich rock has lately been struck in the Good Hope mine at Mosquito. The rich quartz was discovered in the 200 ft. level, and is now being stoped out for crushing in the new mill. We have not heard how extensive the recent discovery is likely to prove.

DURYEA HYDRAULIC.—The past two months have been principally employed in "cleaning up" after nearly a year's run. When we state that in the Duryea claim over half an acre of bottom, upon which a bank of gravel, over 100 ft. in depth originally stood, has been recently cleaned, some idea of the labor performed, as the result of the past season's washing, can be obtained. We have no means of approximating the quantity of gold realized, but the proprietor informed us that the amount exceeded his expectations by thousands of dollars. The claim is now in excellent condition for the resumption of washing. New ground sluices have been dug and the rocks and other *debris* cleared away by the aid of a huge water power derrick.

BROWN & CO.—The incline tunnel has reached a length of 300 ft. in Tunnel ridge. Although the "lead" has not yet been cut, a fair quality of gravel is being taken out—sufficiently good to indicate that large returns will be realized when the pay-streak proper is reached. The gravel is drawn up the incline in cars by mules, a railway track extending from one extremity of the tunnel to the other for that purpose.

MOSER & HAWORTH, proprietors of the noted Spring Gulch claim, are also energetically preparing to take advantage of the coming rainfalls. They, however, have not ceased washing during the summer, and have been doing remarkably well throughout the entire dry season. During the winter they expect to be able to uncover a large section of the rich bottom of the gulch, and in the spring reap a golden harvest that will repay them ten-fold for their labor and industry.

BRACKETT & Co. have run their new tunnel 600 ft. into the ridge, and on Monday last struck the lead. The gravel is rich. A large force of hands is to be put at work as soon as a "breast" can be widened out to give them an opportunity, when the mine will undoubtedly resume its former handsome weekly payments. The gravel is so hard that it cannot be thoroughly washed without crushing, and a battery for that purpose will be erected as soon as practicable. The iron pipe intended for carrying water for milling purposes is already laid. A very large amount of money has been taken from this claim through a tunnel lower down the ridge, and there is no doubt but the new location is now prepared to duplicate the yield.

VEITH & SHEAN.—The sluices are to be raised for the purpose of affording a better dump for tailings, and everything put in shape for working to the best advantage. The claim is abundantly supplied with the most approved appliances known to modern hydraulicing, and as the bank of gravel is deep and rich there is no reason why the claim should not give an excellent account of itself this winter.

MARIPOSA COUNTY.

THE WASHINGTON MINE.—Mariposa *Gazette*, October 30: Most of the Working force on Washington mine has been discharged, the quartz at the new shaft failing to pay. The few who are at work now are sinking the old shaft. The intention of the owners is to sink it 250 feet deeper.

NUMBER NINE.—The quartz vein known as "Number Nine," situated near Quartzburg, has been recently reopened by Major Hardwick, who, it is reported, designs erecting a mill and other necessary machinery for working the mine. It is said to be rich.

QUARTZ MINING NEAR HORNITOS.—Several parties are at work at the old Duncan vein, near Hornitos, and some of them doing well. Two Mexicans took out over 70 ozs. last week, and another party had taken out 10 or 12 ozs., and had a hopeful prospect at last accounts. It is a pocket vein, and is liable to yield a rich harvest of gold. For mining on a small capital, there is no locality that offers a better field than the immediate vicinity of Hornitos.

NEVADA COUNTY.

NEW LEDGE.—Grass Valley *Union*, Nov. 1: The owners of the Plumas Eureka Mine, at Eureka Mills, have recently struck another valuable quartz ledge near their mine.

THE weekly report from the Kentucky is more favorable than usual. Drifting on the 200-ft. level, both east and west, shows a continued widening of the ledge, with free gold in gratifying quantities. The new opening west of the hoisting works consists in a stripping of the ledge for over 30 ft., revealing a vein of over a ft. thick of ore pronounced by the Superintendent to be all specimen rock. The unanimous verdict is that the mine is a second Idaho.

NORTH STAR MINE.—Work progresses satisfactorily in the new shaft. The clean up for the four weeks will be in the neighborhood of $15,000, not counting sulphurets. The regular clean up will be made to-morrow.

PLACER COUNTY.

NEW ENTERPRISE.—Placer *Herald*, Nov. 1: The six-stamp mill, which formerly stood at the Mammoth ledge in Lone Star District, has been purchased by a San Francisco capitalist, John Sanborn, and is now being moved and re-erected on Auburn Ravine, one mile below town, under the supervision of J. L. Bray. The mill is being reconstructed to save the gold by what is known as the Penniman process. By this plan the rock is crushed dry, and the gold is extracted from sulphurets in one passing through the pans, which pans are peculiarly adopted to save free gold, no matter how fine. The Penniman process is now used in South Carolina and Colorado with the most satisfactory results. Well-versed quartz men who have examined the process pronounce it the only method yet known to save all the gold at one working. Mr. Bray is said to understand his business eminently well, and he is quite positive he can work the ores which he has examined in this vicinity up to 85 or 90 per cent. of a fine assay. Should this mill by the Penniman process be proven to save the gold as well as is now reasonably claimed, its advent will create an epoch in the history of our quartz mines that will long be remembered with pleasure. Many of our mines now lying idle contain an abundance of rock which will pay well by a process that will save 90 per cent. of the gold; but which return but small dividends when crushed by the ordinary quartz mill. We regard the enterprise with favor, and when the mill starts working, which we understand will be by the first of December, we shall hope to hear of it proving successful, equal to the anticipations of the most sanguine.

THAT COAL MINE.—We have received some specimens of the coal taken from the mine at Lincoln. Its appearance is not that of regular stone coal, but we put some in the fire, and found it burned freely, and in a short time found a glowing cinder. If it is a good thing, as we hope it is, the people at Lincoln will soon have to commence repairing some of those shabby-looking houses which line the streets of that moral little burg.

BETTER AND MORE OF IT.—We had a conversation the other day with engineer Barney, of the St. Patrick mine, and he informed us that he never saw a better mine than the Crater Hill is getting to be. It has been good all along. They are now down 307 feet, and the deeper they get, the richer the rock. He informed us also that the company had just been adding to the mill, a self-feeder, which he describes as a most excellent improvement on the old method of feeding by hand.

SIERRA COUNTY.

BALD MOUNTAIN.—Mountain *Messenger*, Oct. 25: The Bald Mountain gravel company, of Forest City, are working about 75 men, and think by extra good management to be able to keep them at work till water comes. The management will consist in finding room for their gravel; it is looking now as though it were impossible to find room for much more. They have now on their dumps, over 23,000 car loads, and their cars are extra large. They have a little water, enough to wash about 75 car loads per week, which is not a drop in the bucket. It pays as well as usual.

SOUTH FORK.—The South Fork company at Forest City have their tunnel in about 600 feet in soft rock. The owners are sanguine of a good claim.

IMMENSE WHEEL.—Manson & Co., of the Downieville Foundry, are at work making a pattern for an immense wheel to be cast by them for the Independence mine in a few weeks. It will weigh five or six thousand pounds.

TUOLUMNE COUNTY.

THE GOOD HOPE AND IDAHO VEINS.—Tuolumne *Independent*, Nov. 1: These lodes are situated on the bank of the Tuolumne river, at the entrance of the Big Basin, and about four miles from Arastraville. The Good Hope and Idaho are considered as two veins in one—the Idaho being situated 200 ft. east of the former, with a 16 inch vein on the surface. The Good Hope shows a vein six ft. clear, without the gouges, at the bottom of a 25 ft. shaft—and croppings discernable and gold prospects along the whole length of the 1500 ft. claim. At a low estimate, the rock will work $15 per ton. The Idaho works, in a mortar, $35 per ton in silver, and $30 in gold. Four men are at present working on the lode. A hurdy-gurdy wheel is being erected with a 150 ft. fall pressure, although 350 can be obtained. Preparations for a five-stamp mill to be erected immediately on the premises, weather permitting. Free water and plenty of it the year round. The veins are most favorably situated for working, and the whole surroundings densely studded with magnificent timber of pine, oak and cedar. These are among the many good veins in the grand old mountains of Tuolumne.

IT is reported that the Consuella Quartz mine, in Cherokee District, owned by Mr. Warfield, has just been bonded for 60 days, to Quartz Johnson, of San Francisco, for the sum of $25,000.

MR. FUNCK brought into our office a fine piece of rock, about one-fourth gold, from the "Hidden Treasure" at Cherokee.

THEY are sinking on the Excelsior now. West Hill is superintending during the temporary absence of Colonel Wright. Mr. H. is a practical miner, and has been for a couple of years all through Nevada, and from his experience says that Tuolumne beats them all, and that he would not give this county, for rich mines, if properly developed, for that whole State.

TRINITY COUNTY.

HARD ROCK.—Trinity *Journal*, Nov. 1: More hard work, in the way of cutting bed-rock, has probably been done in the Union Hill claim, above Douglass City, than in any other mine in this county, and the boys have plenty more of it ahead. During the past month they have been working night and day and only have 30 ft. of tunnel to show for it.

THE Shasta *Courier* says: "Henry Foley, just down from the cinnabar mines in Trinity county, is full of confidence in the ultimate success of the quicksilver mines located there."

MILL UP.—Mr. Wm. Guthrie informs us that his new mill is up and will be in running order in a short time.

Nevada.

ELY DISTRICT.

MEADOW VALLEY.—Pioche *Record*, Nov. 1: The sinking of incline No. 3 has been resumed. The west drift is now in 200 ft., indications very good. The east drift is in 311 ft. The east drift from the 4th level is in 137 ft. A cross-cut at the 3d level has been run a distance of 47 ft.

AMERICAN FLAG.—High grade ore has been struck in the bottom of the shaft.

PIOCHE.—There are from 50 to 60 tons of ore on the dump, and more is being taken out. The new shaft yesterday morning was 394 ft. deep.

CHIEF OF THE HILL.—Made 14 ft. progress during the week in the cross-cut at the 360-ft. level. The west drift has also been run 14 ft. during the week.

WASHINGTON AND CREOLE.—The east winze has been sunk to a depth of 100 ft. A cross-bead has come in at the bottom of the prospect winze, cutting the ledge out.

SILVER PEAK.—The incline is now down 360 ft. The ledge is at this depth about 4¼ ft. wide. The drift at the 250-ft. level still shows an improvement in the quality of the ore.

SPRING MOUNTAIN TUNNEL.—The work of sinking in the tunnel continues. Ledge No. 2 has not yet been cut. The shaft is now 150 ft. in depth.

BOWERY.—The shaft is still being sunk, and is now 425 ft. deep.

CHIEF EAST EXTENSION.—The main shaft is now 271 ft. deep. Sinking on the ledge continues.

CAROLINE.—The men have begun a cross-cut for the ledge at the 425-ft. level. The shaft is now about 8 ft. below the 425-ft. station.

CONDOR.—Work is going on in a drift which the men are running for the ledge.

PIOCHE WEST EXTENSION.—The sinking of the shaft continues.

NEWARK.—Work is going on as usual—no new developments being reported.

STILL SINKING.—The Ivanhoe and Pioche-Phenix are still sinking.

WASHOE DISTRICT.

CONSOLIDATED VIRGINIA.—Gold Hill *News*, Nov. 1: Daily yield 200 tons of ore. The Bacon, Mariposa and Occidental mills are kept steadily crushing ore from the mine, and are making rich returns. The ore breasts are gradually being widened out, and worked in almost every direction from the point where the extraction of ore was commenced. The average assay from the main south breast last evening was $263.90. Average assay of car samples from the Gould & Curry dump for the last 24 hours $122.50. The north winze is down 65 ft., the entire distance in rich ore. The tub samples from this winze for the past 24 hours have averaged $114 per assay value, while a sample taken from the lowest point reached, gave $229.17. The main east drift at the 1000-ft. level to tap the upper part of the ore body and give ventilation to the mine in making good progress. A drift east has also been started at the 1200-ft. level to cut the ore body at the point nearest the shaft and is soon expected to reach the ore vein. Sinking the main shaft was resumed yesterday.

CROWN POINT.—Daily yield 450 tons. The winze north from the 1300 to 1400-ft. levels, has completed the connection, giving a fine circulation of good air. The middle and south winzes, from the 1300-ft. level, are both being driven vigorously ahead, the bottom of both in fine ore.

DAYTON.—The south drift, at the second station, is still in fine ore. The main north drift at this station struck into and has been run the full size of the drift, a distance of 30 ft., in a strange, partially decomposed and blackish looking body of ore, exceedingly rich in gold, which promises one of the richest and most permanent developments of ore ever made in that section.

BELCHER.—Daily yield 450 tons of ore, being all the mills can crush. The incline is down 141 ft. below the 1300-ft. level, the sinking making good progress. The main south drift on the 1300-ft. level is in 432 feet from the Crown Point line, the face still in ore.

SAVAGE.—The east cross-cut on the 1700-ft. level is still driven vigorously ahead, the face in hard blasting rock. Sinking the main incline is making good progress.

OPHIR.—There is little or no change to report except the general progress of the several prospecting drifts at the various levels.

NEW YORK CONSOLIDATED.—Sinking the shaft is making excellent progress. It is now down 365 ft., having passed through during the week a fine stratum of ore 20 inches to 3 ft. in thickness, pitching to the eastward, and which is undoubtedly but a feeder from the main ledge.

JUSTICE.—The prospecting drift north at the 300-ft. level is still in good ore. A north drift has been started on the 400-ft. level to strike this body of ore.

CHOLLAR-POTOSI.—Daily yield 120 tons of ore, the assay value of which is $34 per ton.

SIERRA NEVADA.—The mill is kept steadily running on ore from the mine.

CALEDONIA.—Enlarging the shaft for a third compartment is completed with the exception of some necessary timbering.

JACOB LITTLE.—Driving the main northwest tunnel vigorously ahead.

YELLOW JACKET.—Cross-cutting on both the 1400 and 1500-ft levels is continued with no change to report.

GOULD & CURRY.—The prospecting drift east on the 1600-ft. level is still driven ahead, the rock in the face quite hard, with occasional seams of quartz. The face of the east cross-cut on the 1500-ft. level is in hard blasting ground.

SUCCOR.—The ore in the west drift from the second station shows considerable improvement, and is gradually widening as the work progresses westward.

SILVER HILL.—The new pumping machinery is all in place, and works splendidly. Sinking the shaft for a new level was resumed last evening.

EMPIRE.—Still driving the east cross-cut on the 1700-ft. level.

IMPERIAL.—Sinking the main incline is making fair progress.

TYLER.—A station has been opened at the depth of 215 ft., and a drift started east for the ledge.

DANEY.—Sinking the new shaft is making excellent progress. The shaft is now down 265 feet.

UTAH.—The new station at the 250-ft. level is opened, and a main west drift started for the ledge.

OVERMAN.—Opening the second station and starting a drift at the 1,200-ft. level is making steady progress.

SUTRO TUNNEL.—The header in the main tunnel made the connection with the drift from shaft No. 1 on the 27th, making the total length of the tunnel 5,224 ft., over one-quarter of the entire length of the whole tunnel.

BALTIMORE CONSOLIDATED.—There is no change of material value to report in either the first or second stations.

JULIA.—The main southwest drift at the 900-ft. level is making good headway and is soon expected to reach the ledge.

HALE AND NORCROSS.—Sinking the main incline is making good progress, although the rock in the bottom continues both tough and hard.

THE Blue Tent Consolidated Hydraulic Mining Company is an English corporation, of Nevada county, California, and owns 500 acres of mining ground, with an average depth, from surface to bed-rock, of 450 feet. The outlet for the tailings is the South Yuba river, which gives them a fall of 500 feet below bed-rock. The *Transcript* says that the ground owned by this Company embraces the claims formerly known as the Darst, Smith & Cooper, Enterprise, Empire, Bond & Kilham, Gopher, South Yuba, Blue Lead, and other smaller claims, embracing all the principal mining ground in Blue Tent District, unless we except the Central and Sailor Flat property.

IN THE HYDRAULIC MINES of Calaveras county, preparations for an active winters' campaign upon an extensive plan of operations, are being made in every direction. As soon as it rains enough to furnish the necessary water, work will be commenced in good earnest and upon a larger scale than has been witnessed for years. Hydraulic mining has been so successful during the past two years that as soon as water comes, a new and increased impetus will be given to it. Calaveras county is not alone in its hopeful prospects, but all the gravel mining districts of the State are anxiously awaiting rain to begin work with renewed vigor.

THE San Gabriel mines must be doing pretty well, according to the Los Angeles *Star*, for that paper asserts that $416 was cleaned up in 21 days by four men. They are, however, awaiting the action of the English capitalists, in relation to the projected sale. The *Star* says that at present there are believed to be one hundred pounds of gold locked up in the sluice boxes, and there are about seventy-five men at work in the cañon.

A FINE body of ore has been struck in the Lawton shaft of the Eureka Consolidated mine. The *Sentinel* says that the development establishes beyond question the existence of a mammoth deposit at that particular point; previous workings having disclosed the same body in another direction. The Consolidated is now looking first-class in every part.

SUIT has been instituted in Salt Lake City against the Emma Hill Consolidated Mining Company, for the recovery of 6-7ths of the South Star Mine, Little Cottonwood, and $75,000, back rents.

The Sugarie.

Beet Sugar in California.

Sngars are at the present time lower in price than they have been in many years. The current sqnotation for white refined is 11 cents, against an average quotation during years past of 15 to17 cents. This price, it is well understood, is below the cost of manufacture, and has been established by a peculiar complication in the competition between San Francisco refiners. It is, in fact, below the New York cost of producing the same article from the best and cheapest cane sugars in the world—those of the West Indies. It is also generally known that the onterprise of certain prominent citizens of Sacramento in inaugurating several years ago the industry of sugar heet culture and sngar production in California had not heen remnnerative. It has, however, become reoently nnderstood that the operations of these gentlemen during the past year, notwithstanding the ahnormal depression in the value of their product, have heen highly profitahle; and the sum of $40,000 is named as approximating the net profits of the enterprise—equal to a dividend of twenty per cent. on the capital (nearly $200,000) invested in it. With refined cane sugars selling at the cost of production, say 14 cents, the corallary follows that the profits of the new industry would be much larger—a rate of return upon the capital required, that is calenlated to promote its develment in the State and add permanently one more to the numher of her wealth-producing resonrces.

The Sugarie.

The refinery or "sugarie" of the Saoramento Valley Beet Sngar Company is situated near Brighton, four miles east of Sacramento. The company cultivates several fields to the sugar beet in the immediate vicinity, though its largest farm is at Davisville, Yolo county. The main huilding is a rectangular structure, some 50 feet wide by 150 feet long, with wings and an end building connected by a hridge. A branch railway runs directly past tho sugarie, bringing the beets from the Davisville plantation and taking away the products of the estahlishment. The beets are dumped under a shed at one end of the building, and are transported hy an endless helt to

The Washer.

This is a horizontal rolling cylinder by which the beets are carried through a stream of water to remove the adhering earth. The "washer" discharges them into a series of buckets attached to an endless belt, which elevates thom to a hopper within the building, where they fall upon a

Revolving Cutter.

From the cutter they pour down in a stream of shavings, and are received into barrows, in which they are transported directly to a set of large cylinders, called

The Battery.

This apparatus consists of a series of 14 iron boiler-plate cylinders, closed at hoth ends, each 8 feet in length by 3½ feet diameter, set vertically. In the upper end is a circular door through which the cylinder is charged; at the lower end is another door through which the refuse of the beets, after the sugar has heen extracted, is emptied. This refuse is carried to the outside of the building hy an endless belt, where it is dumped and then carried away by carts to convenient points about the gronnds and piled in long piles to he used dnring the winter as cattle feed. The process of extracting the sugar from the heets begins, properly speaking, in the cylindere of "the battery." The process is absolutely continuous from week's end to week's end, by day and by night —the only interval being hetween midnight Sunday, and the commencement of work on Monday morning. In order to hegin with the beginning it is necessary therefore to take up the work on Monday morning.

The cylinders are then "charged" with the hredded beete from the cutter, each cylinder containing from 2,200 to 3,500 pounds, an average charge being 3,000 pounde. The amount used dopends mainly on the temperature of the weather, and the percentage of sngar contained in the heets under treatmont—the higher the temperature the less the amount of charge. The quantity put through the hatteriee, however, is abont equal for equal times, for the lighter chargee require less time for their separate treatment. After charging the cylinders the next step of the prooese is to admit hot water to cylindor No. 1. Pure water is used only onoe during the week's work, tbat is, at the heginning of operations on Monday morning. Having started the operation with water, it is maintained during ite continnance with dilnted beet juice. At the top of the huilding, elevated fifty-four feet above the battery, is a tank filled with cold water. Cylinder No. 1 having been filled with hot water, the cold water from the roof tank is turned in and forces the hot water, together with the partly extracted jnice, out of cylinder No. 1 in o No. 2, and from No. 2 into No. 3. After having passed through No. 3 it is suffioiently chargod with beet jnice to be ready for the next step in the process.

The juice and water which has passed through only two cylinders ie made to pass into a steam heater where its temperature is raised, and whence it sgain pasees to a tbird cylinder of the battery. Here it receives a furtber accession of beet juice and is then ready for further treatment. The operation here indicated is maintained without intermiseion throughont the week. Water which has received an infusion of juice from a single cylinder is forced next to the heaters, thence to a second cylinder, through that, extracting from its charge a further infusion of juice; again to tho heaters and thence to the third cylinder, where it procures its final accession of juice. When each charge has been thus treated three times it is drawn and a fresh one is placed in the empty cylinder. The different cylinders composing the hattery are so connected that any of them can be disconnected from the circuit which is still complete among the remaining ones. Thus there is no interruption to the continuity of the process, although it is interrupted in each cylinder barely long enough to draw the exhausted charge and refill it with fresh beets.

From the battery the strong juice is next forced to a hoiler in which

Lime is Added,

And the temperature of the liquid raised to the boiling point, while at tho samo time it is treated with gas introduced through a worm. The purpose of this step is to free it from impurities. The liquid is thence forced through

Strainers

Of highly ingenious and effective construction. Upon a number of rectangular iron frames are stretched pieces of strong burlap cloth. The frames are then set flat against each other in a heavy cast-iron frame, and pressed together by a screw. The jnice, containing the admixed lime and impurities brought with it from the batteries, is forced hy a powerful pressure through the above described strainers. The burlap cloth arrests the lime and other impurities, and the purified juice strains out between the frames at their planes of junction, and flows thence to a closed iron vessel connected by pipes with vats situated in the tower at the top of the huilding. By turning a jet of steam into this vessel the juice is forced up through these pipes into the vats, whence it undergoes a further process of purification hy

Filtering through Bone-Dust.

The filter is in the form of a cylinder, divided hy partitions into several chambers which are all connected by a system of pipes. The jnice is made to pass through two of these compartments in succession, and the arrangement of pipes is such that any one of them may be discounected from the system without hreaking the connection among the others. Thus as each division of bone-dust hecomes saturated with impurity it may be disconnected, emptied and a fresh charge added without interrupting the coutinuity of the filtering process which is going on through the other chambers. There are six of tbese chambers or separate filters, and each one will run six hours before it becomes necessary to renew its charge of bone-dust.

At this stage of the procoss the juice contains about 10 per cent. of saccharine matter. The next step is one of

Concentration.

The juice passes from the hone-dust filters into boilers where its volumo is reduced by boiling, and is then passed a second and last time through the filter, by which the last particles of foreign matter are extracted. The color of the juice is now a pale gold. The remainder of the process is one of "boiling down," by which the percentage of water is progressively reduced until the sugar crystalizes, when the syrup is expelled by mechanical action, and pure sugar procured. In the operation of extracting the saccharine juice and its purification the steps thus far described may be designated as the mechanical ones of the process. The soluble substances extracted from the beet are not saccharine solely. One constant element which is also fonnd is common salt—the proportion varying with different parcels of heets. Traces of other soluble salte may also be found. Although the relative quantity of these is minute, it is still necessary to eliminate them before the final boiling; and thie ie done by the introduotion at different stages of the mechanical purification of different chemical reagents. The detail of the uee of these will depend on the preliminary analyeis of the raw material under treatment. Up to the present stage of the process, also, indications of the course and success of its operation are afforded by the colors successively aesumed by the juice. Attached to most of the apparatus described are thermometers arranged to indicate the temperature of the juice at different stages.

The eaccharometer—an appar tus that indicates the percentage of sugar in its solutions—gives the quality of these at any moment. In practice, all of these thinge are in use. The degree of heat to he given at the eeveral steps of the process may vary with the different readings of the saccharometer and the color of the juice. The particular form of sugar to be nltimately produced from a given quantity of juice may, in some cases, depend on these observatione. It will he correctly inferred tbat tbe practical management of works of this olass demands an antecedent training, and that the degree of success attending their operations will be found intimately dependent on the judgment and practical knowledge with which these are directed.

We have followed the juice to the stage of its final purification. The liquid now consists of saccharine matter and water—including under the first term the pure sugar, together with the inseparable coloring matter which ultimately remains in the syrup. From its second filtering the juice passes constantly into the

First Vacuum Boiler,

In which a vacuum equal to six inches of pressure—that is, equal to a six inch column of mercury—is maintained; and in this it is kept at a temperature sufficient for ebullition. The use of vacuum boilers is to produce ehullition at successively lower temperatures, for otherwise the sngar would become dark. From the first vacnum boiler the juice, now the consistence of thin syrup, passes into a second, in which a vacuum equal to 26 inches is maintained. Here it remains until the saccharometer indicates that it is concentrated to 40 per cent. of sugar; the remaining 60 per cent. is water. Hence the thick syrupy liquid passes into the last boiler, a large copper globe, in which are set thiok glass windows admitting the operator to view the process going on within. In this boiler the vacuum is maintained at 22 inches, producing ebullition at a temperature of 63 degrees (Rean), and during this boiling crystalization begins. The color of the intire mass is now rather darker than tbat of the "golden syrup" of the refinories. The operator judges the progress of the boiling by the appearance of the semi-fluid, drawing small portions of it from time to time upon a plate of glass, and observing the degree and character of the crystallization. When the formatiou of pure sugar crystals is complete, the mass is drawn off into large iron buckets, and allowed to stand for some six hours to cool off. It is then put into

The Centrifugal Machines.

These are iron vessels some four feet in diameter, which revolve at tho enormous velocity of 1,200 revolutions per minute. The semi-fluid mixture of sugar and syrup is emptied into one of these, and it is set in motion; as a high velocity is attained, the viscous charge is forced by centrifugal force to lay itself like a coat of plaster against the sides of the machine. Pressed against these by the centrifugal force developed, tho syrup is made to drain off, leaving a coat of pure white dry sugar lining the machine. This is removed in cakes, and in its present form is the "granulated" sugar of commerce. It is also the material of the crushed and powdered. To produce the first a pressure of steam is turned on the sugar while in the centrifugal machines, under which it forms into a more compact mass, and this is afterwards passed through a crusher. From the crusher, besides the lumps that constitute the "crushed" sugars, so called, a portion comes out broken fine and powderod. Falling on a series of graduated sieves, the very finest is set aside as "powdered" sugar. The larger particles go into other grades. Of these products it is to he remarked that they are absolutely pure sugar—classed as one hundred per cent. under analysis. Refined cane sugars of the highest grade are never more than ninety-seven per cent. sugar to three per cent. of foreign matter.

The syrup from the centrifugal machines flows into a tank, and is again hoiled hy itself in the vacuum hoiler. The effect is to produce a second crystallization, which, however, is not colorless. This mass is also put through the centrifugal machines, and the sugar extracted constitutes the "C," or "Yellow C" of the refineries. The syrup expelled from this second crystallization, is drawn off into vats in which it is allowed to stand several months and then make a third and still darker grade of sugars.

For the facts contained in the foregoing account of the "Sugarie" of the Sacramento Valley Beet Sugar Company, the readers of the *Record* are indebted to Mr. F. Riedel (assistant under the Superintendent of the Works, Mr. L. Von Ernstein), who kindly gave bis personal attention, and every information asked for, to the representativo of this paper. The facts stated in its opening paragraph indicate the efficieucy of management by Mr. Ernstein and his corps of aseistants.

Some Other Facts.

The sugar company at present raise their own heete. Their yield per acre varies between 5 and 15 tons. The soil suitahlo for the crop is a light loam. They offer $4 per ton for all beets delivered at the sugarie—a price which appears ineufficient to stimulate the cultivation of the crop by general farmers. The percentage of sugar in the beets varies, those now under treatmen containing about 10 per cent. The requirement of the establishment is 9,000 tons during ite working season of six months. The profits of the husiness would he increased could it bo prosecuted all the year round; but it is found that in the warm climate of California the beets ferment after being taken from the ground, and hence the manufacturing season ie limited to the growing soason. It ie not impossible that this drawback may in time be overcome by experiments in different ways of piling and storing the beets with a view to preventing fermentation. The history of the failures that for several years attended the effort of this company to manufacture sugar at a profit is familiarly known in Sacremento. In brief, it may be summed up in these words, "incompetent management." Its final success, more than equal to the anticipations that had been formed of it, is a matter in which the whole State may join in congratulation.—*Sacramento Daily Record.*

The assessed value of the property of Sonoma county for the year 1873, as returned to the State Board of Equalization, is $16,176,660; that of Mendocino county, $4,865,839; Lake county, $1,672,223. Sonoma stands the sixth county in the State in wealth. The total assessed value of the State is $629,768,505.

Pine leaves are said to be utilized in Europe as a substitute for hair in upholstery, and will make a kind of flannel very superior for bygenic purposes.

Amador County Mines.

The Sutter Creek *Independent* says:—The prospects of Amador county were never before so flattering as now. The advances which we are making in our industries are founded upon the great natural resources of our county, and are of such a nature that they will be permanent and lasting. Our mines are paying better than ever, and the work of the past few years in gold and silver mines here and elsewhere has shown conclusively that the greater the depth the richer and more permanent the ledge. At a depth of 1,700 feet the Amador mine has an excellent ledge of rich rock, and in the lowest levels of the Lincoln and North Amador mines the prospects are quite as favorable. The developments of the Lincoln mine, made during the past few months, render the present milling facilities of that Company entirely inadequate, and a new forty or sixty-stamp mill will be erected next year. The twenty-stamp mill with which their crushing is now done is of old-fashioned construction, and of comparatively small capacity. But even with these facilities, such is the richness of their rock, that their monthly proceeds reach a remarkably high figure.

The early completion of the Amador Canal is now an assured fact, and with it will come facilities for working many valuable mines now lying idle, as well as opening up rich gravel deposits which will render our hydraulic mining interests among the most important of our industries. The Lone Narrow Gange Company has now sold the amount of stock required to enable the road to be built, and will immediately commence active operations. Within a year we confidently expect to see this road completed within the boundaries of our county, furnishing cheap transportation for our goods, and giving us a market for our coal, copper and agricultural products. It will be a road controlled hy no rich monopolists who would grind us down by exorhitant freights and fares, but owned and governed hy persons who are interested in the development of the county through which it passes.

Our coal and copper mines are destined to become a great source of wealth to the county, and the completion of this road will be the direct means of enabling us to work them with profit. Even at high rates of transportation the Newton copper mine has shipped its ors to San Francisco, and realized a reasonable profit. Copper is used in the arts and manufactures in greater quantity than any other metal, except iron; and as the amount used is constantly increasing, there will be a greater demand for it. With our mines of gold, copper and coal, with thousands of acres of land susceptible of cultivation, and capable of growing coreals and fruit, and with an abundance of water and cheap transportation soon to he furnished, we regard our future as extremely encouraging.

The Mono and Flagstaff Mines.—Our reporter yesterday paid a visit to the office of the Mono Mining Compsny, of Dry Cañon, near Jacohs City, for the purpose of examining some extraordinary ore taken out of the mins. We found at the office ahout twenty pounds of ore, the remainder of a sixty-pound houlder taken from the mine recently, and assaying $12,000 to the ton. The specimens we examined were almost purely metal, and tho least scratch upon them with a knife or sharp instrument readily exhibited their richness. The Mono ie one of our most substantial mines. All the ore from it is shipped direct to Chicago, 250 tons having been sent there during the month of September. Their main shaft is now down 600 feet, and the Company is constantly consigning oro for shipment to the East. At the invitation of Superintendent W. H. Howland, of the Flagstaff mine, located at Parley's Park, eight miles east of Little Cottonwood, we visited the Company's office and were shown some exceedingly rich ore from this mine. The mine is principally owned by a Michigan company, and is turning out immense quantities of ore daily, which, unlike the Mono ore, is covered into bullion here without the expense of shipment to the East.—*Salt Lake Tribune, Oct.* 28.

Little Giants.—Last year there were eighteen of these improved hydraulic pipes in use in this county, and they worked so well that the number will he more than trebled this present season. J. R. Driver, agent for this county, gives ne the following list of parties who have ordered Giants within the past few weeks: Harvey Bros. and Balch & Rule, Weaverville; Trotter & Smiley and Charles Tourot, Douglas City; Hagar & Haas and Chapman & Fisher, Junction City; Joseph McGillivray, (two); Wolsky & White, Cañon City; V. Chamberlain, Rush Creek; John Smith, Eastman's; G. F. Deinor, Minersville. Besidos these, others have lately arrived that had been ordered direct from the manufactory, among which were two for Isaac Woodbury's Hay Fork claim, one for John Mahou & Co., Weaverville, and several for other parties, whose names we not call to mind. Our miners are now puzzled do know how they got along so well heretofore without the Giant. The general opinion seems to be that a mining claim cannot he worked without one of them, and that even two or three will be found a paying investment.—*Trinity Journal.*

Domestic Economy.

Talk to Housekeepers.

[Written for the Press.]

There is nothing in this country so often misunderstood as the term, housekeeper. To many people, especially young people, this name suggests only the scrubbing and dish-washing of some coarse, vulgar person, perhaps a frowzy-headed servant girl in a greasy gown with sleeves perpetually rolled up, and hands and arms garnished with pot black. And it is a lamentable fact that in a great number of houses housekeeping has gone almost entirely into the hands of this class of persons; while, as a natural consequence, perhaps, there has sprung up all over the land a vast army of boarding houses, which wage war with the homes and are fast exterminating them.

Multitudes of women are enticed into boarding by the *ignis fatuus* of a life of ease and freedom from care, and their husbands by visions of economy, as it often does cost less money to hoard than to keep house. And what is the result?

No woman can be truly happy without enough duties to occupy her mind, and make her feel that she was put into the world for some good purpose, nor can she be healthy without sufficient exercise to keep her blood in circulation. She can not have these in a boarding house, so she settles down into a pale, nervous dyspeptic, or becomes one of those novel-reading, gossiping, artificial sort of creatures, not worthy of the name of *women*, and good for nothing but to spend money, and annoy and disgust sensible people who are so unfortunate as to be obliged to come in contact with them. And what are the children of such women? They never are children, in the true sense of the word, for they are brought up under such forcing influences that as soon as they emerge from babyhood they change immediately into pitiful little imitations of fast men and women.

Now, this is all wrong. Human beings can not become what the Almighty intended them to be without *home* influence, and that is never found in any hotel or boarding house. Every family, especially where there are young children, should have a house to itself. If your circumstances do not allow you to buy a house, rent one; and if you cannot afford to rent a large dwelling, you will likely be as comfortable and happy in a small one.

If you are just commencing housekeeping and buying furniture, don't spend all your money on the parlors and have nothing left for the kitchen, which would be like the boy who thought he could "do very well without shoes," but was "really suffering for a bosom pin." Better furnish your kitchen and a comfortable family sitting room first, and leave the parlor till the last.

One important qualification of a good housekeeper is *order*. She should not only have a place for every thing, and know where that place is, but a regular time for every thing, particularly meals. If you can possibly endure having your fashionable sensibilities so dreadfully shocked, have dinner as early as one o'clock, or not later than two. This will save your family a great many doctor's bills.

Under the head of order comes also the matter of keeping books. You should put down everything that is spent, and what it is spent for, and never allow bills to run up for anything. Nothing in the world makes Mr. Smith so irritable as to have unpaid bills presented to him, with perhaps a long list of articles that were used up several weeks or months before. If Mrs. Smith managed as Mrs. Jones does, this trouble would be avoided. When Mrs. Jones commenced house-keeping, she supplied herself with a few small memorandum books, in which she carefully noted all her expenditures for each day, marketing, milk, groceries, etc., etc., putting in all the little items. After having found out what sum would cover a month's household expenses, she showed her books to Mr. Jones, and proposed that he should put into her hands at the commencement of every month, the sum that was needed for that month's outlay. Mr. Jones, being a reasonable sort of man, agreed at once to her proposition, and things have gone on quite smoothly in that house ever since.

Many mistresses make bad servants by the way they treat them; Mrs. Robinson, for instance, would be quite indignant if told that she made companions of her servant girls, yet she spends a great deal of time gossiping with them in the most familiar manner. When she has a new one, which is quite often, she never gives her any particular orders, but allows her to take her own way till something goes wrong, and then commences to find fault. As a natural consequence of this treatment, the girl loses respect for her mistress, and her authority being gone, there is no end to trouble till the girl leaves the house.

When you hire a servant you engage her to do your work, and to do it in the way you wish to have it done; therefore you should tell her in the very beginning what her duties are to be, and how you wish them performed. Every day you should make a thorough inspection of the kitchen and other places she has charge of, and if you find things are not as they should be, you should tell her so, kindly but firmly, and see that she puts them to rights. Many servants can be cured of careless, slovenly habits by this supervision. Have a lock on your store room door, and keep the key yourself; and go into it yourself every day to give out supplies for the day. It is no kindness to any servant, except perhaps an old and trusted one, to have control of the household stores.

One of the first considerations in the mind of every housekeeper should be the health of her family, and this is largely dependent upon their food. I will venture not to say not one woman out of every ten, perhaps twenty, in this country who is a housekeeper, knows how to prepare food properly. I know of families that sit down to the table every day and have messes placed before them to eat, which are actually fit for nothing but to be thrown to the pigs.

Mrs. Brown, for instance, is a very strong, hearty woman, with what we may call a cast-iron stomach, and about as much delicacy of taste as a rhinoceros. She can eat a good supper of hot bread and beans at nine or ten o'clock at night without having her slumbers at all disturbed by visions of defunct relatives; and thinks it is "all nonsense for people to make a fuss about how their food is cooked." Mr. Brown, poor man, is a martyr to dyspepsia. May the fates preserve us from the tender mercies of any of this class of vigorous feminines!

If you are a housekeeper or intend to be one and don't know how to cook, don't rest till you learn. If there is no one to teach you, buy some good treatise on cookery and study it and with the aid of a little common sense you will soon be able to prepare at least a few, plain, substantial dishes, which are after all the most important part of a meal.

Many woman object to housework because, they say, it spoils the looks of their hands. Well, that is a serious consideration if, as in many cases, a woman's looks are the only recommendation she has; but there is a great deal of housework a woman can do which will not injure her hands in the least. She can make beds and put things to rights in the sleeping rooms and parlors, and she can make bread and cake and puddings and the paste for pies. She can set tables and arrange closets and cupboards and drawers, and with an old pair of gloves on can sweep and dust and do a hundred other things all over the house. And the exercise obtained in this way will have such a beneficial effect on the complexion, that not near so large a quantity of artificial whitening and brightening will be required as perhaps had been used before.

Useful Information.

Everlasting Fence Posts.

I discovered many years ago that wood could be made to last longer than iron in the ground, but thought the process so simple and inexpensive that it was not worth while making any stir about it. I would as soon have poplar, basswood or quaking ash, as any other kind of timber for fence posts. I have taken out basswood posts after having been set seven years, which were as sound when taken up as when they were first put in the ground. Time and weather seemed to have no effect on them. The posts can be prepared for less than two cents a piece. This is the recipe: Take boiled linseed oil and stir it in pulverized charcoal to the consistency of paint. Put a coat of this over the timber, and there is not a man that will live to see it rotten.—*Homestead.*

We have never tried the plan recommended above, but give it for the benefit of our readers. If it shall prove to be true that posts so treated will last so much longer, it is certainly worth knowing; for fencing material, in many localities, is becoming very scarce where once it was plenty. The process is not an expensive one, and we hope some of our readers may be led to try it.

Varnish for Iron.—The following is a method given by M. Weiszkopf, of producing upon iron a durable black shining varnish: Take oil of turpentine, add to it, drop by drop, and while stirring, strong sulphuric acid, until a sirupy precipitate is quite formed; and no more of it is produced on further addition of a drop of acid. The liquid is now repeatedly washed with water, every time refreshed after a good stirring, until the water does not exhibit any more acid reaction on being tested with blue litmus paper. The precipitate is next brought upon a cloth filter, and after all the water has run on, the sirupy mass is fit for use. This thickish magma is painted over the iron with a brush; if it happens to be too stiff, it is previously diluted with some oil of turpentine. Immediately after the iron has been so painted, the paint is burnt in by a gentle heat, and, after cooling, the black surface is rubbed over with a piece of woolen stuff, dipped in and moistened with linseed oil. According to the author, this varnish is not a simple covering of the surface, but it is chemically combined with the metal, and does not, therefore, wear off or peel off from iron.

Fire Kindlings.—Take one quart tar, three pounds rosin; melt them; when somewhat cool add one gill spirits turpentine, and mix as much sawdust, with a little charcoal, as can be worked in; spread out while hot on a board; when cool break up in small lumps, about the size of hickory nuts. They will easily ignite with a match and burn with a strong blaze long enough to burn any wood fit to burn. The above sells readily in all our large towns and cities at a great profit.

How to Preserve your Furs.—Furs, says a writer in one of the New York papers, who seems thoroughly familiar with the subject, should never be put away for the summer, and forgotten, as they so frequently are; and next to being shut up from the air, their greatest enemy is damp. If from the wearer being exposed to rain, they become wet, they should be dried at a moderate distance from the fire immediately; and in warm weather, when not required for wear, they should never be shut in a box or other drawer for more than a few days at a time, and every few weeks they should be shaken and beaten.

The more delicate skins require somewhat more delicate treatment. The best plan is probably, not to pack furs away, but let them lie in a drawer or wardrobe that is constantly being opened so that they meet the eye frequently, and being thus often in sight, it is easy at convenient opportunities, to have them taken out and beaten, or, at any rate, shaken or tossed, and thoroughly exposed to the air. It is common to hear it remarked, that the moths get into furs—as if the insect actually migrated from one locality to another; the probability is, however, that furs and woolens are animal substances, endowed with vital principle, which develops itself into the living organisms through the decay of its material shape. Cleanliness and airing are, therefore, absolutely essential.

Paper bags, folded over the seam and sewed together, make excellent receptacles for furs and woolen garments. Cedar chests are better, if you can obtain them.

Good Health.

Bathing.

Bathing is not only an act of cleanliness, but is in an eminent degree conducive to health. The fine and sensitive pores of the skin soon become torpid, and their delicate and most important functions are suspended by the solid materials in the perspiration and the accumulations of filth, and require very frequent ablution with water, to preserve their normal condition, without which no person can be healthy, happy or comfortable. The mere wearing of proper clothing and washing of the more exposed portions of the body, and the frequent changing of clothing, is but an imperfect attempt at cleanliness, without being accompanied by entire submersion of the body in water, either tepid or cold. It must be admitted by every sensible person, that there is no more real appreciative luxury than a pleasant general bath when the system is in a proper condition to receive such a bath; it is, in fact, one of the most valuable but most neglected hygienic remedies we possess.

We admit that many people are insceptible of taking cold, and are, so to speak, "living barometers;" but even to such the warm bath would always prove advantageous. One-half or more of the rheumatic twinges, swollen limbs, and cramped joints that occur in such persons, would yield to proper perseverance and confidence in this potent alleviator. For ordinary purposes, care must be taken that a warm bath is not used at too high a temperature at first. As a general rule, we would advise, more especially in cases where some chronic diseases is firmly located, rising the warm bath for a few days, first followed by the tepid bath, then the cold. In all cases, whether the warm, tepid or cool bath is used, the first should be of only a few minutes duration, which soon may be increased to ten or fifteen minutes at a time, care being taken never to remain immersed sufficiently long to induce a sensation of cold on coming out. A healthy reaction should follow the bath, and a pleasant glow of warmth should diffuse itself over the surface of the body. If this be not the case, the bath has been indulged in too long, or injudiciously taken. When any symptom appears that contra-indicates the use of the cold bath, the tepid, warm, or vapor bath may be substituted, according to circumstances. At any rate, keep the skin free and active by some kind of bathing, the frequency of which must depend upon all the surrounding conditions and habits of each life.—*Manufacturer and Builder.*

Destruction of the Germs of Disease.—As the result of a series of experiments on the destruction of low forms of life by heat, Dr. Grace Calvert demonstrates that the germs of disease will withstand a temperature of 300° Fahrenheit. Exposure to such a heat as this injures the fibers of all kinds of cloth so seriously that they are unfit for further use. It is therefore evident that the mere agency of heat cannot be depended upon for the destruction of germs or corpuscles attached to the clothing of persons who have suffered from any contagious disease.

The necessity for a change in opinion regarding the power of chlorine gas to accomplish this purpose is urged in a recent report of the New York Board of Health on the disinfection of clothing and rooms that have been exposed to contamination by small-pox. In the report in question, carbolic acid is especially recommended for the disinfection of clothing and bedding, and sulphurous acid gas prepared by burning sulphur, for the disinfection of rooms. The latter substance especially, seems to have the power of utterly destroying the germs of small-pox, while chlorine frequently fails altogether, or only accomplishes the object in an imperfect manner.

The greatest care should be taken in the preparation of food for the sick. It should be *just right*, or the weakened and sensitive appetite will refuse it. If gruel is scorched in preparing, or whatever you attempt fails the first time to be as nice as it should be, throw it away and make more. Be scrupulously neat in serving it up. Use your prettiest dishes and finest napkins. Something depends upon looks; and the eye of a sick person may be unusually critical. Except in the preparation of light puddings, the process of *baking* is inadmissible for the sick. Roasting is better—a light roast potato is sometimes very acceptable. Meats should be delicately broiled, except when boiled for broths.

Earth Poultices.—The value of earth as a disinfectant and deodorizer is well known, and the treatment of ulcerated sores and gangrenous wounds with it is becoming very general. A new application of this system has lately been described—namely, the use of clay as a dressing for the face in two cases of confluent smallpox, dusting it in fine powder over the faces of the patients as soon as the pustules became fairly developed. This, it is stated, formed a clean, dry, wholesome scab, absorbing the infectious material, scaling off during convalescence, and leaving the underlying skin in its natural and normal state. The painful and persistent itching which is well known as one of the worst characteristics of the disease was by this simple means entirely abated. The earth used was fine pipe clay.

Inoculation with Cholera.—Dr. Obermyer, a physician of Berlin, known for his researches upon the subject of typhus fever, became recently a victim to his professional enthusiasm. For the purpose of investigating the nature of cholera, and the means of its cure, and especially as to its contagious character, he caused himself to be inoculated with blood from a cholera patient. The world gained the information that cholera could be communicated by inoculation, but lost a doctor, for the unfortunate experimenter took the disease, and, although a large number of his colleagues united their skill to save him, he died after a few hours, suffering a martyr to the cause of medical science. The above is on the authority of the *Gazette de Cologne.*

Celery as a Remedial.—A correspondent of the *Practical Farmer* says: "I have known many men, and women too, who, from various causes had become so affected with nervousness that when they stretched out their hands they shook like aspen leaves on windy days; and by a daily moderate use of the blanched foot-stalks of the celery leaves as a salad, they became as strong and steady in limb as other people. I have known others so very nervous that the least annoyance put them in a state of agitation, who were in almost constant perplexity and fear, and who were effectually cured by a daily moderate use of blanched celery as a salad at meal times. I have known others cured of palpitation of the heart by the use of celery."

Lie Down and Rest.—Dr. Hall says the best medicines in the world, more efficient than all the potations of the *materia medica*, are warmth, rest, cleanliness and pure air. Some persons make it a virtue to brave disease, "to keep up" as long as they can move a foot or wiggle a finger, and it sometimes succeeds; but in others the powers of life are thereby so completely exhausted that the system has lost all ability to recuperate, and slow and typhoid fever sets in and carries the patient to a premature grave. Whenever walking or work is an effort, a warm bed and cool room are the very first indispensables to a sure and speedy recovery. Instinct leads all beasts and birds to quietude and rest the very minute disease or wounds assail the system.

Lard as an Unguent.—It is well known that rubbing the body with hog's fat has the effect of reducing the temperature of the skin in scarlet fever. Fr. Ketz, of Heilbronn, directs to incorporate one or two grammes of carbolic acid into one hundred grammes of lard, and, with this, to rub the whole body, excepting the head, two or three times a day, according to the intensity of inflamation characterizing the case in hand. The effect of this kind of treatment is to produce a pleasant feeling of coolness, to keep the skin softer, and after each application the temperature of the skin falls somewhat. The carbolic acid operates to destroy the germs and spores of the disease.

Clothing.—For all persons, especially invalids, an under material of wool gauze, next to the skin is the safest and the best, because it is a non-conductor and carries heat from the body more slowly than cotton, linen or silk. The warmer the weather the more need for wool next the skin. All garments worn next the skin during the day should be removed at night and spread out for a thorough airing and drying. Cotton is the best material to be worn next the skin at night. All changes from a heavier to a lighter clothing in the summer should be made by putting on the lighter clothing first thing in the morning. It is safer for children, for invalids and old persons to have too much clothing than too little.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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Saturday Morning, Nov. 8, 1873.

Legal Tender Rates.—S. F., Thurs., Nov. 6.—buying 93½; selling 94¼.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Kustel's Improved Reverberatory Furnace, 289. Progress at the Sutro Tunnel; Observations at High Elevations; Patrons Industry, 296. The World's Wheat Supply; Self-Adjusting Self-Oiling Loose Pulley; Napa Gang Plow; Academy of Sciences, 297. Monopolies and the People, 300.

ILLUSTRATIONS.—Kustel's Improved Reverberatory Furnace, 289. The Napa Gang Plow, 297.

MECHANICAL PROGRESS.—Heavy vs. Light Implements; Boiler Incrustration; Ruled Test Plates for the Microscope; Manufacture of Alloys; Waterproof Wire-Work, 291.

SCIENTIFIC PROGRESS.—The Zone of Life; French Inventions in Telegraphy; Carbolic Acid in a New Role; The Elements of the Sun, 291.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 292.

MINING SUMMARY from various counties in California and Nevada, 293.

DOMESTIC ECONOMY.—Talk to Housekeepers, 295.

USEFUL INFORMATION.—Everlasting Fence Posts; Varnish for Iron; Fire Kindlings; How to Preserve your Furs, 295.

GOOD HEALTH.—Bathing; Destruction of the Germs of Disease; Earth Poultices; Inoculation with Cholera; Celery as a Remedial; Lie Down and Rest; Lard as an Unguent; Clothing, 295.

MISCELLANEOUS.—Engineering at the Sutro tunnel; Chemicals in Pan Amalgamation; Base Bullion and Silver Bars; The Big Gold Bar; Ozokerite Candles, 290. The Sugarlo; Amador County Mines; The Mono and Flagstaff Mines; Little Giants, 294. Silver a Legal Tender; Cheap Transportation; A New Australian Steam Line; Barley to Liverpool; Silk Manufacture in the United States; The Mineral King Mines; New Discoveries of Quicksilver; Extensions; Ship Property at New York, 298.

Progress at the Sutro Tunnel.

As we stated briefly last week, on Monday morning, October 27th, 1873, the first connection was made between the east drift from shaft No. 1 on the line of the Sutro Tunnel and the main header. These two drifts have been steadily approaching each other since the middle of August last, at which time they commenced excavating from the shaft, and though it was expected that they would shortly come together, the connection was made rather unexpectedly—the first intimation of it being the result of a blast in the east drift from the shaft which threw the dirt into the other hole, leaving the drill hole intact. This hole was filled with a wooden plug; a large charge of giant powder was inserted, and the opening created through which the foremen, miners and spectators eagerly crowded, all anxious to be among the first to get on the other side.

The result of this connection has been anxiously looked forward to by all connected with this great work, but by none more so than Mr. H. Schussler, the well known Civil Engineer, by whom the surveys were made. He had measured the distances by triangulations on the surfaces and had carefully calculated the grades until he felt confident that he was right and would make the two openings hit each other; but what was his gratification to find, on getting up his instrument after an opening of sufficient size was made through which to take observations, that there was only a difference of seven-eighths of an inch in the center lines, that the grades varied only half an inch, and that the distance from the mouth of the tunnel to shaft No. 1, when measured with a tape line, differed from that shown by the triangulations but two-hundredths of an inch!

Considering the difficulties under which the surveys were made, (mentioned at length in another column), this result is truly remarkable, and places Mr. Schussler in the first rank of his profession. The length of the tunnel from its mouth to shaft No. 1, is 4,885 feet. The drift west from that point has been run 312 feet, making the entire distance from the mouth to the header 5,197 feet. Shaft No. 1, which is 523 feet deep, will now be shut down, and all the rock will be taken out at the mouth of the tunnel.

Shaft No. 2, which is 4,150 feet from shaft No. 1, will he 1,041 feet deep, when completed. It has been carried down 746 feet, and sinking by hand labor is progressing at the rate of about 8 feet per week. It is proposed, however, to have diamond, or other power drills set to work in this as well as the other shafts at the earliest possible moment, when the rate of sinking will be rapidly increased.

Shaft No. 3 is 4,480 feet from shaft No. 2, and will be 1,361½ feet deep when finished. It is now down 419 feet and has been sunk 8 feet during the past week. A very large amount of water is encountered at this point, no less than 18 miners' inches being pumped constantly, equivalent to over 300,000 gallons per 24 hours. The Occidental mine—over a mile distant—has been drained through this shaft, and springs over three-quarters of a mile in the opposite direction have dried up since the present depth was reached.

Shaft No. 4 is 4,150 feet from No. 3 and will be 1,485 feet deep when completed. It is now down 547 feet and is progressing at the rate of 10 feet per week. This shaft is 2,450 feet from the Comstock lode, which will be intersected by the tunnel at a depth of 2,000 feet below the Gould and Ourry croppings. The intersection will take place below the Savage hoisting works.

The entire length of the Sutro Tunnel will be 20,115 feet, or a trifle less than four miles. When shafts Nos. 2, 3 and 4 are down, there will be seven points from which drifting can be carried on instead of one as at present, and it is expected that the tunnel will be finished to the Comstock within two and a half years. The officers of the company are as follows: President, Joseph Aron; Vice President, O. W. Brush; Secretary P. W. Ames; General Superintendent, Adolph Sutro; Assistant Superintendent, H. S. Safford; Chief Civil Engineer, H. Schussler; Assistant Civil Engineer, Ross E. Browne; Chief of Mining Department, R. P. De Noon; Chief of Machine Department, John Anderson; Chief of Carpentere' Department, G. A. Taylor; Paymaster and Accountant, D. J. Bousfield.

Observations at High Elevations.

The discussion in regard to the proper place to locate the proposed observatory, to be built by James Lick of this city, has been entered into by so many people that the general public have almost come to the conclusion that it is to be built more for a sort of California wonder or exhibition than for any useful purpose. Mr. Lick himself, however, knows what he is about and probably pays little attention to the suggestions of newspaper correspondents or interested parties. Almost all the places suggested have been named and praised on account of their nearness to this city or favorable proximity to a railroad. Of course if the proper location for such an institution could be found near a railroad it would be a great advantage; but we venture to say that the largest observatory in the world would attract the attention of tourists and others, whether it was ten miles from a railroad or a hundred miles. If it were a little difficult to get there, perhaps, there would be even more visitors, on the same principle that miners always think the best diggings are the farthest off.

The observatory is to be built by Mr. Lick for scientific purposes, but he has probably some idea that it ought to be where people could see it as well. It is said that the location has been situated near Lake Tahoe, on the site mentioned in our last issue, as having been picked out by Colonel Von Schmidt. A deed of gift has been presented to Mr. Lick, by Mr. Bliss, owner of the land, for 78 acres. Of course there is plenty of water near by, or the engineer would have ignored the other beauties of the spot. The gentleman who presents the land, states that if Mr. Lick should, on further consideration, prefer any other locality, he will be entirely satisfied, as his only motive is to promote the purposes of Mr. Lick. This matter of the value of the land in the Sierras or anywhere is of very little moment to Mr. Lick, as that would be the least of the expenses connected with the undertaking.

We suggested in our last, that the best plan would have been to select a committee of well known scientific men to locate the site, but as Mr. Lick pays for the observatory, it is of course his prerogative to do as he pleases and he will no doubt do so. There is plenty of time before the telescope is built, for him to find out all he wants about the matter and if he thinks it necessary to change the site at present selected, it is an easy matter to do. The *Truckee Republican* in speaking of the site dwells on the clearness of the atmosphere and the comparative light fall of snow there, mentioning at the same time, that at Summit Station, on the C. P. R. R., which is about 7,000 feet above the sea, the prevalence of strong winds would be an obstacle to astronomical observations, and then the snow falls there frequently to a depth of from 15 to 20 feet.

Perhaps the *Republican* forgets that a series of observations, taken at this Summit Station, by the Coast Survey, in a very careful manner, prove it to be an excellent place for astronomical observations, and the conditions were much more favorable than as many other places in the vicinity. The experiments were to determine whether great elevations were better than small elevations for astronomical observations, and were conducted by Professor George Davidson, of the United States Coast Survey. A report of these experiments was forwarded to Benjamin Pierce, Chief of the United States Coast Survey, and was verbally communicated to the California Academy of Sciences, some time in October, 1872.

The station occupied by Professor Davidson was on the line of C. P. R. R., at "Summit," on the Pass of the Sierra Nevada, at an elevation of 7,200 feet above the sea, in lat. 39° 20′, longitude 120° 20′. The plan contemplated the using of instruments which Professor Davidson had used for years on the Pacific Coast, and observing upon objects with which he was familiar in the regular operations of the Coast Survey. His observations had extended through elevations from high-water mark to 3,471 feet above the sea.

Summit, at the head of Donner Lake, is in a gap of the Sierra Nevada, about 2,000 feet below the general elevation of the chain northward and southward. The summer winds draw through from the westward sometimes very strongly. At the time the observations were taken, the observers labored under the disadvantage that smoke from the great forest fires of Oregon, Washington Territory and British Columbia had drawn down the great Valley of the Sacramento and filled it nearly to the top of the mountains, obscuring the Coast Range, which is visible during the greater part of the year. The heated air of the valley was probably drawn through Summit Pass. An elevation of 9,000 feet, which could have been obtained within three miles of the Station, would have avoided these difficulties.

Professor Davidson examined the ridges of the mountains for several miles north and south, and was well satisfied that an elevation of 9,000 feet was available to railroad and telegraphic communication, but the question of the best location could be readily settled by an examination of the summit of the mountains further north and south within reasonable reach of communication. Peaks of 10,000 feet and over lie just south and west of Lake Tahoe near the Placerville road; and of 9,000 feet and over to the northward of Summit Pass. As far as the climate and opportunities for observing were concerned, Prof. Davidson's experience is within the month of July and part of August 1872; at Verdi in July there were only six nights cloudy, and the same proportion held good at the Summit. While he was at Summit every night was clear. In January, February and March, 1859, he was stationed at Table Mountain, north of this city, and could see the Sierra Nevada, 150 miles distant, as clearly as objects seen ordinarily 50 miles distant.

The meteorological observations kept at Summit from December 7th 1866, to the end of November 1867, show the following results:

MONTHS.	CLEAR DAYS AND NIGHTS.	CLOUDY DAYS AND NIGHTS.
December, 1866.....	6	19
January, 1867.....	19	12
February, 1867.....	13	15
March, 1867.....	21	10
April, 1867.....	23	7
May, 1867.....	29	2
June, 1867.....	30	0
July, 1867.....	31	0
August, 1867.....	30	1
September, 1867.....	27	4
October, 1867.....	27	4
November, 1867.....	15	15
358 days.....	270	88

In February one storm lasted thirteen days, and 10 feet of snow fell. The total snow fall for the year was 45 feet, and during February, March and April the average depth was about 13 feet. The hills were free from snow about May 1st, but 10 feet lay in some of the valleys. Weather frosty early in May, but flowers were in bloom in June. The winds were mostly east and west, the latter largely predominating. The greatest range of barometer was one inch during the year. Weather in summer is very pleasant and nights cool. The clear cool nights of winter were reported as marvellously clear.

As the mountain flanks are covered with verdure, there is a freedom of clouds of dust that prevail in strong winds eastward of the Sierras, where the rainfall, as far as Ogden, does not average more than ¼ of that or the Sierra.

In the concluding remarks, after enumerating the observations taken, Prof. Davidson's report states that from his examination he is satisfied that one or two daily observations for the diameter of the sun under similar circumstances would be better than six months' results at low altitudes. With his instrument he felt confident that he could observe with the same precision upon the sun as upon the moon, both for diameter and for right ascension and declination; and that the observations would have a value equal to the best observations upon the stars for latitude.

Patrons of Industry.

Under the above head we last week threw out the suggestion that the mechanics of this country would do well to unite in some organization similar to that which has met with such marked success among the farmers, under the title of "Patrons of Husbandry," shutting out from their councils all who do not sustain a fair moral character, and all such as make politics a trade or a specialty. At the same time we suggested "Patrons of Industry" as an appropriate name for such an organization.

And now, less than a week after said publication, we have received a New York journal from which we learn that only three or four months since a few earnest workmen of that city met for the purpose of considering and setting on foot the very thing suggested; and so well did they do their work that upwards of 70 lodges have already been formed, and a National Lodge was organized on the 7th of October just passed.

The work of the Order is secret, and conducted with as little ceremony as is compatible with such an organization. Neither politics nor religion can be introduced into the meetings, and no politician or speculator is eligible to membership. All applicants are subjected to a most rigid examination as to character and sympathy with the movement before their names can be even *proposed* for acceptance. The working of the Order and the results sought therefrom are similar to those adopted and sought for by the "Patrons of Husbandry."

As is the practice with the Patrons of Husbandry, and to the end that the Patrons of Industry may also become in the highest degree social, and of a character to improve and elevate the moral standard of its members, this Order also admits both sexes to membership, and requires at least two women to act as officers in each lodge. No lodge can be organized without them. In all organizations where men are associated with their wives and daughters and sisters, it is safe to infer that a pure moral atmosphere must prevail. The Order co-operates in business matters, especially in the matter of purchasing, whereby the extortionate profits of unscrupulous agents and middlemen are saved to the membership.

Although not political in its character, the members of the Order, like those of its sister institution, expect nevertheless, in their individual capacity to employ the ballot as an important aid for redressing the wrongs which have been heaped upon the working classes. The Order, as a body, while fully recognizing the cardinal principle of strict loyalty to the laws of the country, proposes to stand as a united phalanx against all kinds of misrule and against all persons or organizations which seek to oppress the industrial portion of the country with unjust taxes or burthens of any kind. It proposes to mow down monopoly and extortion everywhere. Its motto is, "By industry we thrive." By union it expects success. In secrecy it possesses power, and in right it has might. It believes that the prosperity of the industrial masses is the true road to the happiness of a people.

Local lodges confer three degrees—For men: Apprentice, Laborer, Journeyman. For women: Apprentice, Maiden, Matron. The officers are: Master Workman, Workman, Helper, Laborer, Secretary, Treasurer, Lodge Keeper, Watchman, Stewardess and Workwoman.

The State Lodge is composed of Master Workmen and Past Master Workmen, and their wives who have taken the Third degree. The National Lodge is composed of the Masters and Past Masters of the State lodges.

The rituals and all the work is simple, and the expenses of the maintenance of the Order light. Eight men and two women may constitute a subordinate lodge, and ten lodges a State lodge.

There are no oaths administered by the Order—members are obligated upon their sacred honor and written pledge. Much benefit, it is said, has already been derived in New York, from co-operative business matters set on foot by the Order, and the membership is claimed to be increasing so rapidly that it is expected that fully 1,000 lodges will be organized in New York city and vicinity by early spring. The membership is already set down at about 8,000.

A letter dated Oct. 21st, written by the Secretary of the National Lodge, which was organized Oct. 7th, says that over 40 applications for charters have been received in a single week—all charters now emanate from the National Organization.

If the Order continues in good hands and is administered strictly on the principles set forth in the Constitution, as published, we see no reason why it may not become as much a power for good among our brethern of the shop as the Patrons of Husbandry has already become among the tillers of the soil, and eventually take the place of all other organizations designed for the social and national benefit of mechanics, miners and laborers in general, other than farmers. Both of these Orders are working for a common end, and each may, and no doubt *will* co-operate to a greater or less extent with the other in many things for their mutual benefit. We hope to hear of its being planted on this coast at an early day.

Academy of Sciences.

The rsgnlar semi-monthly meeting of the California Academy of Sciences, was held on Monday evening last, Vice-President Hswston in the chair. There was a very full attendance. Joseph A. Donahoe was elected a life member, and E. G. Waite, Thomas Adam, Henry Michaels and R. W. Andrews, resident members.

Quite a number of interesting donations were made to the cabinet and library. Dr. George Henston presented as the gift of a friend, a magnificent set of publications, including the voyage of the *Bonito*, in seventeen parts, with three volumes of plates; also the voyage of the *Astrolabe*, made by order of the French Government in 1826-29, in twenty-two parts and five folio volumes of illustrations in natural history. The latter work was published at the cost of two thousand francs. There were also several volumes of illustrations from the voyages of *Venus* and *L'Ocean*. The Academy passed a vote of thanks to Dr. Hewston's friend, the unknown donor.

Rev. Mr. Williams gave to the Academy a French work on Ichthyology, published by Henry Estienne, in 1554.

W. R. Frink presented a miscellaneous collection of products and natural history specimens from the Navigator Islands. Among them was a species of gum, (from a tree) called "Tutui;" also lacto-resin or inspissated juice of a species of bread fruit tree, from the Hawaiian Islands. In reference to this gum or resin Mr. Frink stated that it is obtained by cutting through the bark, when a juice runs out of the color, taste and consistency of ordinary milk. In the course of 24 hours it fermente, and the gum separates like butter in the churning of cream; it can be obtained in large quantities in some of the islands of the Pacific. It is used by the natives to fill the seams of their canoes, and as plaster for cuts, sores, etc. For the latter use he had found it very valuable, and his opinion had been confirmed by the few surgeons to whom he had given samples for experiment. It is soluble in several fluids and may yet come into extensive use for making fabrics waterproof. Mr. Frink's collection was very interesting. The Palolo worm which he presented is seen floating in early morning in certain channels near Savai and Upolo, Navigator Islands. It is seen on only two days in the year. Its return is calculated by the natives with astronomical precision. It appears in great abundance and is caught only before sunrise, for as soon as the sun rises it disappears, to return only at neap tides in the months of October and November. It is esteemed by the natives as a great delicacy, hence "Palolo days" are days of festivity, and thousands repair to the channels to gather it. It is of all colors and the surface of the water at the time of its occurrence presents the most gorgeous appearance.

Mr. Stearns remarked that the specimens were too imperfect to determine their true relations; the fragments appear to be portions of marine worms allied to the *nereidæ*, and which resemble the terrestrial *myriapods* of which the centipede was a common illustration.

Another interesting collection was that made by Capt. T. W. Williams, in the Arctic. Prof. Davidson last spring furnished an outfit of bottles, alcohol, copper can for preserving, etc., and the captain brought back the following specimens: elephant tusk from latitude 69° 22′, large male walrus head with skin, etc., for mounting; female walrus head, skeleton; small dark seal; shells, etc. from pauncb of walrus; walrus parasites from pauncb; coal from Belcher Point. The walrus head and seal are preserved in salt. A great number of other interesting donations were made by other members.

Mr. W. A. Goodyear of the State Geological Survey read a paper on the High Sierra south of Mount Whitney, which we will publish next week.

Mr. Stearns read by title a paper by Mr. Henry Edwards, being the third of a series on "Pacific Coast *Lepidoptera*."

Mr. Dameron made a few remarks on fish culture, and the ova and young of salmon.

The Secretary read the minutes of a meeting of the Trustees and then read the deed for the Lick property. The action of the Trustees was indorsed and the property formally accepted.

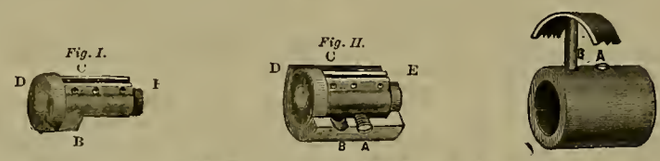
L. P. McCarty, for a long time general agent for our paper on this coast, will leave in a few days for a journey though the principal cities on the other side of the continent. He has authority from us which will enable business men to deal with advantage in patronizing our journal. He has our wishes for a pleasant reunion with his Eastern friends, whom he will visit.

The Comstock mills are gradually starting up their idle stamps and will soon be running to their full capacity, increasing, of course, the bullion yield. The Comstock mines ship by rail 80 car loads of ore per day.

A Self Adjusting, Self Oiling Loose Pulley.

The accompanying cuts show a self adjusting, self oiling pulley lately invented by Luther Knight and assigned to the Salem Self Oiling Machine Co. of Salem N. Y. Referring to the cuts, No. 1. is a bushing; No. 2. is a bushing seen in one half of the hub or pulley; No. 3. is the hub without bushing. It will be seen in No. 2. that there is a reservoir in the hub surrounding the bushing. This reservoir is filled with oil and a thumb or plug screw put in the oil hole as seen at *A* or *B*. The knob, *B*, shown in Fig. 1. being placed in the hole, *B*, in Fig. 2., the oil hole, *B*, is then continued through the reservoir to the shaft direct without communication with the reservoir. *C*, in Figs. 1 and 2 shows a slotted tube for packing, the oil passing from the reservoir to the packing through round holes in the side of the tube, *C*, and thence to the shaft. The oil is drawn to the shaft by attraction, as the pulley revolves.

The same amount of oil is given for lubrication at each revolution of the pulley, whether



SELF-OILING LOOSE PULLEYS.

running fast or slow. The tube, *C*, is turned off the same size as the large end of the bushing, so as to form a cut-off in the reservoir, by which means the oil is thrown directly in contact with the tube by centrifugal force. The bushing (Fig. 1) is turned a short distance at the ends, *D*, and *E*. The hub (Fig. 3.) is bored out so as to have the ends, *D*, and *E*, make a drive fit and retain the oil in the reservoir. The makers of this machine state that pulleys made in this manner will run from 10 to 20 months with one oiling. They publish several testimonials from parties who have used the pulleys, and who recommend them to others.

The Belmont mines are said to be turning out finely and new strikes are reported. The Canfield has a 4-foot ledge and where it has been exposed, the estimated value of the ore is $1,000 per ton. The El Dorado South Co. have struck rich ore at the 480-foot level, which will average $300 per ton. The strikes create a strong excitement both at Austin and Belmont.

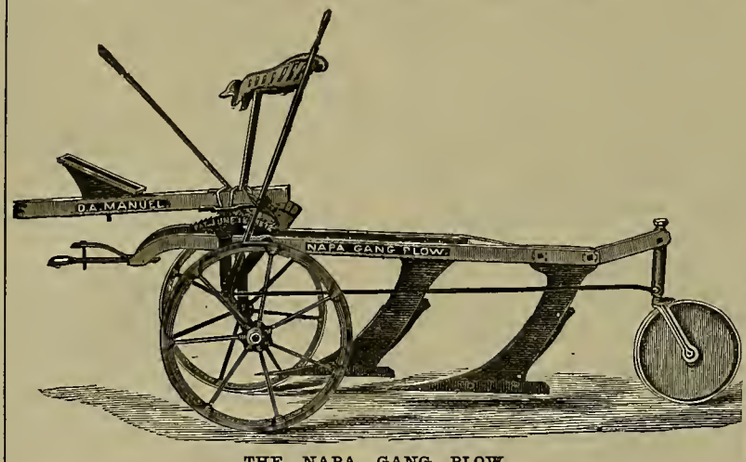
Perseverance Rewarded.—After three years of steady labor, both day and night, the Enterprise Mining Co., of Sucker Flat, have completed a bed rock tunnel, 2,500 feet long. This tunnel opens a vast amount of mining ground and the labor expended will shortly be handsomely rewarded. There is a scarcity of water complained of by miners in that section.

During the month of October the Branch Mint in this city coined the sum of $2,658,000. Of this $2,280,000 was in double eagles; $120,000 in eagles, $110,000 in half eagles, $50,000 in quarter eagles, and $98,000 in trade dollars. The total coinage for the four months ending October 31st was $10,135,500.

The Napa Gang Plow.

The Napa Gang Plow, of which we herewith give an illustration, is the invention of an old Californian, Mr. D. A. Mannel. The construction of this plow will be easily understood by reference to our engraving. Its peculiarities are the mode of lifting or depressing the shares, construction of the castor, and most important of all, the adjustability of the falling pole, by which the weight of the driver and machine is thrown off the horses' necks, a point said to be possessed by no other plow. Another advantage is the ease with which it is turned around, there being but little effort required on the part of the ploughman.

The plow has been made as simple as possible, and everything has been done to produce a gang plow within the reach of all, without impairing its effectiveness. In this view the whole apparatus is a marvel of economy, all material being so disposed as to give required strength, without adding unnecessarily to weight and expense. The Napa Gang Plow may be seen at the warehouse of Linforth, Kellogg & Co., Nos. 3 and 5 Front street. The plows are made in Napa City, in this State. Many of our interior towns would benefit them-



THE NAPA GANG PLOW.

selves materially by going into the manufacture of similar articles, even if only in a small way. Very few factories start large at first, and an undertaking such as this should be encouraged.

The Borers of the Sea.—Many stories are current as to how inventors have borrowed or stolen their ideas from Nature, and there has been much ingenious discussion as to whether hints thus appropriated are properly patentable. Boring is an example of natural processes that have been thus used by art, and it is remarkable that the lowest creatures are the most skillful mechanics in this particular. An eminent living inventor, who has made a fortune out of a patent auger, hit upon the method followed by the most successful insects which bore into hard wood. And so we are assured that the celebrated engineer, Brunel, in constructing the Thames Tunnel, but imitated the shell-lined burrow of the *Teredo Navalis*, or ship-worm. This mollusk in shape resembles a worm, and surrounds itself with a shell open at both ends. From the mouth it can protrude its short foot, and the other extremities of its body; the "tail" is bifurcated, one prong being the inspirator, and the other the expirator tube of the syphon, which constitutes the animal's nutritive apparatus.—*Popular Science Monthly.*

The University.—A building is being erected at the State University, to be used as an engine room. Steam will be generated to heat the College and to work the five-stamp mill which Booth & Co. of this city presented to the University. A movement is also on foot to procure a printing press and an outfit for a printing office for the students.

The International Bridge over Niagara river has been completed, allowing all-rail communication, via the Grand Trunk Railway, between Boston, New York, Buffalo, Detroit, Chicago and San Francisco. Transfers and ferriage are now avoided.

The World's Wheat Supply.

During the last winter, when speculation was rife as to the probable wheat yield of California and the world generally, a few of our wisest (?) writers seemed ready to predict that from that time onward, we had much to fear from the largely-increased yield likely to flow in from the countries around the Black Sea, and assuming that the extension of railroads into parts of Asia not before traversed by them, would permit of the wheat of those countries being delivered in England cheaper than it can be from California, and hence the policy of a very largely increased acreage over former years, was a matter of grave doubt.

Where are their predictions now? We hardly hear of the Black Sea country as furnishing any more than former years, nor do they put it in England's markets any cheaper than before. The fact is, the consumers of wheat throughout the world are increasing faster than the supply, and something besides new Asiatic railroads must be thought of, before the prices of wheat will be lessened in any of the great markets of the world.

The Champion Driller.—The Owyhee *Avalanche* says: We challenge the world to beat the wonderful feat of single-hand drilling accomplished this week by a Cornishman, named James Gooey, in the Golden Chariot mine. In one 8-hour shift he drilled 31 feet in very hard rock, and in four 8-hour shifts he drilled 110 feet, being an average of 27½ feet for each shift. The magnitude of this performance can be readily imagined when the fact is taken into consideration that good single-hand drillers only make from 10 to 12 feet in an 8-hour shift. Gooey is a small man, though of compact and sinewy build. We venture to say that his work of drilling 31 feet in solid rock on an 8-hour shift, has never been equaled anywhere in the world.

A Pocket vein near Hornitos, called the old Duncan mine, is doing well. The Mariposa *Gazette* mentions the fact that two Mexicans took out over 70 ounces of gold last week and another party had taken out ten or eleven ounces. This is a good locality for mining on a small capital.

The Schenectady mill recently cleaned up 48 pounds of amalgam from 11 tons of rock, or about $37 per ton. The Alpine *Miner* says that this crushing comprised the whole width of the vein, including the waste rock contained therein.

William Blyte was killed in the Idaho mine, Grass Valley, on the 3d inst., by a large rock falling down the shaft, while he was being hoisted in the bucket. He was a native of Cornwall.

Extensions have been taken up on the Washington mine, Kern county, until now it has been located a distance of 17,000 feet. If it "holds out" in proportion to its length, the locators ought to have a good thing of it.

The New Idria Quicksilver Mine suit, better known as the famous "McGarrahan claim," is now being tried in San José, Santa Clara county. The case is attracting much attention.

The total loss by the late fire at Reno, amounted to $100,000. The whole business portion of the town was destroyed, but large portions of the stocks in trade were saved.

The Eureka (Grass Valley) mine only ran about three weeks last month, and the result with 15 stamps, was about $32,000 worth of gold.

Bullion Shipments during October, from Los Angeles to this city, amounted to 2,984 bars, with only half the usual number of teams hauling.

Many of our gravel mining companies are anxiously awaiting the advent of rain, so that they will be able to have more water for piping.

A very rich channel, from 100 to 125 feet wide, has been found on the Table Mountain Blue Gravel Company's mine.

The total number of admissions to the Vienna Exhibition, which has just closed, was 7,250,000 from the opening to the closing day.

A Rich body of ore, supposed to be of great extent, has been found in the Cave mine, Bristol District, Nevada.

All the smelters in Salt Lake are again at work and bullion is moving as formerly.

Four weeks' run of the Idaho mine, Grass Valley, yielded $75,000 in gold.

Silver a Legal Tender.

The man who feared that silver would become a drug on the market, and the mine owners who were said to have contemplated the possibility of being obliged to suspend operations on account of the anticipated decrease in the value of the Queen of the precious metals were evidently not much accustomed to the study of political economy, or to giving much thought to the subject in question. For purposes of coinage, to speak of those of the arts, there is an increasing demand. India alone could, it is said, take five hundred million dollars in silver money, to supply its wants of small change, that is, an amount about equal to the produce of our Pacific Coast mines for twenty years to come, that is, should the present rate of production continue unchanged. So it is also in other countries, and now it seems that we are to feel the want of silver for coinage purposes ourselves. A return to specie payments seems at no distant day inevitable, and the making of silver a legal tender in the payment of small sums seems to be the first step towards it. It is curious enough that a scarcity of greenbacks, the *bête noir* of our political economists should be the immediate cause of the demand for specie. But so it has been. Men on Saturday evenings not being able to obtain greenbacks to pay off their hands have taken to paying in silver, and in Washington this now prevails somewhat extensively. Chicago has also sent $62,500 worth of silver bullion to the Mint at Philadelphia to be coined, and other places will follow suit. This is right; all amounts under twenty dollars should be paid in silver, that is, had we silver with which to pay them in. This we have not. Excluding California, the total value of all the silver coin in the United States does not exceed ten millions of dollars. Now to pay the wages of all our artisans, laborers, etc., we require at least sixty millions of dollars in silver coin. It is of course immediately impossible to obtain this. We should wait until our mines had produced it, and this at the present rate of production they could not do inside of a year and a half. Even then we would not have enough. Great Britain, which has not as large a population as has the United States, requires nearly eighty millions of dollars of silver coin. We would require as much of it, and this it would take considerably over two years to supply, always provided that the product of our Pacific Coast mines remained as it is now. The result of this will be with a silver circulating medium to give it a premium instead of as at present, having it at a discount. The immediate effect of the resumption of specie payments and of the instalment of silver in the post of honor would be to cause a fall in prices, not indeed immediately in California, but over all the rest of the Union. After a little while we would obtain all articles that we now import considerably cheaper, and would of course thus and so far be benefited, but looked at from another point of view this would work injury to us. We have now a flourishing manufacturing industry which has been injured not a little since the opening of the Central Pacific Railroad, by competition with the East. With lessened prices the competition would in many things become so great as to be unbearable, and the industries that were subject to it would inevitably have to succumb. This would of course be an evil so far as it went, but it could not begin to operate till some time was at an end, nor would it last for a long time, for goods could not be sold cheaply, but for the period of panic that would succeed the money tightness. It would however, have the effect of making money exceptionally tight, and interest rates would keep up, as of course those who held the money would know how to charge for it. This would for a time injure enterprise. It is evident therefore that the return to specie payments, and the paving the way for it by a silver legal tender would produce a temporary paralyzation of business matters and would tend to check industrial enterprise. It would, however, have a good effect in that it would stop the habit of importing more than we could pay for with export, and would necessitate the manufacture or production of the articles thus ceased to be imported at home. As to the effect upon our local import trade there would probably be absolutely none, all that we have said on this subject applying more to other parts of the Union, and to them probably for only a brief period. We will if we can produce it send away annually to England twenty million centals of wheat, which will bring at Liverpool at least $3.04 and a fraction per cental, or a total of $60,831,250, from which the only deduction that has to be made is for freight at an average rate of ninety-seven and thirty-three hundredths cents per cental. Taking away this, amounting to $19,466,000, there would be left $40,634,000 owing to us on wheat alone, for which we could buy English manufactured goods or goods of other countries sold by English merchants if we were so minded. Besides this we would send away $5,000,000 worth of Domestic Produce of a value of at least $6,000,000 abroad, making a total export value abroad of $46,000,000, for which we could buy foreign goods or demand coin. This is a low estimate of what the value *at market* of our exports would be, because there is no doubt that our Wine, Wool, and other agricultural exports would increase proportionately with those of our Wheat. Allowing it however to stand at that and adding the product of our mines, gold, silver and copper at least worth $80,000,000, we would have a foreign, that is, an Eastern, European, Chinese, etc., credit of at least $126,000,000. To this must be added the export value of the other States and Territories producing minerals and precious metals of say $14,000,000, and we have for the whole Pacific Coast a credit abroad of $140,000,000, one of $140 per individual or $700 per family. That is, that our surplus production would average more per head of workers than the whole annual average wages to-day. The inputus that the demand for silver coin would give to mining would be surprising. There would not be a foot of the Pacific Coast supposed to contain silver that would not be prospected by capitalists of Europe and Eastern cities anxious to participate in the immense profits to be derived from giving the country enough silver money. We have estimated above a minimum of demand for silver coin, but it is evident that the *real* demand would not be satisfied until we had replaced our greenbacks dollar for dollar, and fifty per cent. more to satisfy growing commercial needs, say six hundred million dollars. With the production of our mines duplicated this would require nearly ten years to satisfy. To include silver coin as a currency means at first contraction of values and financial panics East, lessening our importations, and increase of home productions, on the Pacific Coast renewed prosperity and better purchasing power, finally the settlement of what we will style American commerce and industry on a sound and financial basis, and a return of the prosperity of late years, without the dangers of their monetary system.

Cheap Transportation.

Commerce, now-a-days, cannot exist without roads penetrating the deepest recesses of continents, piercing the most tremendous mountains, and bridging the broadest and deepest rivers. In its infancy it was confined entirely to the sea-coast, and its earliest pioneers were hardy fishermen. Then it crept slowly from the coast towards the interior along the banks of navigable rivers, over mountain tracks and through wood-paths. The pioneer merchant carried his stock on his back like the peddler of older communities, or packed it on a beast of burden, like the early business men of the coast. Roads and wheeled vehicles succeeded. Now we have railroads—the highways of the nineteenth century. The older roads were the care of the nation, and to the community were free, save in the case of the payment of occasional toll or *octroi*, and of late years the necessity of the abolition of these dues has been a matter of almost universal recognition. In this country the present substitute for the common road—the railroad—is entirely in the hands of private companies, who naturally enough look to private profit—it is not the property of the State or nation, and consequently the minimum of charge has not been had. For a long time those who used the railroads of the land were so sensible of the benefits derived that they did not inquire too nicely into the charges paid; they were glad to have railroads at all—only too happy to pay well for the quick transport of their merchandise from the sea-board to the remotest interior of the continent. Then, too, the roads were anxious to get the traffic, and cut down charges very low. But this state of things soon passed away, the roads doubled and, in some cases, trebled the value of their stock by the issue of new shares, sold these shares to third parties, and then expected to be paid the same interest on their nominal capital that they had been on their real. This necessitated an increase of charges, an increase, no doubt, originally suggested by the competition for the accomodation that the railroads could afford. The increase was not minded by merchants as long as they could sell the same amount of goods as before, but it was felt by purchasers in enhanced values of the goods required. The purchasers, mainly producers of breadstuffs—that is, the farmers of the West—were at the same time charged more for the transport of their produce to market, or rather purchasers of that produce were, and they deducted it from the price they paid the former. The universality of stock-watering and of increase of rates of transportation at length roused the agriculturalists to action—hence the formation of Granges, and the founding of a party to regulate freights and fares by legislative action. The founders of it say that their constituents were year by year more remorselessly ground by railroad magnates; that patience had ceased to be a virtue, and that they were determined to have, as nearly as possible, the value which their produce, minus the merchant's profit, would have in foreign markets. So far the farmers. The merchants were not roused to action until those of the great commercial center of the Union—New York—found their city threatened with the growth of rivals who would drive away from it the trade of the Western States. The splendid water-way to the sea afforded by the Lawrence and the Great Lakes, and the series of great and flourishing cities with which that water-way is studded—Milwaukee, Chicago, Detroit, Montreal, Quebec, etc.—have suggested to the merchants of Canada the feasibility of securing the trade of the great West. Water carriage down the St. Lawrence and to Europe can be done a great deal cheaper than by rail at the present rates charged by the railroad companies, and the city of Montreal is preparing for the turning of the trade its way, by the construction of immense stone docks at that city. Then it is proposed to cut a canal from the Ohio to the James River, thus creating a new water from the Atlantic to the Mississippi and its tributaries, and going to build up Norfolk, Virginia, to the status of a great commercial city. The New York merchants have taken fright at this, and some have started on the war-path after the railroads with as much eagerness as the farmers themselves. The Board of Trade in session has resolved that Congress be requested to exercise the power with which it is vested to regulate commerce between States and Territories, to finally settle the question of cheap transportation. And now that the question has been raised, it will not cease agitating the country until a radical change in the whole public railroad policy has been effected, and until, probably, it has given birth to a political revolution. On the Pacific Coast here, cheap transportation has a two-fold aspect—one a railroad one, the other a shipping one. We want cheap transportation on land to enable our merchants not only to reach the most distant part of the Pacific Coast with their goods, but to enable us to compete with the East for our rightful share of the trade of the Mississippi Valley and thus enable us to sell the teas of China and Japan, the sugars of China, Batavia, Central America, Manilla, the Sandwich Islands and Peru, and the coffees of Ceylon, Central America, Java and Manilla to all the people, at least, west of the Mississippi and north of the Red River of Louisiana. We want cheap transportation by sea to give our agriculturalists a living profit on the products of their farms, and to keep the money obtained for our crops here instead of paying it to ship-owners who live from six to ten thousand miles away. And the selfish interests of the railroads really lie in according, of themselves, cheap transportation. It does not require much argument to show that a low rate with a great deal of business is much better than a high one with little or no business, and that high rates frequently render it unprofitable to deal in goods that have to be transported to market by rail. No particular stress should tempt managers into trying to raise funds in this way, for the result is too evidently disastrous. The merchant makes the experiment, and through high rates of transportation, not being enabled to make a living profit, gets discouraged and seeks some city more favorable for business, or enters on a career of opposition to the railroad, involving the building of competing lines, or, as has been the case, invoking Congressional or State legislation to his aid. We have spoken of the general question—the local question reduces itself to cheap goods-freights to all points to the Eastward, and cheap sea freights to the ports of Great Britain and Ireland.

A New Australian Steam Line.—A new line of steamers to Australia will be probably inaugurated before the end of the year. Mr. Hall, United States Consul at Sydney, who has for many years tried to establish such a line, is the promoter of the enterprise. The first steamer is to leave Sydney for this port on the 16th of December. It is intended that two others will be subsequently laid on. They will touch at Kandava, Fiji, and at Honolulu, and will, it is thought, be connected by a branch line with Auckland, New Zealand. J. C. Merrill & Co., of this city, are named as the probable San Francisco agents of the line.

The project of piping oil from the oil region to the sea-board seems to be seriously entertained, and we understand that a company has been, or is being, formed for that purpose. It is proposed to lay two lines of pipe—one of six inches for refined and one of eight inches for crude—using a large engine at each end, one for force and the other for suction. This would be literally pumping oil, say from Titusville to Philadelphia, and the pipes would therefore be the longest pump-stocks in the world.

Barley to Liverpool.—The ships "St. John" and "British King" were cleared last month for Liverpool with cargoes of 1,700 and 2,000 tons of barley. These were the first cargoes ever shipped thither from the Pacific Coast, and there is every prospect that they will be the foundation of a trade only next in importance to that in wheat. England imports every year immense quantities of barley for beer manufacturing purposes.

The following statistics of the leather trade of Pennsylvania are of interest: There are 800 tanneries, 294 engines and 134 water powers. The bark used yearly amounts to 322,110 cords, costing $3,369,587; the skins and sides tanned annually are 893,000 of the former and 1,617,620 of the latter. The hides tanned are 1,808,760. The capital employed represents $1,800,000; the material used, $13,994,000; the products amount in value to $19,828,320, and the wages to $1,684,790.

Silk Manufacture in the United States.—From a mere experiment, but a few years ago, silk manufacture in the United States has assumed really vast proportions, and promises to become one of the leading pursuits of the country. According to the lately issued report of the silk manufacturers' association of America, it appears that $30,000,000 is the amount of capital invested. Sixteen thousand operatives are employed, who earn about $8,000,000 wages, and the product of whose labor amounts annually between $30,000,000 and $40,000,000.

England is announced to be the only civilized country in the world which has not sent home-grown tobacco to the Vienna Exhibition. Varieties are shown from Norway and Sweden, as well as from the tropics and from all intermediate territories. It is remarked that the value varies throughout very much according to the distance from the equator, thus while the unmanufactured leaf from Havana is valued at 10s. a pound, that from Holland is priced at no more than £4 a hundredweight.

The Mineral King Mines.

A correspondent of the Visalia *Delta*, writes as follows concerning the new mines in Tulare county: The first object we noticed worthy of newspaper comment, after reaching the foothills, was a salt spring, situated on the south bank of the Kaweah river, about five miles above the mouth of the South Fork. The spring rises from a dyke of rotten trap rock, the subjacent formation being feldspathic granite. Three miles further on we reach the mouth of Marble Fork (or Upper south Fork). After crossing this stream the trail becomes more abrupt, and to avoid jimsel and other undergrowth, follows the pine belt over hills and hollows—a very tedious trail. At one point the trail is shoved down the hill a mile by the abrupt intervening of a mountain of white marble. Unlike most of our mountain streams, Marble Fork is not closely cañoned at any point, and offers a very favorable route for a road to reach the summit of the Sierras.

The mines are situated one point north of east from Visalia, distant about fifty miles, and just to the southwest of the highest peak discernable from the valley. This peak may be known by its presentiug two thousand feet of perpendicular face to the north; and is called by some the Half Tater Hill. As to whether that is the proper name we leave Clarence King and Prof. Whitney to determine. I believe it to be the highest peak of the range so far as known. The mining region is a belt of stratified and transition rocks, such as white marble, black slate, horn stone, gneiss, and a very peculiar formation of bright green color with component parts, somewhat resembling syenite. Between these different formations there is, in almost every case, a deposit of metaliferous ore, containing iron, copper, antimony, arsenic, etc., and all supposed to carry more or less silver. So far as known, no assay has been obtained, showing a first-class silver ore, but on the other hand we believe that the miners have made the mistake of selecting none but lead ores for assay. There is more metal here visible, upon the surface than we have ever before seen in the same extent of territory.

If high-flown titles will secure it, these leads are bound to pay. We have the White Chief, the Silver King, the Monarch, the Dolly Varden and the Lady Franklin. Then comes a score or so less pretentious, as the Black Wolf, the White Fox, the Lady Alice, the Big Jim, the Blue Grouse, the Salt Grass, etc. A singular thing about this discovery is that the discoverer claims to have been led here by the friendly spirit of a dead Indian. What is perhaps more singular still, he is said to be a man who on all subjects other than spiritualism and mining appears sober, candid and sane.

Another correspondent of the same paper writes on the same subject as follows:—I have been watching clearly for a truthful and detailed account of the new mines of Tulare county, but as yet have not seen it. The extent of territory, as I have seen it, in which rich minerals abound, is about 16 or 20 miles in length north and south, by 7 or 8 miles in width east and west. This territory is of a primitive formation, the surface-rock being slate, with strata or ledges of granulated lime rock and quartz, running the entire length of said territory in a direction of about 10 degrees west of north and east of south, said ledges, nearly all, loded with mineral deposits, and very many of them of unprecedented richness and magnitude. The largest of these lodes yet discovered is that known as the White Chief lode, the next in breadth and value are the Lady Franklin, Monarch, Black Wolf and the Cliff lodes. Already have there been one hundred and fifty thousand linear feet of mineral bearing veins located, and from fifteen to twenty assays made, nearly all of which have exceeded expectations. A certificate of assaya is before me from the Black Wolf, which is as follows: Copper, 37.5 per cent.; Gold, $12.54 per ton; Silver, $442.96. Total, without copper, $455.50. Ore from the White Chief, from the surface, assays $54.55 silver, and 7½ per cent. of lead; the ore vein in said lode being about 24 or 26 feet in thickness; this mineral bearing territory is situated on the head waters of Little Kern river and the Middle Kaweah creek, and is as yet almost wholly unprospected, and bids fair to outrival any mining location in this State or Nevada. There is room yet in the district for the location of at least one thousand claims; and I believe from what I have learned from a stay of two months in the mines, that fully that number will be located during the coming summer. As yet there have been but few, if any claims located, except the ore vein made its appearance above the surface of the bloom rock. The local laws of the district are, we think, well calculated to insure the rights belonging to the prospector. The Recorder of the district has exerted himself manfully to have all claims so located that shooting-matches and law-suits shall be few; and we think it in all respects a sound, healthy mining organization. A wagon road from N. P. Dillon's saw-mill will unqueationably be completed to the mines within the next twelve months.

New Discoveries of Quicksilver.

The most important quicksilver district in the world will yet be that within the limits of California. New discoveries are now of almost monthly occurrence. Up to this time nearly all the important discoveries have been confined to the Coast Range. The northern half of Napa county and the southern half of Lake county are known to be rich in quicksilver, and there is great activity just now in that region, both in prospecting and in developing new mines.

The *Territorial Enterprise* gives an account of an excursion recently made by John P. Winters and Lew Goodwin, of Virginia City, to the southern part of California, to find a new quicksilver lode, the existence of which had been secretly known for some time:

They were eminently successful in their search, not only finding the mine, but finding their most sanguine anticipations far exceeded by the reality. Leaving San Francisco, they took a branch of the Southern Pacific Railroad to Soledad, thence took a team 145 miles south to San Luis Obispo, and from that place to their mine. They had with them the original discoverer of the mine, and therefore had no trouble in finding it. The discoverer is a man who has had considerable experience in mining and prospecting for quicksilver, and has discovered three or four mines besides the one of which we are now speaking. This one he discovered about ten years ago, since which time he has occasionally visited it to see that it was all right, but never remained to do any work on it. The croppings are described as being immense, and nearly all the boulders and float rock about the lead show streaks of cinnabar upon being broken open. The party located under the new law of Congress, and, we presume, gobbled up all they could find. They set a party of men at work to develop their lead, which they believe to be the "old king bee" of all quicksilver leads.

Extensions.—Since the first discovery of silver bearing leads in the State it has been customary to locate an unlimited number of extensions on claims supposed to be valuable. In accordance with this long established custom, some of the "smart ones" who are everlastingly locating extensions on "big things," went after the Millionaire with a rush and coyoted on the hill side where it was supposed to run, beyond the lines of the original location. While one party was engaged in digging, in hopes of striking the ledge, another party went to the District Recorder and filed a notice with that officer, claiming the ground upon which the other was at work. The working party, ascertaining this fact, proposed to compromise with the "notice" fellows and succeeded in doing so, but work was abandoned the moment it was effected. Prospectors should bear in mind that the Congressional mining law expressly prohibits the location of claims upon the mere supposition that they contain a mineral bearing vein. The law now is that to hold a ledge you have first got to find it. Until this is done anybody and everybody has a right to look for it and the finder will hold it regardless of notices filed with the District Recorder. The language of the law is: "No location of any mining claim or ledge shall be made until the discovery of the vein or lode within the limits of the claim located."—*Silver State.*

Ship Property at New York.—The following sales of ship property occurred in New York during the latter part of September:

Name.	Tons.	Built.	Metalen.	Prices.
Sandford	1,159	1869	1871	$60,000
Richard Busteed	862	1857	1870	23,000
Xenia	786	1870	1872	21,600
Cairo	369	1868	1870	16,500
Ada Carter	435	1862	1872	15,000
Pleiades	330	1850	(not metsled)	5,000
Salinas	150	1863	1870	6,900

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Reports and estimates made about all departments of Production, Commerce, and Manufacture, of the Pacific Coast. 5v24-tf

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City and County Surveyor.

Office—Room 16, City Hall. 11v24-3m

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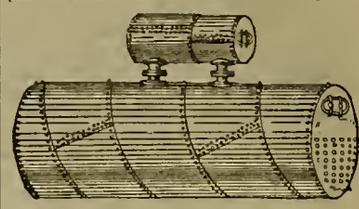

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Monopolies and the People.

The above is the title of an octavo volume of some 500 pages, recently published at Davenport, Iowa, by Day & Egbert, from the pen of Hon. D. C. Cloud, a prominent citizen of Iowa. Its publication is timely, and its perusal will be found both interesting and profitable, especially at the present time. The work is dedicated to the "Patrons of Husbandry," and is doubtless intended and in fact does very fairly and fully represent and show forth the grounds on which that great movement is based.

The author has taken hold of the work with holdness and earnestness, and manifests a thorough acquaintance with all its details. He appears to have no partisan bias in the matter, but draws aside the veil, and presents a series of stubborn facts which are allowed to speak for themselves, regardless of who may be hit or hurt. He writes as though he really believes all he utters, and as if in the performance of a duty in the presence of serious danger. He holds that there is a power in the land possessing and exercising elements destructive not only to our great industrial and producing interests, but also to the very form and spirit of our government. Thus believing and uttering, the author endeavors to suggest such measures of relief and protection as he thinks are within reach of the people, and which he believes will save the country from the threatened crisis.

It is certainly a fact which must be admitted by every intelligent and candid thinker, that we, as a people, have reached a point where corporate monopolies, rings and individual speculators have by united and persistent effort obtained such a control over the government, and moneyed and industrial interests of the country as to seriously threaten the general welfare and prosperity of the people. The men who have thus combined do not belong to any one political party, or any particular moneyed class; they are found everywhere, and appear to be strongly united in the purpose of grasping and holding every branch of government and industry, and controlling the same for the benefit of capital, allowing only just so much to go to the producing and industrial classes, as shall barely suffice to keep them from utter financial ruin. While we have no titled aristocracy in this country, there is no mistaking the fact that the tendency of these movements is to foster and build up among us a moneyed aristocracy of wealth, more despotic and more antagonistic to the great industries of the land than any which exists among the nations of the old world.

A silent or passive acquiescence in, and submission to such a condition of things cannot be conceded by the people. These evils must be corrected, and the rights of the people restored, be the struggle ever so long or so hard. Special legislation; taxing the people for the purpose of aiding private enterprises; giving away public lands and public moneys to make the rich richer; malfeasance in office and public corruption in general must be checked at all hazards and at any necessary cost. The antiquated idea that the government was instituted by the people and for the people, as a mass, and not for the few, must be once more revived and insisted upon.

In no country are the people themselves more directly interested, or invested with more power to bring about such reforms than in these United States. Hence it follows that all should seek to thoroughly understand the true condition of the country, and the character and necessity of such measures as are proposed for its prosperity or reform. It is to this end that the work before us has been written, and most appropriately has it been dedicated to that growing Order which has handed together to resist the wrongs which we have contemplated, and give relief and safety to all the great industrial interests of the land.

The book contains just that class of facts, clearly and concisely stated, upon which the people should be correctly informed, and without a knowledge of which we cannot hope for success in our efforts at reform. In its preparation the author has wisely abstained from any mere display of words; and while laying bare the most exciting stories of rascality and double dealing, and calling things always by their right names, he neither forgets himself, looses his temper, or descends to mere partisan tirades or subterfuge. The work appears to be receiving a very full and free endorsement from the people's press every where, and especially from that portion of the agricultural press which is laboring in the interest of the great movement to which it is dedicated. We hesitate not to say, that the book should be read by every one interested in the general welfare of our industrial classes in all sections of the Union.

We subjoin a portion of the topics discussed, from which our readers may form some idea of the character and scope of the work: A preliminary survey of the condition of the country; the railroad iniquities; how the monopolists help themselves; the oppressions practiced and unjust discriminations made by railroad companies in the transportation, shipping and storage of freights; how Congress has betrayed the people and become a stock exchange; how land grants "develop" a country; the Credit Mobilier and other villainous contracts; has Congress the constitutional power to create and endow private corporations; the sole purpose of taxation; the fatal consequences of mortgaging cities and counties for the construction of railroads; our impoverishing transportation system, and the ware-house conspiracy; false hydraulics—watering stocks—its unlawful profits the source of extortionate tariffs; monopolists made a privileged class, by being relieved of taxation—an outrage upon the people; the strong grasp of consolidated capital on our legislation; the "trail of the serpent" in the Interior Department; the monopolists at the White House; how Wall Street builds railroads—a hot bed of corruption; the U. S. Supreme Bench invaded—its decisions reviewed; our banking system—its wrongs and unjust taxation of the people; reformation or revolution; a return to the policy of the Fathers; conclusions of the author.

The concluding chapter embraces over one hundred and fifty pages, and forms, perhaps, the most valuable portion of the book. Mr. Allen Broomhall, of Muscatine, Iowa, is, we believe, the present proprietor of the work. We do not know that it is for sale on this coast, but it certainly should be. The copy before us was received by mail from Mr. Broomhall, with whom we shall communicate, and suggest that the book be placed for sale in this city. Our readers will be notified of the result of such correspondence.

Little Cottonwood Mines.

A correspondent of the Salt Lake *Tribune*, writing from Alta City, Little Cottonwood, under date of October 21st, says that the shipments of ores from the different mines have not been as large for the present week as in former times; the decrease is not on account of the scarcity of ore, but from the cause of the stringency of the money market in Salt Lake City. I have been informed by some of the owners of mines that the ores have previously shipped are still on their hands either at Sandy or Salt Lake, having been unable to sell them. It was supposed, however, that the financial crisis would not have any material effect upon Utah and its mining camps, but it has so far affected them seriously, as far as the sale of ores and bullion is concerned. The miners have all continued to prosecute their developments, and are working their usual forces, resulting in new strikes being made almost daily.

The Emma Mine

Shipped about eighty tons last week. There is a rich strike in the bottom of this mine, but it is a good deal easier to find out if it is true by awaiting the arrival of the London *Mining World*, in about two weeks, than to ascertain the facts here. It is also reported that Mr. George Atwood, the general manager of the company, has, through his unusual zeal and energy, succeeded in getting the company out of debt during the time he has been in charge, and this will, no doubt, place the mine at the head of the dividend-paying mines of Utah, and which will be gratifying news to its stockholders in England. The concentrating and washing of the second-class dump has again been resumed since the weather has cleared up, they having been interrupted for a few days. The work will be prosecuted as long as the weather will permit it.

The Flagstaff.

Has shipped about sixty tons per day. The company will commence the erection of a new ore house, capable of holding 1,000 tons of ore, in the place of the one which was destroyed by fire about six weeks ago. The work in the mine is constantly pushed ahead under the able and efficient Superintendent, Capt. Goldsworth, who is untiring in his efforts to make the mine a paying piece of property. Rumor has it that there will be a change in the general management of this mine.

The Oxford and Geneva

Again resumed the shipment of ore, and will ship about five tons daily. The force employed at the mine are chiefly employed timbering the main incline and the lower works; until that is thoroughly completed and the supply of timber, coal, etc., has been housed for the winter, no ore will be hoisted. It is the intention of the company to sink the main incline 200 feet deeper before running more levels. This will consume a great portion of the winter, and sufficient ore will be taken from the proposed shaft and levels to have a large accumulation of ore when the spring opens. The same company have lately acquired another very promising piece of property on Peruvian Hill, known as the Harvest Home, which has been developing for the last two months, with flattering results, the ore being carbonate in its nature and the vein very large in its croppings.

Victoria and Imperial

Tunnel and Mining Company. The tunnel is being pushed ahead on a contract, and is in about 580 feet. The incline on the ledge is on a body of very fine ore, and it is expected the shipment thereof will commence next month. A large ore house has been built and a full supply of timbers, wood, etc., laid in for the winter. This mine will soon rank among the leading claims of Little Cottonwood, under its present Superintendent, Mr. S. W. Blakely.

The Toledo Utah Mining and Smelting Company's Works.

Are pushing work ahead in their several mines. The shaft is down 237 feet, with a solid body of ore 2½ feet in width, on the bottom, and an average of one foot west. On the fifty-foot level they are drifting west on a 2½ foot body of very rich ore, which has lately been found. The company are making their usual daily shipments of ore.

Meetings and Elections.

GREAT WESTERN QUICKSILVER M. Co.—Nov. 14. Directors—E. Green, A. W. Bowman, E. V. Joice, P. H. Kraner and R. E. Breuster.

ST. PATRICK G. M. Co.—Oct. 30 Trustees—J. W. Gashwiler, Jno. F. Boyd, J. F. Lightner, David Fay and Robert Sherwood.

A NEW AUSTRALIAN STEAM LINE.—A new line of steamers to Australia will be probably inaugursted before the end of the year. Mr. Hall, United States Consul at Sydney, who has for many years tried to establish such a line, is the promoter of the enterprise. The first steamer is to leave Sydney for this port on the 16th of December. It is intended that two others will be subsequently laid on. They will touch at Kandava, Fiji, and at Honolulu, and will, it is thought, be connected by a branch line with Auckland, New Zealand. J. C. Merrill & Co., of this city, are named as the probable San Francisco agents of the line.

AN ACCIDENT occurred on the 25th ult. on Ruby Hill, by which one man was killed and two injured. Carelessness in blasting the cause as usual.

THE past four weeks' run of the Empire (Grass Valley) was about $18,000 worth of gold.

THE smelters are again in active operation at Little Cottonwood, Utah.

A re-union of California "Forty Niners" is talked of at Carlinville, Illinois.

The Most Popular Medicine Extant.

1840. Over 30 Years, 1873.

SINCE THE INTRODUCTION OF

PERRY DAVIS'

PAIN-KILLER,

And after thirty years' trial, the "PAIN-KILLER" may justly be styled the great medicine of the world, for there is no region of the globe into which it has not found its way, and none where it has not been largely and highly prized. Moreover, there is no climate to which it has not proved itself to be well adapted for the cure of considerable variety of diseases; it is admirably suited for every race. It has lost none of its good name by repeated trials, but continues to occupy a prominent position in every medicine chest; and is still receiving the most unqualified testimonials to its virtues from persons of the highest character and responsibility. Physicians of the first respectability recommend it as a most effectual preparation for the extinction of pain. It is not only the best remedy ever known for Bruises, Cuts, Burns, etc., but for Dysentery or Cholera, or any sort of bowel complaint, it is a remedy unsurpassed for efficiency and rapidity of action. In the great cities of India and other hot climates, it has become the Standard Medicine for all such complaints, as well as for Dyspepsia, Liver Complaints, and other kindred disorders. For Coughs and Colds, Canker, Asthma, and Rheumatic difficulties, it has been proved by the most abundant and convincing testimony to be an invaluable medicine. No article ever attained such unbounded popularity. As an external and internal medicine the Pain-Killer stands unrivalled.

Thirty Years are certainly a long enough time to prove the efficiency of any medicine, and that the PAIN-KILLER is deserving of all its proprietors claim for it, is amply proved by the unparalleled popularity it has attained. It is a SURE and EFFECTIVE remedy. It is sold in almost every country in the world, and is becoming more and more popular every year. Its healing properties have been fully tested, all over the world, and it needs only to be known to be prized. Be sure you buy none but the genuine, manufactured by PERRY DAVIS & SON, Providence, R. I.

Sold by all Druggists. nov8

CHOLERA AND PAIN-KILLER.—The efficacy of Perry Davis' world-renowned Pain-Killer in all diseases of the bowels, even in that terrible scourge, the Asiatic cholera, has been amply attested by the most convincing authority. Missionaries in China and India have written home in commendation of this remedy in terms that should carry conviction to the most skeptical, while its popularity in communities nearer home is ample proof that the virtues claimed for it are real and tangible. The Pain-Killer has been before the public over THIRTY YEARS, and has won a deservedly high reputation as an alleviator of pain and a preserver of health. It has become a household remedy, from the fact that it gives immediate and permanent relief. It is a purely vegetable preparation made from the best and purest materials, safe to keep and to use in every family. It is recommended by physicians and persons of all classes, and to-day, after a public trial of over thirty years—the average life of man—it stands unrivalled and unexcelled, spreading its usefulness over the wide world. Its large and increasing sale affords positive evidence of its enduring fame. *

ASSIST NATURE IN HER EFFORTS to shake off a cough or cold, or she may revenge herself by giving up the contest. Remember that with *Hale's Honey of Horehound and Tar* for an ally, she will extinguish the worst cough in a few days. Crittenden's, 7 6th Avenue. Sold by all Druggists.

Pike's Toothache Drops cure in 1 minute. *

NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICUT MUTUAL LIFE INSURANCE Co. J. B Roberts, 316 California Street, San Francisco, is general agent for this Coast. Send to him for circulars and information of this reliable, first-class company.

CONTINENTAL LIFE INSURANCE Co., No. 302 Montgomery street, corner of Pine, San Francisco. *

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements

Buena Vista Petroleum Company.—Location of principal place of business, San Francisco, State of California. Location of works: Buena Vista, Kern county, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 26th day of September, 1873, an assessment (No. 17) of one dollar per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 430 Jackson street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 7th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on the 25th day of November, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

L. L. AGUAYO, Secretary.

Office, No. 430 Jackson street, up stairs, San Francisco, California. se27

Black Mountain Coal Mining Company—Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 6th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. no1

Cupel and Tiger Silver Mining Company—Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 25th day of October, 1873, an assessment of Twenty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Wednesday, the 26th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Saturday, the 20th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. C. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, Cal. San Francisco, October 25, 1873.

Commercial Coal Mining Company of San Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 402 Montgomery street, room No, 23, San Francisco, California.

Any stock upon which this assesement shall remain unpaid on the 17th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office—No. 402 Montgomery street, room No. 23, San Francisco, California. oc18

Equitable Tunnel and Mining Company—Principal place of business, No. 35 New Merchants' Exchange, San Francisco, Cal. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the seventh day of October, 1873, an assessment (No. 4) of ten cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the tenth day of November, 1873, will be delinquent, and advertised for sale at public auction, and, unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office—No. 35 New Merchants' Exchange, San Francisco, California. oc11

Gold Mountain Mining Company—Principal place of business, San Francisco, California. Location of works, Lower Rancheria, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 31st day of October, 1873, an assessment of 25 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at No. 116 Leidesdorff street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the Fifth day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. AUG. KNAPP, Secretary.

Office, 116 Leidesdorff street, San Francisco, Cal. no8

Cincinnati Gold and Silver Mining Company.

Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 18th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ayer, W. Trustee	56	500	$250 00
Boynton, A A W, not issued.		680	340 00
Bruce, Donald, Trustee	7	100	50 00
Bruce, Donald, Trustee	8	50	25 00
Bruce, Donald, Trustee	9	50	25 00
Bruce, Donald, Trustee	10	50	25 00
Bruce, Donald, Trustee	11	50	25 00
Bruce, Donald, Trustee	46	100	50 00
Clapp, R W	27	100	50 00
Clapp, R W	28	50	25 00
Cuthbert, Wm	12	100	50 00
Cuthbert, Wm	38	200	100 00
Gates, Geo A, Trustee	10	750	375 00
Ganz & McLaren	50	250	125 00
Ganz & McLaren	51	50	25 00
Ganz & McLaren	59	100	50 00
Ganz & McLaren	60	100	50 00
Ganz & McLaren	61	100	50 00
Ganz & McLaren	62	100	50 00
Ganz & McLaren	63	100	50 00
Ganz & McLaren	64	100	50 00
Ganz & McLaren	65	100	50 00
Ganz & McLaren	66	100	50 00
Ganz & McLaren	67	100	50 00
Ganz & McLaren	68	100	50 00
Ganz & McLaren, not issued		5	2 50
Hane, C W	52	100	50 00
Hane, C W	53	75	37 50
Hinckley, G E	36	25	12 50
Hinckley, O E	54	300	150 00
Hinckley, G E	55	25	12 50
Hudson, G B, Trustee	24	100	50 00
Hudson, G B, Trustee	42	400	200 00
Hudson, G B, Trustee	45	250	125 00
Hudson, G B, Trustee (not issued)		530	265 00
Kennedy, Frank	43	150	75 00
Penniman, Mrs M	57	50	25 00
Penniman, Mrs M	58	50	25 00
Small, W, Trustee	32	1400	700 00
Small, W, Trustee (not issued)		434	217 00
Whitney, Jacob	35	500	250 00
Woods, A	44	1000	500 00

And in accordance with law, and an order of the Board of Directors, made on the 18th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office, of the company, No. 331 Kearny street, Room No. 14, San Francisco, Cal., on the 10th day of November, 1873, at the hour of 1 P. M., of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of sale.

WM. SMALL, Secretary.

Office, 331 Kearny street, Room No. 14, San Francisco, California.

Homiguera Mining Company—Location

of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 29th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bayerque, Romain	24	100	300 00
Bayerque, Romain, Dec'd } O. Livermore and A. Borch } Executors.	38	17	51 00
Benchley & Co, L B	26	134	402 00
Benchley & Co, L B	36	24	72 00
Butterworth, S F	32	1400	4200 00
Butterworth, S F	37	245	735 00
Dauriac, Juan	20	109	327 00
Dauriac, Juan	39	19	57 00
Flint, Edward P	12	1632	4890 00
Flint, Edward P	40	285	855 00
Flint, Edward P, Trustee	29	1200	3600 00
Flint, Edward P, Trustee	41	210	630 00
Flint, Edward P, Trustee	48	4	12 00
Friedlander, J, Trustee	23	1259	3777 00
Rankin, Ira P	25	5	15 00
Rankin, Ira P	42	220	660 00
Robinson, James P	33	2000	6000 00
Robinson, James P	43	350	1050 00
Robinson, L L	27	1925	5775 00
Robinson, L L	35	340	1020 00
Robinson, L L	44	398	1194 00
Robinson, E N	34	10	30 00
Russell & Erwin Manufacturing Co	31	370	1110 00
Russell & Erwin Manufacturing Co	45	64	192 00
Smith, Hamilton, Jr	17	100	300 00
Smith, Hamilton, Jr	46	17	51 00
Vermot, Felix	21	54	162 00
Vermot, Felix	47	9	27 00

And in accordance with law and two orders of the Board of Directors, made on the 29th day of July, 1873, and on the first day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of L. L. Robinson, the President of the Company, No. 603 Washington street, corner of Montgomery street, in tha city and county of San Francisco, Cal., on Thursday, the 27th day of November, 1873, at the hour of one o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. PICHOIR, Secretary pro tem.

Office, No. 603 Washington street, San Francisco, Cal.

Hayden Hill Mining Company—Location

of works, Hayden Hill, Lassen County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 1) of Fifteen Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 331 Montgomery street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 14th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. KNIGHT, Secretary.

Office, No. 331 Montgomery street, San Francisco, Cal.

Ida and Rhoda Lewis Consolidated Mining

Company. Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 22th day of October, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 29th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Wednesday, the 24th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

O. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, Cal.

San Francisco, October 27, 1873.

Ohio Consolidated Gold Mining Company.

Principal place of business, San Francisco, California. Location of works, West Point, Calaveras County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifteen cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 116 Leidesdorff street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 15th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 8th day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Secretary.

Office—No. 116 Leidesdorff street, San Francisco, Cal.

oct8

Lady Esten Tunnel and Mining Company.

Principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors held on the 7th day of October, 1873, an assessment (No. 5) of ten cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, No. 35 New Merchants' Exchange, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 16th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the first day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California.

oct1

Lady Franklin Gold and Silver Mining

Company. Location of principal place of business, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office, No. 507 Montgomery street, San Francisco, California.

oct8

Lemon Mill and Mining Company—Principal

place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 27th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E Van Santen, Trustee	2	100	$50 00
E Van Santen, Trustee	3	100	50 00
E Van Santen, Trustee	4	100	50 00
E Van Santen, Trustee	6	100	50 00
E Van Santen, Trustee	7	100	50 00
E Van Santen, Trustee	9	8	4 00
E Van Santen, Trustee	68	100	50 00
E Van Santen, Trustee	69	100	50 00
E Van Santen, Trustee	72	102	51 00
E Van Santen, Trustee	73	10	5 00
E Van Santen, Trustee	119	364	182 00
E Van Santen, Trustee	121	100	50 00
E Van Santen, Trustee	215	190	95 00
E Van Santen, Trustee	279	190	95 00
E Van Santen, Trustee	280	1542	771 00
E Van Santen, Trustee	327	80	40 00
Camilo Martin, Trustee	172	200	100 00
Camilo Martin, Trustee	173	100	50 00
Camilo Martin, Trustee	307	632	316 00
Camilo Martin, Trustee	308	646	323 00
E Hestres	23	53	26 50
E G Lyons	24	53	26 50
H Zeitska	287	100	50 00
P Cassou	29	40	20 00
P Cassou	30	40	20 00
P Cassou	125	20	10 00
P Cassou	204	15	7 50
P Cassou	225	40	20 00
P Cassou	226	10	5 00
Paul Rousset	31	27	13 50
John Schott, Trustee	37	50	25 00
H F Kappke	43	27	13 50
John Hahn	44	20	10 00
Erhard Weissig, Trustee	50	50	25 00
Erhard Weissig, Trustee	229	10	5 00
Erhard Weissig, Trustee	230	38	19 00
Erhard Weissig, Trustee	237	11	5 50
Erhard Weissig, Trustee	238	6	3 00
Erhard Weissig, Trustee	239	20	10 00
Erhard Weissig, Trustee	240	10	5 00
Erhard Weissig, Trustee	241	20	10 00
Erhard Weissig, Trustee	242	62	31 00
Erhard Weissig, Trustee	250	50	25 00
Erhard Weissig, Trustee	255	25	12 50
Erhard Weissig, Trustee	256	10	5 00
Erhard Weissig, Trustee	258	3	1 50
Theo Le Roy	52	25	13 00
L Ponton de Arce, Trustee	54	50	25 00
N Duckel	62	24	12 00
J M Bricland	330	200	100 00
J M Bricland	331	250	125 00
T J Stack	66	50	25 00
T J Stack	67	50	25 00
T J Stack	234	100	50 00
A E Lelievre	76	200	100 00
L Scellier	77	53	26 50
N Gaxiola	81	53	26 50
N Gaxiola	82	50	25 00
Jas Thos Boyd	80	20	10 00
Jas Thos Boyd	87	20	10 00
Jas Thos Boyd	88	13	6 50
B Messolle	326	10	5 00
Edwin Goodall	97	25	12 50
W H Richardson	101	100	50 00
H H Noble, Trustee	110	53	26 50
H H Noble, Trustee	274	50	25 00
John Fay, Trustee	113	200	100 00
John Fay, Trustee	114	200	100 00
John Fay, Trustee	115	200	100 00
John Fay, Trustee	116	200	100 00
John Fay, Trustee	117	200	100 00
H H Schafer, Trustee	205	50	25 00
H H Schafer, Trustee	206	50	25 00
H H Schafer, Trustee	207	50	25 00
H H Schafer, Trustee	218	25	12 50
H H Schafer, Trustee	219	25	12 50
H H Schafer, Trustee	269	100	50 00
H H Schafer, Trustee	270	50	25 00
H H Schafer, Trustee	271	100	50 00
H H Schafer, Trustee	272	100	50 00
H H Schafer, Trustee	273	100	50 00
H H Schafer, Trustee	328	25	12 50
H H Schafer, Trustee	329	131	65 50
H H Schafer	139	200	100 00
H H Schafer	140	200	100 00
Henry Steinegger	151	40	20 00
Carl Keller	156	10	5 00
Andrew J McCovern	163	50	25 00
Edouard Cunin	170	182	91 000
Ed Richard	178	210	105 00
Ed Richard	179	100	80 00
E A Richardson, Trustee	181	100	50 00
E A Richardson, Trustee	182	100	50 00
E A Richardson, Trustee	183	100	50 00
E A Richardson, Trustee	184	100	50 00
E A Richardson, Trustee	185	100	50 00
E. A. Richardson, Trustee	253	400	200 00
John C. Benz	190	12	5 00
J. O. Bollinger	297	50	25 00
G. Almada	196	5	2 50
F. W. Lougee	197	53	26 50
G. Beer	203	54	27 00
Elizabeth School, Trustee	210	20	10 00
Ellen J. Hyde, Trustee	211	10	5 00
Ellen J. Hyde, Trustee	213	10	5 00
Georgia School	214	10	5 00
John W. Kohler	227	50	25 00
John W. Kohler	294	50	25 00
John W. Kobler	295	100	50 00
B. Herlugbl, Trustee	228	25	12 50
B. Herlngbl, Trustee	245	25	12 50
B. Herlugbl, Trustee	286	56	28 00
B. Herlngbl, Trustee	289	41	20 50
B. Herlngbl, Trustee	290	22	11 00
G. M. Johnson	231	30	15 00
D. W. Davies, Trustee	246	10	5 00
D. W. Davies, Trustee	247	10	5 00
D W. Davies Trustee	264	15	7 50
Clement Smith	309	10	5 00
F. J. Thibault, Trustee	Not Issued	53	26 50

And in accordance with law, and an order of the Board of Directors, made on the 27th day of September, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public Auction at the office of the Company, No. 608 Merchant street, San Francisco, California, on Monday, the 24th day of November, 1873, at hour of 12 o'clock M., of said day, to pay said Delinquent Assessment thereon, together with costs of advertising and expenses of the sale.

I. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal.

Phenix Tunnel and Mining Company----

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 29th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buell, Chas S	567	50	$10 00
Cooper, H F	569	50	10 00
Esten, John	610	100	20 00
Esten, John	623	20	4 00
Esten, John	624	20	4 00
Esten, John	625	20	4 00
Higgins, James S	108	25	5 00
Hix, Jennie	575	50	10 00
Lapham, Mrs. Nellie	560	25	5 00
Long, George R	554	25	5 00
Santiff, Nicolas	577	50	10 00
Smith, R	590	30	6 00
Stege, John R	590	50	10 00
Werdor, Max J	558	25	5 00
Westover, Channing	206	100	20 00
Westover, Channing	207	100	20 00
Wheeler, Elizabeth	564	160	32 00
Wheaton, H B	561	12	2 40

And in accordance with law, and an order of the Board of Directors, made on the 29th day of September, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, No. 35 New Merchants' Exchenge, San Francisco, Cal., on Thursday, the Twentieth day of November, 1873, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchauts' Exchange, San Francisco Cal.

nov 8

Revenue Cons. Silver Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th day of October, 1873, an assessment, (No. 1) of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary at the office of the company, room No. 1, 113 Leidesdorff street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 12th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 10th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

R. H. HARNEY, Secretary.

Office—Room No. 1, 113 Leidesdorff street, San Francisco, California

oct8

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 27th day of October, 1873, an assessment (No. 5) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary. Any stock upon which this assessment shall remain unpaid on the 29th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 22d day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

C. M. GOFFINEY, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, Cal.

nov 1

Silver Wave Mining Company—Principal

place of business, San Francisco, Cal. Location of works, White Pine Mining District, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 11) levied on the 20th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Crocker, J H, Trustee	475	20	$8 00
Crocker, J H, Trustee	540	300	120 00
Gates, William, Trustee	528	50	20 00
Kent, R T, Trustee	534	50	20 00
Marcucci, D	542	500	200 00
Richardson, E A, Trustee	427	30	12 00
Richardson, E A, Trustee	445	20	8 00
Richardson, E A, Trustee	536	250	100 00
Stevens, T H, Trustee	530	5	2 00
Stevens, T H, Trustee	531	3	1 20
Thompson, M, Trustee	538	50	20 00
Thompson, M, Trustee	539	180	72 00

And in accordance with law, and an order of the Board of Directors, made on the 20th day of September, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, on Tuesday, the 25th day of November, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

J. W. CLARK, Secretary.

Office, 418 California street, San Francisco, Cal.

n8

Southern Pacific Consolidated Gold Mining

Company—Principal place of business, San Francisco, California. Location of works, Kern County California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Dan H Bibb	17	100	$10 00
A O Thoms	21	228	22 80
J N Risdon	22	200	20 00
W F Golden	24	457	45 70
E T Carrigue	25	100	10 00
K S Howkling	26	457	45 70
H W Byington	27	228	22 80
Louis Pierson	28	228	22 80
W W Moore	35	100	10 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the company, room No. 12, Express Building, San Francisco, California, on Tuesday, the Twenty-fifth day of November, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessmsnt thereon, together with costs of advertising and expenses of sale.

O. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California.

no8

State of Maine Mill and Mining Company—

Principal place of business, San Francisco, Cal. Location of works, Amador County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the First day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, James M, Trustee	78	100	$5 00
Beach, H H	3	1000	50 00
Beach, H H	18	1000	50 00
Beach, Mrs Ella	23	400	20 00
Burr, Platt, Trustee	52	20	1 00
Burr, Platt, Trustee	57	50	2 50
Congdon, H B	37	100	5 00
Congdon, H B, Trustee	40	500	25 00
Congdon, H B, Trustee	62	100	5 00
Congdon, H B, Trustee	63	100	5 00
Congdon, H B, Trustee	64	100	5 00
Congdon, H B, Trustee	65	100	5 00
Congdon, H B, Trustee	66	100	5 00
Congdon, H B, Trustee	67	100	5 00
Congdon, H B, Trustee	68	100	5 00
Congdon, H B, Trustee	69	100	5 00
Congdon, H B, Trustee	70	100	5 00
Congdon, H B, Trustee	71	100	5 00
Congdon, H B, Trustee	81	100	5 00
Congdon, H B, Trustee	82	100	5 00
Congdon, H B, Trustee	87	3600	180 00
Faulkner, Wm, Trustee	94	406	23 30
Faulkner, O P	96	200	10 00
Higgins, V H	4	1000	50 00
King, James, L	99	2000	100 00
Irelan, Wm	86	100	5 00
Morse, A O, Trustee	42	500	25 00
Morse, A O, Trustee	43	500	25 00
Morris, Wm Mc	93	1400	70 00
Tilley, Charles B	1	1534	81 70
Tilley, W J	61	1000	50 00
Tower, L N	28	100	5 00

And in accordance with law, and an order of the Board of Directors, made on the 31st day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the auction sales rooms of John Middleton & Sons, No. 310 Montgomery street, San Francisco, Cal., on Monday, the 24th day of November, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office, 306 Montgomery street, San Francisco, Cal.

San Francisco Co-operative Land and

Building Association. Office and principal place of business, 306 Montgomery street, San Francisco, Cal.

Notice is hereby given that all installments due on investing shares in the San Francisco Co operative Land and Building Association, up to, and including those for the current month of September, 1873, are hereby called in and payment thereof demanded. All shares delinquent at the expiration of thirty days from this date, will be declared forfeited by the Board of Directors, and advertised for sale to pay such delinquent installments due thereon, together with fines and charges and expenses of sale.

By order of the Board of Directors.

H. B. CONGDON, Secretary.

San Francisco, September 20, 1873.

se20-1m

Thompson Coal Mining Company—Principal

place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capitol stock of the corporation payable immediately in United States gold coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 21st day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, California.

no1

Virginia Consolidated Mining Company.

Principal place of business, San Francisco, State of California. Location of works, Parsarage Mining District Inyo county, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of October, 1873, an assessment of five cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretory at the office of the Company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street, (Room, No. 13,) San Francisco.

oct8

Umpire Tunnel and Mining Company—

Principal place of business, No. 230 Kearny street, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of October, 1873, an assessment (No. 2) of Six Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States currency, to the Secretary, at the office of the company, No. 230 Kearny street, San Francisco, California, or to W. A. Beel, President.

Any stock upon which this assessment shall remain unpaid on the 24th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

Wyoming Gold Mining Company—Location

of Principal Place of Business, San Francisco, California. Location of Works, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 15th day of September, 1873, an assessment of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the eighteenth day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the eight day of December, 1873, at 1 o'clock P. M., to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. QUINN, Secretary.

Office, 410 Montgomery street, San Francisco, California.

Washington Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Mariposa County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 30th day of October, 1873, an assessment of One Dollar per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 318 California street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 8th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 31st day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, Room No. 13, No. 318 California street, San Francisco, Cal.

no8

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

SAN FRANCISCO

IRA P. RANKIN, A. P. BRAYTON,
GEO. W. FOGG, Superintendent.

Steam Engines and Boilers,

MARINE AND STATIONARY,

IRON AND BRASS CASTINGS

Mining Machinsry of Evsry Dsscription,

And all other classes of work generally done at first-class establishments, manufactured hy us at the lowest prices, and of the best quality.

☞ Particular attention paid to Johhing Work and Repairs.

N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

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FULTON

Foundry and Iron Works.

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MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

ayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

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THE RISDON

Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1863.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

Directors:

Joseph Moore, Jesse Holladay, C. E. McLane,
Wm. Norris, Wm. H. Taylor, J. B. Haggin,
James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary

24v17-qy

UNION IRON WORKS,

Sacramento.

ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

Front Street, between N and O streets,

SACRAMENTO CITY.

PACIFIC

Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY, P. O. box 2032, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

CO-OPERATIVE,

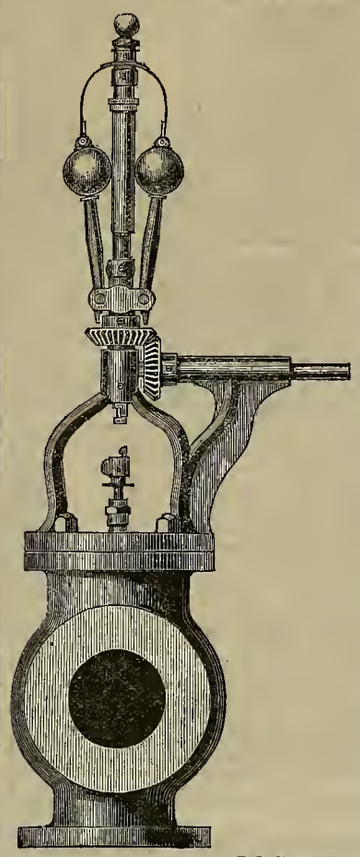
First Street, bet. Howard and Folsom, SAN FRANCISCO

Machinery and Castings of all kinds.

HENDY'S

IMPROVED STEAM ENGINE REGULATOR.

OVER 400 HAVE BEEN PUT IN USE.



RECOMMENDATION.

ST. PATRICK MILL, Placer Co., Feb. 10, 1873.

JOSHUA HENDY, ESQ., SAN FRANCISCO:

Dear Sir: We, the undersigned, take pleasure in giving you the following testimonial as to the merits of the Hendy Governor, which we ordered from you about four months ago. Though more than pleased with its workings at first, we deferred writing until we had tested it thoroughly.

Our engine is 12x36 (carrying 70 lbs. of steam), driving 15 stamps, 725 lbs. each; 1 Wheeler Pan, 1 Knox Pan, 6 Hendy Concentrators. The discarded Governor was the common "Arm and Ball Governor;" it giving but poor satisfaction, we decided to try the "HENDY," and are pleased to report in its favor for the following reasons:

1st. IT SAVES US FUEL. Previous to attaching your Governor we were burning 3¼ cords of wood per 24 hours. We now consume but 2½ cords doing the same work.

2d. FOR SAFETY. The "trip" saved us from an expensive smash up but a few days ago, during the temporary absence of our engineer. The Governor belt run off the Pulleys. Your little automatic trip worked like a charm, and but one or two revolutions was the result, and no damage. Had we been using any other Governor, the probability is that we would not have had a whole cam in the mill.

3d. IT IS A PERFECT GOVERNOR. We can turn off the Wheeler Pan and hang up one-third of our stamps, without any perceptible change in speed.

4th. THE ADJUSTMENT for regulating the speed without increasing or reducing the size of our Governor pulley, is admirable, and as easily managed as setting a clock.

5th. IT IS SIMPLE and not liable to get out of order, or requiring more than ordinary care.

Yours respectfully,

JAS. H. OROSSMAN, Supt.
GEO. H. BARNEY, Chief Eng'r.

REFERENCES:

Rhode Island Mill, Crown Point M. Co., Gold Hill, Nev.
Eureka M. Co., Ovorman M. Co., Virginia City, Nev.
Camp Floyd M. Co., Utah S. M. Co., Utah.
Falk & Miner, Eureka; J. M. Brown, Hollister; Gazos Mill, Pescadero, Cal.
Also, Bancroft & Co.; Yolo Mills; The Union, Golden Gate, Ætna and Fulton Iron Works, of this city.

All Governors Tested, the Number Revolutions Marked on the Cross-Head, and Warranted Perfectly Reliable.

JOSHUA HENDY,

No. 32 Fremont Street.....SAN FRANCISCO.

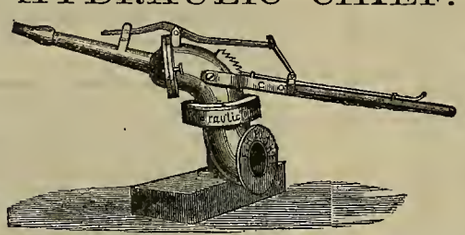
PATENT ORE AMALGAMATORS AND CONCENTRATORS,

Circular Saw Mills. Steam Engine Governors.

Send for Descriptive Circular. foh22-1am-tf

HYDRAULIC CHIEF.

FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26-3m

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CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINOWELL.

☞ BUY BARBER'S BIT BRACE. ☜

SACRAMENTO FOUNDRY,

N. E. corner N and Front streets.....SACRAMENTO,

Steam Engines—all Kinds of Mining Machinery.

SHIP, AGRICULTURAL, STOVE, RANGE AND HOUSE CASTINGS.

Iron Railings and Ornamental Work of every description

At the Lowest Rates.

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THOMPSON BROTHERS,

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129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

Machinery.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rico's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

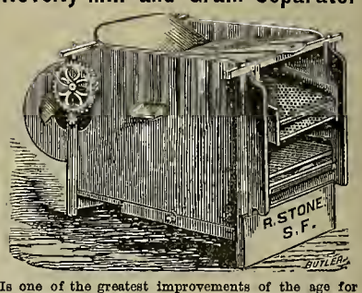
For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

THE PATENT

Novelty Mill and Grain Separator



Is one of the greatest improvements of the age for cleaning and separating grain, while it combines all the essential qualities of a First-class Fanning Mill. It also far excels anything that has been invented for the separation of grain. It has been thoroughly tested on all the different kinds of Mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

For further information apply to

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3v6-3m-eowhp 422 Battery street, San Francisco.

CROCKER'S PATENT

TRIP HAMMER QUARTZ BATTERY.

This machine, complete, weighs 1,500 lbs. Has an iron frame, five steel arms with stamps weighing 17 lbs. each, which strike 200 blows per minute, in a mortar provided with screens on both sides, and crushes FINE 600 lbs. per hour, requiring one-horse power to drive it. Has been thoroughly tested, and is guaranteed to give good satisfaction. PRICE, $500.

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STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices at

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The New Wilson SEWING MACHINE

Has points of superiority over all others. A reliable warranty is given with each machine for

FIVE YEARS.

It is unequaled for light and heavy work. Examine and compare it with the highest priced machine in the market

G. A. NORTON, Gen. Ag't for the Pacific Coast.
337 Kearny St., S. F.

PRICE, $50. 12v27eow-bp-1y

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

Friel's Patent Paragon Vapor Stove.

PATENT GRANTED MAY 20, 1873.

The Great Labor Saver of the Household.

ECONOMY, CONVENIENCE AND SAFETY COMBINED.

JUST THINK OF IT—No Wood, no Coal, no Coal Gas, no Stove Pipe, no Chimney, no Smoke, no Ashes, no Dirt, no Wood Boxes, no Coal Scuttles, no Kindling Wood, but a Friction Match, and the

Fire in Full Blast in Half a Minute!

OVEN HOT IN TWO MINUTES.

Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment And the house unheated!

It has no rival in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it; a little Child can operate it, and

All Recommend It.

Prices from $5 to $25, according to size. Manufactured and sold by

WM. FRIEL,
69 and 71 Fourth street, San Francisco.

N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will be sent as sample. 22v23-2amly

PACIFIC LAMP MANUFACTORY.

EMILE BOESCH,
Patentee and Manufacturer of
LAMPS, LANTERNS AND REFLECTORS.
802 MONTGOMERY STREET, SAN FRANCISCO.

The patent head light represented by this cut is the best and cheapest in the market. We keep constantly on hand the 16-inch, price $34, and the 20-inch, price $36. The two burners, and focus with reflecting reflector, price $15. Each burner consumes only 1 gallon coal oil in 10 hours, no odor heating, and a steady light in any place. We also keep on hand the Patent Central Mill Light, with arched roof and reflector, either square or tapering toward the bottom, which prevents oxidation. Engraved and covered with a composition which prevents oxidation.

New Mining & Mill Lights.

MANUFACTORY,
N. E. corner Montgomery and Jackson sts.,
San Francisco, Cal.
21v5-eow-3m

Murtha's Patent Chimney Tops
OR VENTILATORS.

A sure cure for smoky chimneys, and WARRANTED to give entire satisfaction when all others fail, or no pay. They are made to fit any size flue.

COUNTRY RESIDENTS, by sending the measure of the chimney flue, can have them sent to any part of the State.

Refers by permission to Supt. New Almaden Mine, W. T. Garratt; Wm. McKibbin, Thos. Boyce, Jas. Dows, J. Bandmann, and HUNDREDS OF OTHERS.

☞ Send for Price List.

RECOMMENDED BY ARCHITECTS GENERALLY.

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No. 16 Tyler street, San Francisco.
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AVERILL'S

CHEMICAL PAINT

Of any desired Shade or Color,

Mixed ready for application, and sold by the gallon

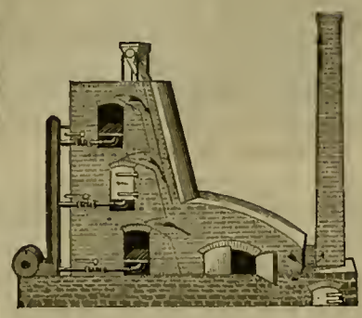
It is Cheaper, Handsomer, more Durable and Elastic than the best of any other Paint.

Office, corner Fourth and Townsend streets, San Francisco. Send for sample card and price list.

16v23-3meowhp HEALY & JEWELL, Agents.

Metallurgy and Ores.

EAGLE IMPROVED CHLORINIZING FURNACE.



For Chlorinizing and Desulphurizing

ALL GOLD AND SILVER ORES SUBJECTED TO AMALGAMATION.

In order to supply the growing demand for cheaper and better processes to work the gold and silver ores of the Pacific Coast, the Inventor of this novel Furnace, Mr. THOMAS McGLEW, has, after long experience in treating the base ores by the most improved methods, discovered a more simple and cheaper process than those now in use for roasting ores, and has full confidence in its superior merits over any other processes hitherto invented for chlorinizing ores for amalgamation.

The claims of the inventor are—

Cheapness in building, cheapness in running, and simplicity of construction—the entire cost not exceeding $3,000.

It is the only Furnace for chlorinizing or desulphurizing where the heat can be regulated to suit all kinds of ores.

Parties wishing circulars and further information in regard to this Roasting Furnace can obtain it by addressing the undersigned at Austin, Nevada.

THOS. McGLEW & CO.
Austin, Nev., July 15, 1873. 6v27-tf

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,
Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS
—AND—
Chemical Apparatus,

Having been engaged in furnishing these supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS,
655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

CONSIGNMENTS OF GOODS.

4v16-3m

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,
(Opposite the U.S. Branch Mint
SAN FRANCISCO CAL. 7v21-3m

G. W. STRONG. W. L. STRONG.

C. W. STRONG & CO., Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setters for themselves, at the office, 229 Fremont Street,
San Francisco

Nevada Metallurgical Works,

21 First street.....San Francisco.

Ores worked by any process,
Ores sampled.
Assaying in all its branches.
Analysis of Ores, Minerals, Waters, etc.
Plans furnished for the most suitable process for Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

E. N. RIOTTE,
C. A. LUCKHARDT,
Mining Engineers and Metallurgists.

KROM'S DRY ORE CONCENTRATOR

Separates the METALLIC ore from the BARREN gangue by means of AIR instead of WATER. Cost nominal; concentration perfect. Every miner and business man interested in this invention, which renders the working of low grade and "rebellious" ores PROFITABLE. The machine is in operation daily between 10 and 1, at 105 First street.

For information and pamphlets address

W. H. STERLING, M. D.,
Corner Taylor and Vallejo,
FRANK MOYER,
oc25tf 137 Third street, San Francisco.

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation, Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 2v26-1y

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,

San Francisco.

COPPER ORES.

The undersigned, agent of Messrs. POPE, COLE & Co., proprietors of the Baltimore Copper Works, purchases for cash all grades of Copper Ore above 16 per cent, paying the full value of same in Baltimore less Freight, Insurance, Interest and Commission.

HORACE D. RANLETT,
16v27 218 California st., San Francisco.
P. O. Box 2045.

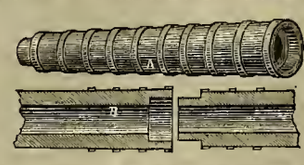
ORE BAGS FOR SALE

IN QUANTITIES TO SUIT.
Apply to
CROSS & CO.,
stf 316 California street, San Francisco.

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.
For all Laboratory and Manufacturing Purposes
H. M RAYNOR,
25 Bond street, New York.
Platinum Scrap and Ore purchased.

SOMETHING NEW.



Wooden Pipe of all Sizes.

From one to twelve-inch bore, suitable for water or gas, that will stand as much pressure and last as long as iron, for half the cost.

Send for descriptive catalogue and price list to

H. F. WILLIAMS,
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JOS. THORNHILL, 1612 Mason Street, near Green. C. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

The California Powder Works

No. 314 CALIFORNIA STREET.

SAN FRANCISCO.

Manufacturers and have constant on hand

SPORTING,
MINING,
And BLASTING

POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

BURLEIGH

ROCK DRILLS

—AND—

Air Compressors.

The Burleigh Rock Drills, which have stood the test of five years' constant use at the Hoosac Tunnel, and which are now in use in nearly every State in the Union, as well as in Europe and South America, are unequaled in efficiency and economy by any other Drilling Machine. They are of various sizes, and equally well adapted to Tunneling, Shafting, Open Cut or Quarrying, and will drill six to ten inches per minute in granite. They are driven by steam above ground. The Burleigh Air Compressor is the best engine yet devised for furnishing the "air motor" for the many purposes to which it is now being used.

They are to be used on the St. Gothard Tunnel, Switzerland; Tunnel 13 miles long. We refer to the following gentlemen and works:

Gen. Newton, U. S. A.....Hell Gate Tunnel, L. I.
Mess. Shanley.....Hoosac Tunnel, Mass.
J. Dutton Steele.....Nesquehoning Tunnel, Pa.
Sidney Dillon.....Fourth Avenue Work, N. Y.
Col. Roehling .....East River Bridge Company, N. Y.

For further information, etc., address

L. C. PARKE,
VIRGINIA CITY, NEVADA.
AGENT FOR THE PACIFIC COAST. f15

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

Gravel Claims and Hydraulic Mining.

Special attention given to the development of this important interest in California.

SURVEYS AND REPORTS MADE—COMPANIES ORGANIZED.

Mills, Mines, Mining Machinery, Wood and Timber Lands.

REAL ESTATE BUSINESS OPPORTUNITIES.

Best of References.

W. B. SKELLENGER,
No. 422 Montgomery street, San Francisco.
13v27-3m

Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND-POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices. Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

A. J. SEVERANCE & CO.
Office, No. 315 California street, Rooms 16 and 17.
24v26-tf

THOMAS DAY,

Importer and Dealer in

GAS FIXTURES.

All sizes of Iron Pipe, plain and galvanized, with cocks elbows, tees, etc., for same.

PLUMBERS' GOODS.

Bibbs, Plated Basin Cocks, Copper Boilers, Bath Tubs, Lead Pipe, Carr's and Smith's Patent WATER CLOSETS, Wash Basins and Closet Bowls, singly or by the crate,

As Low as any House in the City.

732 MONTGOMERY STREET.....SAN FRANCISCO.

N. B.—Show Room for Gas Fixtures, 335 Pine street, near Montgomery, where will be found the largest assortment of GAS FIXTURES in the city. 12v27-2m

GENERAL MERCHANDISE.

WEDNESDAY NOON, Nov. 5, 1873.

There has been considerable activity in prices, and sales of California Mustard, now coming in, have been large. Bags are quiet, with no anticipation of a rise, as the excessive stocks on hand cannot possibly be exhausted this year. Holders have made up their minds to the necessity of carrying their stocks over till next season. The buoyant tendency of Syrups continues, and quotations show a strong marke t.

BAGS,			
Eng. stand. Wh't	12	@	13
Detrick's Mach e Sewed, 22 x 36,	—	@	
Gilroy 1s..	12	@	13½
do, 22x36, do W	12½	@	
do, 22x40, do...	14½	@	15
do, 23x40...	—	@	15
do, 24x40.....	15	@	16
Flour Sacks ½s..	13	@	16
" " ¼s.	8½	@	9½
Stand. Gunnies..	20	@	22
" Wool Sacks.	—	@	60
" Barley do...	—	@	14½
Hessian 15-in.gds	—	@	11½
do 80	—	@	17
Burlaps, yard....	—	@	10¾
CANNED GOODS.			
Asst'd Pie Fruits in 2¾ ℔ cans. 3 25	@		—
do Table do...	—	@	2 75
Jams & Jellies 4 00	@		4 50
Pickles ½ gl..	@		3 50
Sardines, qr box2 42½	@		3 45
do hf boxes.3 70	@		3 85
COAL—Jobbing.			
Australian, ℔ ton 9 25	@		9 50
Coos Bay.....	—	@	10
Bellham Bay....	8	@	8 50
Seattle.....	—	@	11
Oumherl'd, cks..	—	@	—
do bulk...21 50	@		25 00
Mt. Diablo.....6 25	@		8 25
Lehigh.....	—	@	15
Liverpool.....11 00	@		12 —
West Hartley....12 00	@		14 —
Scotch.....10 00	@		11 —
Scranton.....10 00	@		—
Vancouver's Isl..12 00	@		14 —
Charcoal, ℔ bk..	75	@	—
COFFEE.			
Sandwich Island	19½	@	—
Costa Rica per lb	22	@	—
Gnatemala.....	21	@	22
Java.....	—	@	26
Manilla.....	19	@	26
Ground in cs....	25	@	27
Chicory.....	10	@	—
FISH.			
Pac. Dry Cod, new	—	@	7¼
cases.....	8	@	8½
Eastern Cod....	8	@	9
Salmon in bble..8 00	@	9 00	
do ½ bbls 5 00	@	5 50	
do 2½ ℔ cans	—	@	—
do 2lb cans..2 80	@	3 00	
do 1lb cans..2 25	@	—	
Do Col. R. ½ lb..	—	@	—
Pick. Cod, bbls..22 00	@	—	
do ½ bbls11 00	@	—	
Bos. Sm'k'd Her'g 40	@	50	
Mack'l, No.1, ½ bbls	11	—	@12 —
" Extra....	—	@	12 50
" in kits....2 15	@	3 00	
" Ex mess. 3 50	@	4 00	
" Ex mess. ½ bs—	@	13 00	
Sm'k Herr'g, bx.	40	@	50
NAILS.			
Assorted size, ℔ b.	5	@	7
NAVAL STORES.			
Tar & Pitch, ℔ lb	7	@	8
Oakum pr bale 50lb	4	@	4 50
Rosin.....	6 00	@	6 50
Anchors.....	8	@	8½
Chains.....	7	@	7½
OILS.			
Pacific Glue Co. Neat Ft No. 1.	—	@	1 00
Pure.....	1 25	@	—
Castor Oil, No. 1..1 40	@	1 45	
do do No. 2..1 25	@	1 35	
Cocoanut.....	55	@	60
Olive Flagniol..5 00	@	—	
do Possal....4 75	@	—	
Palm.....	9	@	—
do Bagicalnpi.	@	—	
Linseed, raw...1 00	@	1 05	
do boiled.....1 05	@	1 10	
China nut oils..	—	@	80
Sperm, crude...	—	@	1 40
do bleached...	—	@	2 20
Coast Whales...	40	@	45
Polar, refined....	55	@	70
Lard.....	85	@	95
Coal, refined Pet	37½	@	40
Gleophima.....	30	@	34
Davoe's Bril't...	43	@	45
Long Island.....	—	@	34
Eureka.....	37½	@	40
Davoe's Petro'm	37	@	39
Barrel kerosene	30	@	—
Downer Kerose'e	50	@	52½
Gas Light Oil....	—	@	34
PAINTS.			
Atlan. W. Lead.	11½	@	12
Whiting.....	1½	@	1¾
Putty	—	@	4
Chalk.....	—	@	1
Paris White....	2½	@	—
Ochre.....	2½	@	3
Venetian Red....	3	@	3½
Red Lead.....	10½	@	11
Litharge.....	10	@	11
RICE.			
China No. 1, ℔ lb	5½	@	6¼
do 2, do.	5	@	5½
Japan.....	6	@	7½
Siam Cleaned..	7	@	—
Patna.....	7	@	—
Hawaiian.....	6	@	7
Carolina.....	10	@	10½
SALT.			
Cal. Bay, per ton.12 00	@	15 —	
do Common... 5 00	@	6 00	
Mexican.....14 00	@	15 00	
Carmen Island..14 00	@	20 —	
Liverpool fine..20 00	@	22 00	
do coarse18 00	@	19 00	
SOAP.			
Castile ℔ b....	10½	@	11
Local brands...	—	@	9
SPICES.			
Allspice, per lb..	15	@	16
Cloves.....	37½	@	40
Cassia.....	—	@	24
Nutmegs.....	1 07	@	1 10
Whole Pepper...	25	@	26
Pimento.....	—	@	15
Gr'nd Allsp'c prdz	—	@	1 00
do Cassia do..	—	@	1 50
do Cloves do..	—	@	1 25
do Mustard do	—	@	1 50
do Ginger do..	—	@	1 00
do Pepper do..	—	@	1 25
do Mace do...1 20	@	1 30	
SUGAR, ETC.			
Cal. Cnbe per lb..	11	@	—
Circle A crushed	11	@	—
Powdered.....	—	@	11¼
Dry granulated	10½	@	11
Extra do.....	10½	@	—
Hawaiian.....	7¼	@	9½
California Beet.	10	@	11
Golden C.....	9½	@	—
do Rey'g grade	7	@	—
Cal. Syrup in bls.	—	@	37½
do in ½ hls.	—	@	40
do in kegs..	—	@	45
do Hawaiian..	20	@	22½
TEA.			
Oolong, Canton, lb	19	@	25
do Amoy..	28	@	50
do Formosa	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	80
do Moyune..	60	@	1 00
Gunpowder, Cant.	30	@	42½
do Pingsuey	50	@	90
do Moyune.	65	@	1 25
Yung Hy, Canton	28	@	40
do Pingsuey	40	@	70
do Moyuna..	65	@	85
Japan, ½ chests, bulk.....	30	@	75
Japan, lacquered bxs, and 5 lbs	45	@	67
Japan do, 3 lb bxs	45	@	90
do pl'n bx, 4½ lb	35	@	65
do ¼ & 1 lb paper	30	@	55
TOBACCO—Jobbing.			
Bright Navys....	50	@	80
Dark do	45	@	50
Dwarf Twist....	57	@	62½
12 inch do	57	@	62½
Light Pressed...	70	@	75
Hard do do	60	@	70
Conn. Wrap'r....	40	@	50
Penn. Wrapper..	35	@	45
Ohio do do	30	@	40
Virgi'a Smok'g..	60	@	95
Fine ct che'g, gr..8 50	@	9 25	
Fina cut chewing, bue'ts, ℔ lb..75	@	90	
Banner fine cut..8 75	@	9 25	
Eureka Cala....8 00	@	8 50	
TURPENTINE.			
Eastern.....	67½	@	70

San Francisco Metal Market.

WEDNESDAY, M., Nov. 5, 1873.

The exportation of American Iron to Great Britain, and the expected driving of English metal from the markets of North America, turn out to have been a little premature. There is no doubt that the shapes of Iron trade has changed, but the time has hardly come for a general export of American Iron. Still, the fact that cargoes have been sent to England, though trifling in amount, is not without significance, and is made a matter of grave consideration by English iron masters. Quicksilver has been sold in New York for $1.15 ℔ lb; is steady here. Our local metal market is quiet. Quotations are as follows:

IRON.—			
Scotch Pig Iron, ℔ ton	$52 50	@	— —
White Pig, ℔ ton	52 50	@	— —
Refined Bar, bad assortment, ℔ lb	— —	@	— 3¾
Refinad Bar, good assortment, ℔ lb	— —	@	— 4
Boiler, No. 1 to 4	— —	@	— —
Plate, No. 5 to 8	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 6	@	— 7
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 6	@	— —
Other Irons for Blacksmiths, Miners, etc.	— 5	@	— —
COPPER.—			
Braziers	— 35	@	— 38
Copper Tin'd	— 50	@	— —
O.Nail's Pat...	— 55	@	— —
Sheathing, ℔ lb	— —	@	— 25
Sheatbing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ℔ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ℔ lb	40	@	42½
STEEL.—English Cast, ℔ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
ZINC.	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5¾	@	— 8
QUICKSILVER, per lb	— —	@	— 1 10

MISCELLANEOUS.

(RETAIL.)

Corrected weekly by B. SBARBORO & BRO., Grocers, No. 53 Washington street, San Francisco. 1

We chronicle no changes in this department. Flour and Dairy Produce, the most changeable of all articles quoted, have for a wonder remained stationary one week.

Butter, Oal. ch'ice	40	@	45
do common....	37½	@	40
Cheese, Cal., lb..	15	@	20
Lard. Cal., lb..	12½	@	15
Flour, ex. fam. bl	6 75	@	7 00
Corn Meal, lb....	2½	@	3
Sugar, w. crush'd	11½	@	12
do 1st brown, lb	10	@	11
Coffee, Sharboro's family gr'nd, lb	—	@	27½
Coffee, green, lb..	22½	@	23
Tea, fine blk, 50, 55, 75	@	1 00	
Tea, finst Jap, 55, 75, 90	@	1 00	
Candles, Admant'e	17	@	25
Soap, Cal., lb....	@	10	
Oat'l Oysters, dz.	2 50	@	3 75
Syrup, S F. Gol'n.	45	@	50
Dried Apples....	10	@	12½
D'd Peaches, Prunes	10	@	12½
D'd Figs, Cal....	9	@	10
D'd Penches....	8	@	10
Oils, Kerosene ..	40	@	45
Eggs.....	30	@	55
do Eastern....	25	@	30
Wines, Old Port	3 50	@	5 00
do Fr. Claret..	1 00	@	1 25
do Cal. dz. hot	3 00	@	4 50
Whisky, O.S. gal	3 50	@	3 00
Fr. Brandy	4 00	@	10 00
Rice, lb.....	10	@	12½
Yeast Powders, dz.	1 50	@	2 00

—* Per lb †Per dozen. ¶ Per gallon.

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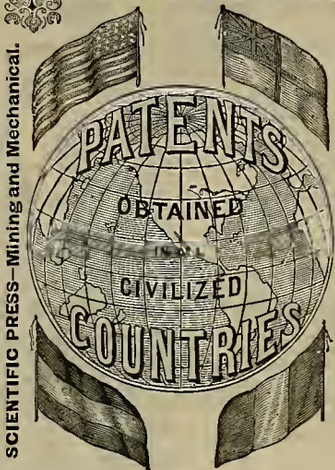

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THE NEW U. S. MINING LAWS.

The new Laws of 1872, governing the location and purchase of Placer and Quartz Mines and Agricultural Lands in Mining Districts of the U. S., printed in circular sheet, for sale at this office. Single copies, 26 cts.

PLANTATION FARM FOR SALE.

TITLE—UNITED STATES AND STATE PATENTS, issued and upon record—embracing 431 92-100 acres of as fertile soil as there is in the or any other State in the Union, and has been demonstrated by actual cultivation to be most admirably adapted for the culture of Tobacco, Cotton, Alfalfa, Sweet Potatoes, Asparagus, Early Corn, Fruits, and every known species of early and late Garden Vegetables are produced from this soil in extravagant abundance. Four crops of Alfalfa, averaging nine tons to the acre, are cut each year. The fruits, in quality, size and abundance, are second to none in any country, and consist of 30 acres of vines of the choicest selections and varieties of Grapes, with an orchard, bearing profusely, early and late Apples, Pears, Peaches, Plums, Apricots, Figs, Prunes, Quinces, Cherries, and some tropical fruits. Two hundred acres of the plantation are under cultivation, as above indicated, and upon which all the improvements in buildings are located, which consist of a good House, Barn, Stables, Wine House and Cellar, Blacksmith and Tool Shop, and other buildings for tenants and laborers. Around and about the house are the very largest old Oaks, Lombardy Poplar and other species of Shade and Ornamental Trees, together with every variety of tropical and native Flowers and Shrubbery. The balance of the acreage has not yet been cleared for cultivation, having upon it a thick and heavy growth of timber, consisting of Poplar, Black Willow, Birch and Oak, which, when cut, will amount to some five hundred cords, commanding a positive cash value of four dollars per cord, cut and delivered at the Railroad Station—of which there are two, each within three miles of the land. The whole tract is substantially improved with fencing and a permanent levee, planted with large trees on the out and inside, with a wide driveway on the top, and forever forbidding any encroachments or inundation from the extreme highest of waters ever known. The river has a strong, permanent bridge, which is built to last all time. The improvements on the property alone have cost over $10,000, without any reference to the old and high state of cultivation the plantation is already brought to. This location was settled upon by the present occupant and owner on the 18th of October, 1846, making twenty-seven years and over, and he has never known sickness since his occupancy, and is now an aged man, which is his only motive for selling. Cash market for all products in the near towns and San Francisco. $10,000 a year, gross sales, are now realized from the various products of the plantation; double of that amount can easily be realized by more energy and additional cultivation. The property is reached by rail from San Francisco, to within three miles, and is located in Placer county, on the south banks of the Bear River, and will be sold on most favorable terms, both in the price for the property and terms of payments of same. Inquire at the Land and Loan Office, 313 Montgomery street, in person or by letter. S. P. WHITMAN.

NOTICE TO BUILDERS.

SEALED PROPOSALS, for furnishing certain materials and constructing a portion of the Napa State Asylum Building for the Insane, will be received at the office of the President of the Board, No. 204 Sutter street, San Francisco, until 12 o'clock M. of the 30th day of October, 1873.

The printed specifications and printed forms of proposals can be had on application to Messrs. Wright & Sanders, Architects, 416 California street, where plans and drawings can be seen and all further information obtained. No bids will be entertained unless made on the specified printed forms of proposals and accompanied with a certified check or bond with two or more good and sufficient sureties, in a sum equal to ten per cent. of the total sum of the tender, to be returned on the duo entering into the contract by the party to whom it may be awarded, or to be forfeited if the party fails to enter into the said contract.

The Board reserves the right to reject any or all bids.

oct4-td J. F. MORSE, President of the Board.

The time for receiving the above tenders is extended until 12 o'clock M. on THURSDAY, November 20th next.

J. F. MORSE, President.

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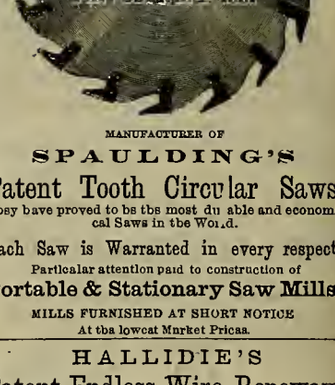

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah; Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.,—SIR: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully, W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, NOVEMBER 15, 1873.

VOLUME XXVII. Number 20.

Fiedler's Condenser for Quicksilver Furnaces.

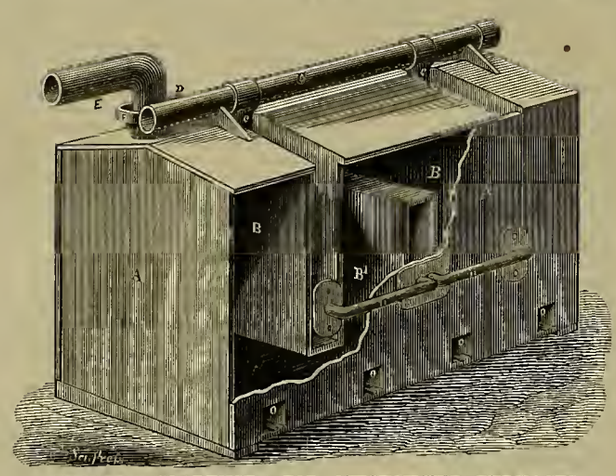
Ferdinand Fiedler, Foreman of the New Almaden mines, has recently invented an improved condenser and cooler to be used for condensing mercurial fumes, an engraving of which is shown on this page. *A* represents an ordinary tank such as is used to form one of a series of condensing tanks through which volatile fumes are drawn or forced in order to be reduced to a liquid state. This tank, *A*, is provided with a roof which slightly slopes each way from the middle line. A well is then formed near each end of the tank by cutting a transverse slot across the top and constructing a narrow box, *B*, *B*, inside of the tank which extends almost to the bottom; thus providing a double wall partition from the top to near the bottom as shown, the tops of the walls only being open.

Midway between these walls or partitions, is secured to the bottom of the tank a narrow box or compartment, *B'*, which extends nearly to the top of the tank, the boxes being arranged similar to the alternating partitions of an ordinary condensing tank. A curved pipe, *n*, outside of the tank on one side connects the bottom of the wells, *B*, *B*, with the box, *B'*. These partitions serve as water reservoirs to cool the fumes which are passed through the tank.

The fumes are introduced through the pipe, *E*, which communicates with the tank near one end through the top, between one of the wells, *B*, and the end of the tank. To render the joint formed by connecting this pipe with the top of the tank perfectly tight, so as to prevent the escape of any of the fumes, Mr. Fiedler constructs a water joint forming two vertical annular ledges around the opening into the top of the tank over which the pipe, *E*, is secured. The inside flange is slightly higher than the sides of the pan while the outer one is lower than the sides of the pan, and is placed at a short distance from the pipe so as to form a cup outside of it. When the pan has been once filled the water will stand in the cup and over the joint even when the pan itself is empty. The water is prevented from flowing into the tank through the opening covered by the pipe, by the higher inside flange. The end of the pipe, *E*, is fitted over the inside annular flanges so that the higher inside flange is inside of the pipe while the lower one is outside of it; the water thus covers the joint and prevents leakage.

A pipe, *C*, the under side of which is perforated with numerous fine holes, extends along the ridge of the roof of the tank, longitudinally with it. A branch pipe, c, leads from the pipe, *C*, into each of the wells, while another pipe, *D*, leads to the cup around the water joint. Water is admitted into the pipe, *C*, so that the branch pipes, c, c, will supply the wells and keep them filled; the pipe *D*, keeps the joint protected, while the perforations in the pipe, *C*, allow the water to fall in a spray upon the roof of the tank and run down the sides, thus providing a complete water covering over the tank and fresh water continually inside of it.

The fumes being admitted at one end of the tank through the pipe, *E*, are compelled to pass under and over the water partitions, being brought in contact with the cold sides of the tank and the partitions during their passage and are thus readily condensed, the mercury settling upon the inclined bottom of the tank from which it flows off through the ports, o, o, o, o. By this method of construction an arrangement is provided for keeping up a continuous circulation of cold water, both upon the outside and through the interior of the tank, so that whatever is contained in it is readily condensed and cooled. The water is allowed to flow from the central box partition, *B'*, through a hole (not shown) near the top of the partition on the opposite side of the tank, thus keeping the water in circulation. A number of these condensers are shortly to be put up at the New Almaden quicksilver mines.



FIEDLER'S CONDENSER FOR QUICKSILVER FURNACES.

Quicksilver.

Advices by the latest mail from Peru announce that the Government had resolved to put to public tender, the once-celebrated quicksilver mine of Santa Barbara, in the Department of Huancavelica. This mine formerly produced very large quantities of quicksilver. It caved in in 1850, and the supply from that source was temporarily cut off. Up to 1867 the mine is said to have produced upwards of $80,000,000 worth of quicksilver. The reasons given for its last abandonment were, distance from the seaboard, low grade of ores and scarcity of fuel, being unable from these causes to compete with the other great mines of the world.

The resumption of work on this mine has probably been brought about by the prevailing high price of quicksilver. They appear to have plenty of ore, but of low grade. The prices now prevailing for quicksilver would naturally stimulate production. It is now selling for £20 per flask in London, and $1.20 per pound in New York. Here it sells for $1.10 per pound. If the combination here could possibly be broken up, it would be a great benefit to the mining interests. It seems lamentable that an article which is so indispensable to our mining community should be subject to a speculative combination which raises the price above all reasonable figures.

There have been more new quicksilver mines —and good ones too—opened in California this year than ever before. Many of them are producing quicksilver, and prospecting is going on quite lively, as this sort of property is in demand. Still, with all this increase of mines, prices have continued to rise. The New Almaden production has decreased so much that the other mines do not make up the amount formerly produced by that. The Great Western mine gives promise of being a very valuable property and is even now turning out 60 or 70 flasks per month, with an increasing production. If there was a good healthy competition instead of a combination among the owners of the different California mines we would get the product at reasonable rates and they could still make a fine profit.

The Mining Commissioner's Report.

We received recently a volume entitled "Silver and Gold," published by J. B. Ford & Co., of New York. It consists of a reprint of the Report of the Mining Commissioner, R. W. Raymond, for the year ending December 31, 1871. It is neatly bound and is very probably printed from the plates from which the Government edition was printed, as the works are identical with the exception of the title. We gave an extended notice of the work when we secured advance sheets of the Government Edition, and now merely wish to speak of it in another connection.

Although the Report is marked 1873, it is in reality the report for the year ending Dec. 31, 1871. The manuscript was delivered to the Secretary of the Treasury in March, 1872, and, while a private edition is now published, the Government Edition is yet to be delivered. Some of our cotemporaries have been rather severe on the Mining Commissioner on this account, holding him responsible for the delay. They have also intimated that there is a "job" somewhere, because a private publishing house sends out its Edition before the Government does, and suggests that the matter merits Congressional attention. And it does merit Congressional attention in one respect at least. Why such an absurd delay should ensue between the date of sending in the manuscript and the publishing of the Report, is a question that the Secretary of the Treasury, the speaker of the House and the Government printer, only can answer. There has been clearly no neglect on the part of the Commissioner, since the material for the Report was ready shortly after the completion of the year for which the report was made; and it was transmitted to the Secretary of the Treasury nearly 20 months since.

Probably the Honorable Secretary has no "feet" in mine, and his friends are in the same fix. His mind is so engrossed with the questions of politics and greenbacks, that he does not care much about paying attention to the mines, since they produce only bullion, with which he has little to do. If we could stir up a greenback mine which would interest him, the Report might have been issued before this. Still, the Report is printed and ready for distribution, as an unbound advance sheet copy was received by Mr. W. A. Skidmore, Mr. Raymond's deputy, four or five months since. Either Messrs. Ford & Co. received extra sheets of the Report, or they used the stereotype belonging to the Government plates to print their edition.

We cannot see, however, that the Mining Commissioner has erred at all in the matter. He has no control over a single copy of his report. The books have all been printed and have been lying in Washington for some months, and the only reason they have not been distributed is that members of Congress will not pay the postage on them. Mr. Raymond, himself, finds difficulty in procuring as many volumes of his Report as he requires to send to persons who have written articles for it gratuitously. If the members of Congress did send the volumes to their constituents, precious few of them would come to this Coast, but would be distributed in the more thickly populated Eastern States where they are not of the slightest value.

As the Government Edition is very small, we can see no harm in the fact that a private firm has the enterprise to publish a reprint of the Report even if they do get extra sheets of the Government printer or use the Government plates. When the Government is stupid enough to delay the distribution of a valuable work like this for nearly two years, it is high time that private individuals take the matter in their own hands. If they make any money out of it they deserve it as, if their Edition was not to be had, there would not be more than a hundred copies on this whole coast. As the Secretary of the Treasury, Government officers, or printers have charge of the plates, and Mr. Raymond's control of the work is out of his hands as soon as the manuscript is delivered, we fail to see "corruption" in the affair. But even if he should use his influence to obtain the plates for private individuals, we maintain that he would do perfectly right, as a two years delay of his Report makes it comparatively valueless.

The whole method of printing and issuing the Report is a fine specimen of red tape and stupidity. The appropriation is small, the Report is always a year or two behind time, and the people who ought to have it do not get it. Agricultural Reports are printed monthly and annually and are up to date, while the book that would interest a very large mining population — all producers like the farmers, and valuable ones too—is used up at Washington because a few "Back Pay Grabbers" are too mean to pay postage on them. As far as we can see, however, the Mining Commissioner does his duty in the matter, and the blame lies at somebody else's door. If Messrs. Ford & Co. had also reprinted Clarence King's Report for instance, they would have merited the thanks of the community, for the book cannot now be procured, although it was published by the Government. His volume on mining is a valuable one, but is hardly to be had even for reference. We hope that these gentlemen will continue to reprint the Mining Commissioner's report, and that they will make some money out of it. The book is for sale by J. B. Ford & Co., 339 Kearny street, in this city, or the same firm, 27 Park Place, New York.

THE MINES near Baker city, Oregon, many of them have suspended work, owing to the extreme cold weather. The quartz mills at the Virtue mine, Gem city and Hogem are busy at work, however, and two new ones are being erected at Conner Creek and Rye Valley—both five stamps,

The High Sierra South of Mount Whitney.

At the last meeting of the California Academy of Sciences, Mr. W. A. Goodyear, of the Stste Geologicsl Survey, read the following "Notes on the High Sierra South of Mount Whitney," which will he of intereet to our readere:

The following observations relating to the region south of Mt. Whitney and traversed by the Hockett trail, between the Kern river and the eastern foot of the Sierra Nevada, were made during my trip with Mr. Belehaw into the mountains lsst July, when we climbed the supposed Mt. Whitney and discovered the mietake respecting it.

It is well known that at aboutthe head watere of Kiug's river, tho summit of the Sierra Nevada forks into

Two Great Ridges

Of nearly eqnal hight and grandeur, which then extend far southeast towards Walker's Paes, though gradnally diminishing in altitnde after paeeing the summits of Mt. Whitney and Kaweah Peak.

For a long dietauce the crests of these two idges vary from ten to fifteen miles apart, and are separated from each other by the tremendous cañon of the Kern River which lies betweeu.

The cnlminating points of the eastern ridge are the Kearsarge Mountain, Mt. Tyndall, Mt. Williamson, Mt. Whitney, the peak which has been mistaken for Mt. Whitney, and a few other unnamed peaks. Those of the weetern ridge are Mt. King, Mt. Gardiner, Mt. Brewer, Kaweah Peak, etc.

The Hockett trail crossee the summit of the eastern ridge at an altitude of probahly a little over 11,000 feet, at a point nearly opposite the center of Owen's Lake, and a few miles eouth-east of the peak which has been mistaken for Mt. Whitney.

We followed this trail to the locality known as Soda Springs, upon the main Kern River, which here flowe at an altitude of between 6,000 and 7,000 feet above the sea.

Throughout this eection of country, the mountains, so far as seen, consist entirely of granitic rock, with the exception of a single isolated and somewhat remarkable

Cluster of Volcanic Outbursts

At au altitude of about 9,000 feet above the sea. This cluster consists of four crater cones of moderate size resting on the granite, and one basaltic lava-flow of cousiderable magnitude. The first of these outburets seen in following the trail from Lone Pine ie some five or six miles east of the Kern River, and its altitnde is probably a little over 9,000 feet. It forms the whole western half of a hill some 300 or 400 feet high and reachee to its summit, while the whole eastern half of the eame hill is naked, solid granite. Thie ontbreak seems to be small and local, being apparently but a few hundred yards in extent in auy direction, its length north and south, however, being considerably greater than its breadth east and west. Its eituation on the hillside is peculiar. It appears as if a short fissure had opened here in a northerly and southerly direction along the western slope of this hill pretty well up towards ite summit, and just enough material been ejected through it to cover the whole weetern half of the hill, without however sufficient explosive force to scatter it much in any direction.

About a mile to the south of this hill are two

Twin Crater Cones

Which I did uot visit, etanding close together, and nearly equal in hight.

Following along the trail, we find at the distance of about a mile weeterly from the first hill mentioned above, another crater cone some 400 or 500 feet in hight, and perfect iu form except that a breach has been made in its north-east side, and deepened nearly to its baee.

From the immediate vicinity of the base of this cone,

A Lava Stream has Issued

And flowed for some fonr or five miles in a nearly true weet course, following the valley of a pre-existing creek to the main Kern River, where it now ends in a bluff faoing the river, bnt high above ite bed.

Appearances indicate that in this case the lava-stream issued first, and that after it had ceaeed to flow, the cinder cone was piled up over it at the point of ejection, the completion of the cone finishing the eruption.

The valley followed by the flow was rather broad, and the quantity of lava was large, filling the bottom of the valley, spreading out in places to half or three quarters of a mile in breadth and varying in depth from a few feet to two or three hundred feet at different points. The valley had a rapid fall towards the Kern River, and the bluff which now forms the end of the flow, is 1,500 feet or more below the poiut of iseue.

This eruption is of very recent geological age, far subsequent in date to the great volcanic period which covered the northern Sierra with such vast quantitiee of eruptive matter. For throughout the central counties of the State, this period was substantially closed before the excavation of the modern cañons began; while this eruption occurred very late in the history of the formation of these cañons. Yet, if we could determine the years that have passed, we should find it old enough as compared with the life of a man. For since it happened, the little stream whoee bed it followed has not only cut through it here and there, but near its mouth has eaten its way two or three hundred feet deeper thsn before into the solid granite under it. How fsr down the csñon of the Kern River iteelf the flow may have originsnlly extended, it ie impossible to tell, for the river, in deepening its own cañon, has here swept it all awsy.

For a considersble portion of the way where the bottom of the lavs is now exposed, it rests upon heavy massee of calcareous tufa previously deposited by mineral springe; and I noted as an interesting fact which I don't pretend to explsin, that at a point where I examined the tufa in immediate contact with the overlying solid lava, I could detect no physical change in it euch as might hsve been expected, from the heat to which it must have been exposed; but it appeared just like the same tufa in other places where the lava had not touched it. Neither shall I attempt to auewer the puzzling question, why this little clueter of volcanic outbreake ehould occnr away np here in the heart of the solid granite range 9,000 feet above the eea, and with nothing else volcanic eo far as I know within less than 30 or 40 milee of it in any direction. I ouly note the fact.

Another point of some intereet, is the fact that, though I looked and hnuted for them,

I Found no Glacial Scratches,

nor any other evidence of the former existence of glaciers anywhere in this portion of the mountains; not even on the peak, which has been mistaken for Mt. Whitney, and which is over 14,000 feet high; nor on the top or eides of another peak which I climbed in the western summit, four or five miles northweet of Soda Springe, and which cannot be much less than 12,000 feet high. Nor in the cañon of the Kern River, which I followed for four or five milee, nor anywhere where I went, did I find any traces of glaciere. This is certainly somewhat remarkable, when we consider the fact that the mountains only twenty miles to the north, though no higher than some of these, are, according to all accounts, full of glacial markings.

It is true that much of the granite in the region where I traveled is comparatively soft, and disintegrates rapidly from weathering. But this is by no means the case with all of it, and much of it ie as hard and as well adapted to preserve such workings as any in the Sierra. The fact therefore of their general, if not total absence from this region certainly means something. It does not, of course, prove that glaciers have never existed here, or that they may not have existed for a very long period of time. But it does argue that if they have, then, owing to some cause not yet explained, they disappeared from this region long before they did from the mountaine a few miles further north. The general character and appearance of that noblest portion of the Sierra, a few miles to the north of the peake I climbed, have been already described in the Geological Survey Report and elsewhere. But no words can convey an adequate idea of its wild and majeetic grandeur. It must be seen in order to be understood. I will only add that ite topography has never yet been worked up with anything like the accuracy of detail which is deeirable for California's sublimest peaks, and that it would be well if the Geological Survey had the means to send a party to spend the whole summer there to do it.

The Value of Gold and Silver.

Many people have a great desire to know the value of gold and silver in bulk, and to thie end we have secured the following from Prof. J. F. L. Schirmer, Superintendent of the Branch Mint in this city, and it may be relied upon as correct. The fineness of Colorado gold and the calculation of values on gold and silver are also given. It is a matter of considerable value, and it should be cut out and preserved:

One ton (2,000 pounds avoirdupois) of gold or silver, contains 29,163 troy ounces, and, therefore, the value of a ton of pure gold is $602,799.21, and of a ton of silver, $37,704.84.

A cubic foot of pure gold weighs 1,218.75 pounds avoirdupois; a cnbic foot of pnre silver weighs 656.25 pounds avoirdupois.

One million dollars gold coin weighe 3,685.8 pounds avoirdupois; $1,000,000 silver coin weighs 58,929.9 pounds avoirdupois.

If there is 1 per cent. of gold or silver in one ton of ore, it contains 291.63 ounces, troy, of either of these metals.

The average fineneee of the Colorado gold ie 781 in 1,000, and the natural alloy: gold 781, silver 209, copper 10; total 1,000.

The calcnlations at the Mint are made on the basis that 43 ounces of standard gold, or 900 fine (coin), are worth $800, and 11 ounces of silver, 900 fine (coin), are worth $12.80. —*Denver, Col., News.*

"A Mine What is a Mine."—During the past three or four weeke, Mr. A. C. Light, has taken from hie little ledge located on the mountain south of Indian Valley, something over $5,000. The best part of it is that he has pounded it ont with a hand mortar, and has plenty more of the same kind of rock left. Mr. Light has recently purchased the little ranch of Mr. Frank Fox, which was in the cañon below hie mine, and he will make arrangements to sluice off the ground under the ledge during the coming water seaeon. There ie no doubt that he has one of the best "little mines" in the country.—*Plumas National.*

Chemicals in Pan Amalgamation.

[Concluded from page 290.]

Before dismissing the subject of slimes and tailings, it is neceesary to refer to certain claeses of these ores which do not yield to the action of the snlphate of copper snd salt to the extent claimed in the foregoing pages. The preciee csuse of thie rebelliouenees has uever been accurstely ascertained, but from the fact that the bulliou produced in working them ie always of exceeding fineness (990-1000 and over) even when a large excess of sulphate of copper is ueed, it is evident that the evil consists in the presence of some subetance which decomposee the sulphste of copper, thns producing the same effect as if none were used. This injurious agent is probably sn alkali or alkaline earth. It is to be regretted that we have no knowledge of auy cheap chemical reagent producing practically the same effect as chloride of copper, aud which would not be eubject to this decomposition.

The following table will show to what extent the treatment of slimes is affected by the elimination of the copper-ealt. Five hundred and eixty-two and one-quarter tone of elime from Chollar ore were worked in charges of 2,500 pounds each, with 15 pounds sulphate of copper and 30 pounds ealt to the charge. Total amount worked, 562¼ tons.

	Gold.	Silver.	Total.
Value per ton	$ 12.60	$ 30.91	$ 43.51
Total values	7,084.35	17,379.14	24,463.49
Yield	1,651.16	6,200.93	7,852.66
Percentage extracted	23 30	35.68	32.97

	Gold.	Silver.	Total.
Fineness of bullion	16	980	996
	1000	1000	1000

Within half an hour of putting the sulphate of copper into the pan, chemical teets could not detect the presence of copper in solution in the pulp, thus proving that it had been almost immediately decomposed. The same phenomenon has presented iteelf in the working of tailings.

Such cases, however, are exceptioual, but prove why in certain instances the use of eulphate of copper and ealt may not produce the effecte claimed for them. Apart from these exceptional casee the beneficial effects of chloride of copper being thoroughly established, the question naturally arises why its use is principally limited to the working of slimes and tailings, and why it is not more generally employed in quartz-mills. There is not the slightest doubt that an intelligent use of chemicals would prove highly beneficial in many cases where the old method of treatment without chemicals is adhered to. The ores of the Comstock ledge are particularly docile under their influence. It is true that many mill-men claim to have inveetigated the matter, and have pronounced againet the use of chemicals, but, as has already been stated, their experiments were carried on in such an unfair manner that failure was inevitable. It could not be expected that a few ouncee, or even a few pounds, of sulphate of copper and salt would produce appreciable results upon a ton of ore, and yet millmen were deterred from using larger quantities through the fear of producing baser bullion. It is a common superetition that fine bullion is a guarantee of skillful amalgamation, than which nothing is less true. Until this prejudice is eradicated it is uselees to look for the employment of sulphate of copper in quartz-mille in quantities sufficient to eetablish its merits. Another cause of indifference on the part of Waehoe mill-men is the fact that they generally find no difficulty in returning by their preeent method of working 65 per cent. of the value of the ore, the amount uuniversally guaranteed by custom mills, and are, naturally enough, not disposed to increase the cost of working without corresponding benefit to themselves. The mine-owners also appear to be satisfied with these results, but their apparent indifference to their own interests does not admit of so simple an explanation.

The first quartz-mill to adopt the uee of eulphate of copper and salt, was that of the Meadow Valley Company, near Pioche, Nevada. This mill commenced operations in the summer of 1870. Owing to a misunderstanding only a small eupply of sulphate of copper was on hand at the time, and when this was exhausted the difference in percentage extracted wae immediately apparent. During the first week's run the yield was equal to 80 per cent. of the value of the ore. When the chemicale were exhaueted the yield fell below 40 per cent. only to recover on the receipt of a fresh supply of sulphate of copper. The following table will show the difference in percentage extracted while working with and without chemicals:

July and August, 1870—Percentage extracted, 54.40, working three-quarters of the time without chemicals.

September—64.39, working one-half the time without chemicals.

October—87.90, working with chemicals.

November—82.5, working with chemicals.

December—81.8, working with chemicale.

January—76.7, working with chemicals.

February—77.6, working with chemicals.

March—68, working with chemicals.

April—67, working with chemicals.

May—74.4, working with chemicals.

June—74, working with chemicals.

July—73, working with chemicals.

Average assay value of the ore for the year, $143.21.

The ores operated upon were very rich. In such cases the policy of working ores with chemicsle in preference to rossting msy be questioned. The matter must be decided by a csrefnl comparison of the expenss and reeulte of the respective methode. It muet furthermore be taken into coneiderstion that roasting involves dry crnshing, and consequently a decrease in the working capacity of a mill of a given number of stamps. This agsin uecessitstes a larger outlay for the erection of more mills in order to crush a sufficieut number of tons per diem to render possible the payment of any considersble amonnt in dividends. The expense of building furnaces, etc., mustaleo be tsken into consideration. Should, however, the ores prove of eo rebellious a nature that the difference in percentsge extracted by the roasting procese be sufficient to overrule these consideretione, then it ie evident thst the wet procees muet give way to dry-crushing aud roasting.

At the Nevada Butte Mill, where this method of working with chemicals was introdnced during the past enmmer, it was absolutely neceeesary to find some meane of reducing the ore without roasting, as it was not snfficiently rich to admit of the latter method of treatment. Here also it was found that whereas only 35 per cent. of the value could be extracted by quicksilver alone, the use of enlphate of copper and salt increased the value to 75 per cent. and upwards. These ores contained still more lead than those of the Meadow Valley mine, and finally became so base as practically to belong to the class of smelting ores, causing an enormous loes of quicksilver, aud rendering their beneficiation by the amalgamation procees an impoesibility. The enterprise had therefore to be abandoned.

The only chemicals thus far knowu to be applicable to the amalgamatiou process are salts of copper. A great benefit would be conferred upon the mining public by the discovery of other chemicals equally effective, but less expeneive, and not so subject to decompositiou by the iron of the pan or by the ore iteelf.

The Pardee School of Mines.

Tho new building, at Lafayette College, erected for the Scientific Department, uow occupied by the classes, was dedicated hy appropriate exercises, on Tuesday, Octoher 21st. This magnificent strncture cost over two hundred and fifty thousand dollars, and is the princely gift of Mr. Ario Pardee, the founder of the Scientifio Department of the college. It conaists of one entire building five stories in hight, fifty-three feet front and eighty-six feet deep, and two lateral wings, one on each side of the center building, measuring sixty-one feet in length and thirty-one in width; four storiee in hight, including a mansard roof, the whole terminating in two croee winge forty feet front and eighty-four feet deep, and four stories in hignt. The entire length of front, in a straight line, is two hundred and fifty-six feet. The material is the Trenton brown stone, with trimmings of light Ohio eandstone. It is heated throughout by eteam and lighted by gas. The firet floor is mainly devoted to the study of mining and metallurgy; the second contains the geological and mineralogical cabinete, a spscions auditorium, and smaller lecture rooms, reading rooms, and professors' studies. The third floor is devoted to the engineers. The right wing is occupied by the mining engineers. A large drawing room occnpies the lateral wing, while the cross wing embraces rooms for models and various profeseioual purposee. The left wing is occupied by tho civil engineers. The lateral wing compriees a drawing-room, and the cross wing is divided into roome for lectures, working models, collections, and the like. On the fourth floor the same ample provieion hae been made for the chemists. The center building is divided into two large rooms, one for technical collections, and the other an aseistsnt's room. The lateral wings are intended for qnantitative and qualitative analyeis. The cross wings at the extremity of the building are occupied by additional laboratories, lecture rooms snd profeseors' studies. The fifth floor of the center building is mainly occupied by laboratories for original researches. In determining what rooms were needed and the best arrangement of them, similar buildings in Europe as well as in this country, were carefully studied, and liberal provision has been made in all the departments of instrnction for every aid which has been devised for the most thorough and attractive teaching, and also for the prosecution of original reeearchee.

The formal dedication of such a noble building, equaled but by few college edifices in the country, was an event of the greatest interest not only to the Alnmni and friends of the College, but to all who are interested in educational matters, and of still more moment to capitalists who have inveeted or intended to invest their money in mines, furnaces, rolling mills, chemical works, machine shope, iron ship yards, or other fielde of prodnctive activity dependeut for success on the best training of minde of technical science.—*U. S. R. R. & Mining Journal.*

A Neat Method of Testing with Bunsen's Flame is as follows; A platinum wire ie bent into the loop or cage at one end, which is then dipped into powdered cream of tartar and placed in the flame. There remains a maes of charcoal and potassium carbonate. Thie is dipped into the subetance to be teeted and theu placed in the flame.

MECHANICAL PROGRESS.

Making Telescope Glasses.

In Professor Newcomb's article on the new telescope at Washington in *Scribner's* for November, occurs this account of the process employed by the manufacturers, Messrs. Alvin Clark & Sons, in grinding, polishing and perfecting the immense object glasses: The tools are very simple—round plates of cast iron, about three feet in diameter, hollowed out to suit the curves of the lens. They have somewhat the appearance of huge, shallow saucers, or more nearly still, of the shallow iron drinking cups attached to pumps or hydrants in some of our cities. Three of these tools were necessary, one nearly flat, for the inner surface of the flint glass, one convex, for its outer surface, and one concave, for the crown glass. The surface of the tool is covered with coarse emery and water, the glass is laid upon it, and the grinding is carried on by sliding the glass back and forth on the tool. While sliding, the glass is slowly turned round so that the grinding strokes occur successively in every direction on the glass, while, at the same time the operators continually move around in the other direction, so that the strokes are made successively in every direction on the tool. The result of these combined motions is that every inequality, either on the glass or the tool, is gradually worn away, and both are reduced to portions of nearly perfect spheres. When this result is attained, the grinding is continued with emery of continually greater degrees of fineness, until the surface becomes quite smooth.

The next operation is that of polishing. The whole tool is covered with a thin coating of pitch, which is pressed while still warm into the proper shape. It is then covered with a layer of water and the polishing rouge, and the glass is again laid upon it, and kept in motion in the same way as in the fine grinding. Thus each surface of the two glasses is speedily brought to a high polish.

The operations we have thus far described require no extraordinary skill on the part of the workman. With a little patience and practice almost any one can make himself a better glass than any known before the invention of the achromatic telescope. But, such a glass would by no means serve the purposes of astronomy now, and the chances of a glass of any size turning out exactly right on the first trial are very slight. The skill of the optician is now called into play to rectify the figure. Two formidable difficulties have to be overcome, to find what the defects of the glass are, and where they are situated, and then to remove them without introducing others. To find the defects, the glasses are put together, set up on edge, facing a luminous point at a distance equal to ten or fifteen times the focal length. The image of the point formed in the focus of the glass is then examined with an eye-piece of high power, or the eye is placed exactly in the focus, and the aspect of the glass noted as the light from the point passes through it. By these means the skilled optician can judge where the curves of the glasses are too great, and where too small.

The glasses are now taken back to the tool and the polishing process is recommenced, only pressing upon those parts of the glass where it has to be ground away. The glass is then tried again, and again returned to the polisher. The defects in a small glass can be thus polished away in a few days, but as the size is increased the process is more and more tedious, and the difficulties of judging what the defects are, and of handling the glass on the polisher so as to diminish them, increase enormously. It is in this tentative process of gradually working out every defect of figure, and even in compensating defects in the uniformity of the glass itself by a suitable change of figure, that the Clarks have exhibited their unrivaled skill.

Major Hoffman, of the government engineer corps, has invented a new sounding machine, which is now being used on the rapids at Davenport, above the bridge. It consists of six flat-boats, attached to a large boat in the center, which are towed to the place where soundings are to be made. They are joined together by a bridge, to which are attached ten poles, each twelve feet long, and placed eight feet apart. The soundings are made by the poles, which are driven down by steam. Immediately upon striking the bottom the poles spring up, again, and indicate by figures the depth of the water. These figures are taken down by a man in the office on the center boat. By this method sixty soundings can be taken in a moment, and all more accurate than by the old method.—*Am. Manufacturer.*

The bridge to be constructed over the Frith of Forth will be by far the largest in the world. According to the London *Builder* its hight will be 150 feet, and the number of spans nearly 100. The smaller span will be 150 feet wide, which is beyond the average width of the largest spans in ordinary bridges; but the crowning marvel of the whole structure is the great span in the center, which is to be 1,500 feet, or nearly one-third of a mile in width—an extent unparalleled in any existing structure of the kind. The entire cost of the bridge will be at least ten millions of dollars.

Steel vs. Iron.

One great objection to the more general employment of steel for purposes where much strain is to be endured, and where human life is to be risked, is, according to Mr. Robert Mallet, the lack of some reliable and ready means of testing the same. The very quality that chiefly recommends steel is the one most difficult to determine, and the most dangerous if absent. The strength of steel in plated structures as proportioned to iron, is usually rated something like 10 to 6.

One great source of imperfection in steel is the injuries which it is liable to sustain in the process of manufacture; when a bar or plate gets a hammer-blow while hot, or anything like a dent, or sustains any concussion which causes a sudden change of dimension, however minute, such bar or plate, in most cases, is certain to give way at the point of concussion on receiving a strain much less than would break the bar elsewhere. Anything, also, in the nature of a superficial injury to a plate, is much more serious in its effects on steel than on iron.

Steel as adapted for rails is said to show greater difference of good and evil than it does under any other conditions for use. A commission of fifteen railway engineers recently reported that the weight of evidence was in favor of employing steel instead of iron for rails in railway use; but especial stress was laid upon the necessity that existed for the excise of the most extreme care in the manufacture of the rails—especially in handling them while hot. Experience had shown that steel rails almost always break at the point where some injury had been received while the rail was hot. In most cases such rails break in a few weeks; while perfectly sound rails work without any perceptible wear or injury, for 12 or 15 years.

Steel is prone to be very much superior to iron when used for gearing; but it is proved that gearing mounted on timber framing is much more liable to fracture than when properly fitted on an iron frame. Wood, even when well secured, will warp and twist sufficiently to disarrange delicate machinery.

Close attention is being paid to the use of steel as far as adopted, with the view of its more general adaptation, according to the greater or less extent of success which may attend its present employment.

The Center-rail Railway.—A paper was read before the Mechanical Section of the British Association on the proposed center-rail of Mr. Thomae. The author stated that the projector of this railway utilised the principle by which the bicycle rider was enabled to progress steadily above two slender wheels. In the single rail system the wheels were placed in the center of the engine and carriages, and ran on a single line of rail; the wheels are double flanged and saddle the rail. The inventor did not trust the train to struggle into steadiness, like the bicycle rider, but provided balance rails for some distance in and out of stations. The engine and carriages would be provided with side wheels as balance weights, and which also came into action on the steadying rails at the stations. The advantages of this system were that the power might be brought to bear more directly and centrally on the driving wheel, and thus obviate one source of oscillation. Lighter engines and carriages were also practicable. In the discussion which followed, a general opinion was expressed of the impracticability of this scheme.

New Material for Making Paper. — An English journal is informed that it is intended to carry out in that country, in an extensive way, the French invention of making paper from the sheath of the hop stock, when the outer skin has been removed. The substance made from this material is of great suppleness and delicacy, and by its employment in this manufacture a new and considerable source of profit will be opened for the hop-grower. The importance of this discovery to Kentish farmers cannot well be exaggerated, for if the season should not prove favorable, and should fail to produce first-rate hops, the paper making material will compensate for the deficiency in this respect. No doubt the growth of hops will be introduced in future into many districts where they are not known at present, as the large amount of material which they will supply for paper-making will alone insure a good return for their cultivation. The price of the article is very high at present.

Ditching by Steam Power.—In North Germany the reclamation of the extensive low lands, that have heretofore remained uncultivated for lack of drainage, is now proceeding with vigor under the auspices of a company employing a large capital and effective steam ditching machines. Each machine cuts a canal 20 feet wide and 6 feet deep, and from 100 to 120 feet in length, every 10 hours. The peat is delivered on the surface of the ground alongside the canal, where it is dried, cut into bricks, sent to market. It is an excellent fuel. In Holland and Friesland there are 1,000 square miles of this bog land now worthless, which will be rendered habitable and profitable as fast as the canals are cut, to say nothing of the immense quantities of fuel that will be obtained by the ditching operation. —*Scientific American.*

SCIENTIFIC PROGRESS.

Is Hydrogen a Compound Body?

An item has found its way into many of the papers, stating that hydrogen has been resolved into two distinct gases by a French chemist. The story is that M. Leharre, chemist of the silk works of Foedre Brothers, Lyons, succeeded, after a series of experiments, suggested by the investigations of Professor Graham, of the British mint, into the properties of hydrogen, in resolving that gas, hitherto supposed to be a simple element, into two gases. One of these was absorbed in combustion of palladium in vacuo, leaving a gas that would no longer burn but, like nitrogen, extinguished flame, and had no color, taste or odor. Its levity is so great that when collected in a hollow copper globe about eighteen inches in diameter and the twelfth of an inch thick, it carried the globe rapidly to the dome of the Paris Academy of Science building. M. Leharre calls the new gas "abaron." It has about nine times the elevating power of pure hydrogen, and about twenty-five times that of ordinary illuminating gas, and can be prepared on a large scale at about double the cost of pure hydrogen. With its use balloons can be made of thin sheet iron, and leakages thus effectually prevented. The discovery is of the utmost consequence on scientific grounds, as it suggests the possibility of other supposed "elements" being complex instead of simple, and that our present ideas of elementary principles may be as erroneous as those of the primers of our childhood's study, where "the four elements" were set down as "earth, air, fire and water." M. Leharre's paper is said to have been read before the Paris Academy of Science, June 30th, in secret session, and its publication postponed until further investigation is made.

This is a brief account of the reported discovery. In tracing the history of the item referred to, we find that the information was first given in a letter from an American in Paris to the *Turf, Field and Farm.* As the fact has not been officially announced, we are disposed to accept it *cum grano.* So many startling discoveries are being daily reported, however, that this, though jarring harshly upon accepted chemical dogmas, is not as surprising as others announced within a few years. Yet, if verified, this discovery will necessitate large changes in text books.

New Process of Manufacturing Steel.—Bajault & Roche propose the following process, founded on the partial and intermolecular decarburation of cast-iron under the influence of oxide of iron in the state of rich ore. A mixture of cast-iron and of powdered ore, suitably run into metal moulds or forms, yields, on cooling, as many ingots uniting with the moulds. These ingots are then placed in a special furnace where they are kept for a certain time at a bright red heat. At this temperature and up to the end of the reduction numerous jets of carbonic oxide are seen, which escape and burn with a characteristic blue flame. Ingots of raw steel are thus obtained which only require to be melted either in crucibles or on the side of a reverberatory furnace. In this process the reactions are affected in the whole extent of a solid mass by an intimate mixture of the matters in contact, and these matters are not submitted to fusion till after their reciprocal transformation. The ore being then reduced, its action upon the sides of the melting apparatus is very trifling. The inventors thus evade the principal obstacle which has hitherto prevented the use of rich iron ores in the transformation of cast-iron into steel, in spite of the advantages which it was well known might be derived from such a mode of procedure. We may thus obtain every desired degree of carbonisation, the proportions of cast-iron and of oxide being capable of predetermination in a very exact manner. A sample submitted to the French Academy of Science gave the following analysis:—Carbon combined, 0·43; carbon, not combined, 0·08; silicon, 0·23; sulphur and phosphorus, 0 0. The steel was semi-hard, very malleable and tough, and acquired great hardness by tempering.

M. Marchand has been engaged in attempting to measure off chemical action produced by solar light. He has submitted to the sunlight a liquid containing equal parts of perchloride of iron and oxalic acid, and found that the reaction proceeds with great regularity in the disengagement of carbonic acid gas, which is proportional to the sum of the energy expended. This energy is such that for each cubic centimetre of gas produced, 0.001356 calories are evolved. This photometer is specially acted upon by the solar spectrum between F. and G., i. e. the blue rays. In an equinoxial day the average expense of this photo-chemical force on the 41st parallel of latitude is represented by 345 calories. He estimates it at the equator (at the same time) 479 calories, and at the pole 498 calories. The results of other experiments are given at length.

The Red Color of Lead-white.—The red color is said to be due to the presence of compounde of lead and oxygen, among which the peroxide was found in small quantity. Its origin is to be looked for in a lack of carbonic acid in the manufacturing process.

Cheap Sugar.—In the French world of industry and science another great sensation has been produced by an alleged discovery, the importance of which, if it turns out to be true, it is at present impossible to calculate, nor the effect it may have on the sugar trade of the future. It is asserted that the French engineer, M. Jonglet, has succeeded in making artificially beet-root sugar, which, however, is not real beet-sugar, but a composition or chemical sugar, if we may be allowed to use such a term. Already has the eminent M. Berthelot succeeded in making alcohol by a synthetic process; but the new discovery is of much more practical value, as it affects a commodity of such general use. Provided the accounts published in the French papers are not exaggerated (although such exaggeration is very likely), this new discovery may possibly bring about a change in the manufacture of sugar, for it is announced that by the new process sugar can be made not costing more than 5 francs per 100 kilogrammes, or one farthing per pound; and that in order to make it, it is only necessary to bring together certain common articles, which, after being liberated from the coarser elements with which they are combined, are known to have a chemical affinity to each other, and produce a sugar said to be equal to that made from cane-juice or beet-root. Henceforward, then, the manufacture of sugar would be placed in the hands of the maker of chemicals. It is added that the discoverer, M. Jouglet, has already sold his invention to a company for the sum of 1,200,000 francs, who intend to work the patent on a grand scale.—*The London Grocer.*

Paint Poisoning.—Investigations of much interest into the character of the emanations from metallic paints made by an experienced house painter in Paris, to ascertain whether emanations from certain paints containing such substances as white lead, zinc white, linseed oil, essence of turpentine, coal oil, etc., are injurious to health, show some noteworthy results. He caused the insides of some boxes to be painted, and within them he placed wire cages containing rabbits, which were not in contact with the paint, but only subject to the influence of the emanations from it. The rabbits suffered while the paint was fresh, especially when it contained coal oil, but none of them died. Living in apartments recently painted, and which emit the odor of oil of turpentine, is not, therefore, permanently injurious to health. Some other tests were made for the purpose of obtaining deposits of these emanations from the fresh paintings of houses. Instead of rabbits, plates containing a small quantity of water were placed in the boxes, and, after the water had evaporated from the plates, there were found some remarkable crystallizations like needles, consisting of combinations in which the oils employed formed the principal part. These crystalline combinations were obtained even when linseed was used.

Fluorene.—M. Berthelot announces, under the name of fluorene, a new and very fluorescent carburet contained in the portions of the tar of volatile oils between 300° and 340° C.

In order to extract the substance, instead of causing the portions of solid carburet which have passed the distillation between 300° and 305° C. to be crystallized in alcohol simply, a mixture of alcohol and benzine is used. By this means may be separated a small quantity of acenaphtene which remains in the mother liquor. The point of fusion of the mass, which is ordinarily 105° C. after the first distillation and crystallization in pure alcohol, increases to 112° after crystallization in alcohol mixed with benzine. The remainder of the purification consists in redistillation and crystallization in pure alcohol. The carburet possesses a quite pronounced violet fluorescence which, however, disappears promptly on its being exposed to the light.

Mercury in the System.—Prof. Hyatt delivered a lecture on mercury in Vienna, recently, when he exhibited the leg bone of a man whose death had undoubtedly been hastened by mercury. On striking the bone heavily upon the table, out fell thousands of little glittering globules of mercury—bright metallic mercury—which rolled about upon the black surface before him, collecting here and there into drops. This mercury had been absorbed during life, undermined the man's system, and proved fatal to him. The mortality among those who work in mines of quicksilver, or in the works where it is reduced, is known to be frightful. In the celebrated mines of Idria, the men work alternately one month in the mines and one in the smelting house. But notwithstanding this, it appears that of the hundreds employed there, one-fourth become salivated.

M. Gramer has devised an apparatus for determining the inflammability of petroleum oils intended for illumination. The apparatus consists of a metallic cylindrical vessel closed with a movable cover in the center of which is a hole. Through this hole projects a wick which is inserted in a tube soldered to the bottom. Another hole in the cover allows of a thermometer being fitted into the apparatus which when used is about two-thirds filled with the oil to be tested, the wick is then lighted, and as soon as any inflammable vapor is evolved, a slight puff takes place, which extinguishes the light, when the temperature marked by the thermometer is noted. The results are said to be very accurate, and the tests can be made in a shorter time than in the ordinary way with a water bath.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Nov. 12, 1873.

NAME OF COMPANY.	IN MINE.	FEET IN MINE.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alamo Gold and S. M. Co				1⅝	1½		
Alpha Consolidated	300		6000	33	28	3	
Alta	3600						
			30000	4¾	4⅛		½
American Flat	1900		18000	2⅞	1⅜	1	
Arizona & Utah	65		24000	2½	2⅛		
Bacon Mill & Mining Co.			54000	6¼	5¾		¼
Baltimore Consolidated	1040		104000	83	74½	8	
Belcher	224		22400	10	9		
Best & Belcher	20		5000				
Bowers			16000	1¾			
Buckeye	2950		25000	11¾	6¼		¼
Bullion	5000		20000	18	16		1
Caledonia Silver M. Co	150		10800	13½	12¼		1
Central	100		20000	10	10		
Central No. Two	2800		28000	47	44		½
Chollar-Potosi	130		24900	8½	8		½
Confidence Silver M. Co	3½		20000				
Cons. Gold Hill Quartz	1160		108000	5½	4½	2½	
Consolidated Virginia	1600		24000				
Cook & Geyer	600		100000	100	90		16
Crown Point G. & S. M. Co	2000		24000	1¾	1⅜		
Daney	1200		24000				
Dardanelles	70		25000	5½	4		
Eclipse	75		50000	4¾	4		
Empire Mill & M. Co	400		8000	13	9¾		3½
Exchequer				3¾	3		
Fairmount	3000		12000				
Flowery							
Franklin			20000	2	⅜		½
Globe	1200		48000	12⅜	11¾		1½
Gould & Curry S. M. Co	400		16000	33	29		½
Hale & Norcross	184		100000	5¾	5		⅛
Imperial							
Indus	2600		30000				
Insurance							
Jacob Little	2000		30000	3¼	2⅞		⅛
Julia Gold and S. M. Co	3000		21000	7⅜	6⅝		1⅛
Justice	95		30000	13⅜	11⅞		1⅛
Kentuck	1200		24000	3½	2⅜		⅛
Knickerbocker							
Lady Bryan	3600		36000				
McMeans	1600		50000				
Mint Gold & S. M. Co	3000		30000	2¼	⅞		1⅛
Nevada	3600		36000	2¾	1¾		2⅛
New York Consolidated	800		10000				
Occidental	1400		16800	77	64	10	
Onhir Silver Mining Co	1200		37400	26	22½	3	
Overman Silver M. Co	1200		24000				
Phil. Sheridan	2000		30000				
Pictou			24000	¾	¾		
Rock Island	800		16000	56½	52		½
Savage	160		6400	65	61		
Segregated Belcher			10000				
Segregated Caledonia			24000	1	1		55c
Senator Silver M. Co			20000	18	14⅝		2
Sierra Nevada			54000	19	18		1
Silver Hill				2⅝	2½		
South Cometock			24000				
South Overman	7600		22800	2¾	2		⅛
Succor Mill and M. Co			24000	3	2½		
Sutro			50				
Trench	2200		30000	⅞	70c		⅛
Tyler	800		20000	3½	2¼		¼
Union Consolidated			20000	5	4⅞		
Utah	1400		28000	2	1⅞		
Woodville G. & S. M. Co	1200		24000	66¼	64		
Yellow Jacket							
NEVADA.							
Adame Hill			50000				
Alps Silver Mining Co	800		30000	1	¾		⅛
Amador Tunnel & M. Co							
American Flag M. & M			30000	8	6		3
Arkansas	300		30000				
Belmont				25	19		2
Bowery			30000	¾	¾		⅛
Chapman Mill & M. Co			30000	⅜	35c		⅛
Charter Oak S. M. Co	1000		30000				
Chief of the Hill			30000	1¾	1¼		¼
Chief East Extension			36000	27½c	⅞		
Columbus M. & M. Co	10000		50000				
Condor			25000	30c	15c		
El Dorado South							
Eureka Conecolidated			50000	9⅞	9½		⅛
Excelsior			12000				
Harper Silver Mining Co			30000				
Hayes				2	1⅜		
Hermes	1000		30000	3	2¾		¼
Home Ticket							
Huhn & Hunt S. M. Co	3600		30000	2¾	1½		⅛
Ingomar Silver M. Co	1000		30000	¾	20c		⅛
Ivanhoe			30000			20c	
Jackson			50000	30c	¼		
Junists Consolidated	5000		50000				
K. K. Consolidated			30000				
Kentucky Gold & S. Co	1000		30000	3¼	2¼		
Kinston	1000		30000				¼
Lehigh	1000		30000				
Lillian Hall	1000		15000				
Louise	2400		30000	40c	30c		¼
McMahon	1000		30000				10c
Marion			30000				
Meadow Valley	24023		60000	16	13¾		¼
Mocking-Bird	1200		30000				
Monitor-Belmont				6	4		
Murphy	2000		60000				3
Newark Silver M. Co	800		32000	4½	3¾		
Pacific Tunnel & M. Co							¼
Page & Panaca S. M. Co	2400		40000	11¾	9		
Peavine	1000		30000	30c	30c		¼
Phœnix			50000	10c	8c		
Pioche Silver Mining Co	1000		20000	5½	5		
Pioche West Extension			25000	1¾	1¾		⅜
Pioche-Phœnix			40000				¼
Portland				½	40c		
Raymond & Ely	5000		30000	62	56½		
Rye Patch				2¼	2⅛		⅛
Silver Peak			30000	1¾	⅞		2⅜
Silver West Consolidated							¼
Standard Mill and M. Co							
Star Consolidated	18000		50000				
Starlight	6900		25000				
Sterling			30000				
Spring Mount			35000				
Spring Mountain Tunnel			20000				
Ward Beecher							
Washington and Creole	200		30000	4¾	4		⅛
Watson				5½	5		
Yellowstone							
CALIFORNIA.							
Alpine	1200		12000				
Bellevue	8000		20000				
Calaveras Gold M. Co	3200		20000				
Cederberg Gold M. Co			24000	7	6		
Donated Amador				39	36		½
Oottonwood Creek			20000				
Dunderberg M. & M. Co							
El Dorado Ind. Quartz M				7	5		
Eureka Gold Mining Co	1650		20000	21	20		3½
Gillis			24000				
Independent Gold M. Co	1800		25000	4	3½	1	
Keyetone Quartz			10000				
Mt. Jefferson	1500		25000				
Oakville Quartz M Co							
St. Lawrence M. & M. Co							
St. Patrick	1800		20000	7	4½		2
Tecumseh	3000		30000				
Yuie Gravel	400		10000				
IDAHO.							
Empire			25000	4½	4	1⅜	
Golden Chariot	750		30000	18	13¾	3	
Ida Ellmore	1300		20000	2¾	1⅝	¾	
Mahogany G. & S. M. Co	720		10000	6⅝	6		⅛
Minneeota Gold & Silver	1070		20000				
Red Jacket				2	2		
South Chariot	650		20000	6	5¾		⅛
War Eagle	1060		10000				
WHITE PINE.							
Genoral Loe			10000				
Mammoth Silver M. Co	1800		36000	15c	15c		5c
Noonday	1000		20000				
Orig. Hidden Treasure	800		21333				
Silver Wave							
Ward Beecher			24000				
UTAH.							
Deseret Consolidated	2400		30000				
Wellington			50000				
OREGON.							
Virtue	2800		20000				

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thursday from Advertisements in the Mining and Scientific Prees and other S. F. Journals.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclueive hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt.	Levied.	Deling'nt.	Sale.	Secretary.	Place of Business
Alpha Cons. M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California st
American Flag M. & M. Co.	Ely Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K Spinney,	325 California st
Belmont M. Co.	Nevada	2	1 50	Oct 14	Nov 15	Dec 5	O. H. Bogart.	411½ California st
Bowery Cons. M. Co.	Ely District.	4	50	Nov 5	Dec 16	Jan 9	C. E. Elliott.	419 California st
Cederberg Jet. Southerly Ex.	Cal.	5	10	Oct 9	Nov 13	Dec 1	G. N. Wesser,	420 Montgomery st.
Daney G. S. M. Co.	Washoe	7	50	Oct 9	Nov 14	Dec 15	G. R. Spinney,	320 California st
Dardanelles M. Co.	Cal		1 00	Nov 4	Dec 8	Dec 29	J. L. King,	434 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Oct 13	Nov 18	Dec 13	Wm Willis,	419 California st
Emerald Hill M. Co.	Utah		25	Oct 2	Nov 11	Dec 2	F. Madez,	Merchants' Ex
Empire M. & M. Co.	Idaho	5	1 00	Oct 4	Nov 8	Dec 2	W. Willis,	419 California st
Equitable Tunnel & M. Co.	Utah	4	10	Oct 7	Nov 10	Dec 1	C. S. Healy,	Merchants' Ex
Globe M. Co.	Gold Hill	4	50	Oct 14	Nov 17	Dec 8	Joseph Maguire,	419 California st
Hale & Norcross S. M. Co.	Washoe	41	5 00	Oct 3	Nov 6	Nov 25	J. F. Lightner,	438 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Dec 15	Wm. Willis,	419 California st
Imperial S. M. Co.	Washoe.	17	1 00	Sep 26	Oct 31	Nov 19	W. E. Dean,	419 California st.
Independent G. M. Co.	Cal	4	50	Sept 29	Nov 3	Nov 24	G. T. Graves,	240 Montg'y st
Julia G. & S. M. Co.	Washoe	16	1 00	Oct 13	Nov 17	Dec 6	A. Noel,	419 California st
Lady Esten Tunnel M. Co.	Utah	5	10	Oct 7	Nov 10	Dec 1	U. S. Healy,	Merchants' Ex
Mammoth S. M. Co	White Pine		10 cts	Oct 22	Dec 1	Dec 22	J. L. King	434 California st
New York Cons. M. Co.	Gold Hill		25	Oct 13	Nov 17	Dec 8	H. C. Kibbe,	419 California st
Ohio Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp,	116 Leidesdorff st
Ophir S. M. Co.	Washoe	27	5 00	Oct 8	Nov 11	Dec 2	Jos. Marks,	Merchants' Exd
Ophir Copper S. & M. Co.	Cal.		10	Nov 12	Dec 13	Jan 5	O. H. Bogart,	411½ California s
Picton S. M. Co.	Washoe.	4	25	Oct 28	Dec 1	Dec 18	S. Phillips,	408 California st.
Phœnix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Dec 10	J. Maguire,	419 California st
Phenix Tunnel & M. Co.	Utah	2	20	Sept 29	Nov 1	Nov 20	Chas. S. Healy,	35 Merchants' Ex
Pioche S. M. Co.	Ely District.	5	1 00	Oct 30	Dec 10	Jan 6	T. E. Pillott	419 California st
Red Jacket M. Co.	Idaho	1	1 00	Oct 3	Nov 6	Dec 1	Wm Willie,	419 California st
Rest Patch Cons. M. Co.	Nev.		1 00	Nov 7	Dec 15	Jan 6	D. F. Verdenal.	409 California st
Silver Peak M. Co.	Ely District.	3	50	Sept. 19	Oct. 27	Nov. 17	G. T. Grimee.	240 Montgomery st
Silver Cloud G. & S. M. Co.	Cal.	6	3 00	Sep 30	Nov 6	Dec 3	A. A. Erquest, cor.	Minna & N Mon.
Trench Gold Hill M. Co.	Nevada	1	1 00	Oct 17	Nov 21	Dec 11	J. Marks	Merchants' Ex
Union Consolidated	Washoe.	4	50	Oct 20	Nov 20	Dec 8	J. M. Buffington	Merchants' Ex.
Virtue G. M. Co.	Oregon	3	75	Oct 4	Nov 12	Dec 15	C. F. Balcom	426 Montgomery st.
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Dec 15	T. B Winyard,	318 California st
Washington & Oreole M. Co.	Ely Dist	1	1 00	Oct 5	Nov 17	Dec 9	F. D. Henry	Merchants' Ex
Wyoming G. M. Co.	Nevada Co., Cal		25	Sept 13	Nov 13	Dec 8	W. J. Gunn,	410 Montg'y st

Other Companies (not on the Lists of the Boards.)

Alpha Cons. M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California e
Adams Hill Con. M. Co.	Nevada.	4	10	Sept. 24	Oct. 28	Nov. 20	W. W. Traylor.	419 California st
Bunker Hill Q. M. Co.	Amador Co.	12	10 00	Nov 12	Dec 20	Jan 12	W. L. Palmer,	19 Fir st
Buena Vista Petroleum Co.	Kern Co	17	1 00	Sept 20	Nov 10	Nov 25	L Aguayo,	430 Jackson st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6	6	Oct 6	Dec 5	Jan 5	A. Noel,	419 California st
Black Mountain Coal M. Co.	Cal.		2½	Oct 8	Dec 1	Dec 20	W. H. Parshley,	602 Montgomery st,
Calaveras Co. Farm Ass.	Calaveras Co.		25	Sep 25	Oct 30	Nov 20	T. B. Wingard,	318 California St
Commercial Coal M. Co.	Sauta Cruz Co		25	Oct 8	Nov 17	Dec 15	S. B. Hanson,	402 Montg'y st
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Guvel & Tiger S. M. Co.	Arizona.		20	Oct 25	Nov 26	Dec 20	O. J. Easton,	Express Building
Eclipse Water & Plato Cons. M. Co.		1	50 cts	Oct 17	Nov 20	Dec 10	J. Marks	Merchants' Ex
Eureka M. & S. Co.	Eureka, Nev.	3	25	Nov 11	Dec 13	Jan 2	T. P. Beach,	217 Sansome street
Granite Tunnel M. Co.	Cal.		5	Oct 8	Nov 15	Dec 6	W. G. Holmes, cor.	Wash. & Battery
Gold. Mountain M. Co.	Amador Co. Cal.		25	Oct 31	Nov 18	Jan 15	W. Aug. Knapp,	116 Liedesdorff st
Homestead Farm Ass.	S. F.		7 00	Oct 6	Nov 6	Nov 27	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Cal	1		Sept 29	Nov 14	Dec 15	W. H. Knight,	Monty'g st
Ingomar S. M. Co.	Ely District.	6	25	Nov 6	Dec 8	Jan 8	O. S. Neal,	419 California st
Ida & Rhoda Lewis O. M. Co.	Arizona.		10	Oct 27	Nov 29	Dec 4	C. J. Eaton,	Express Building.
Independence Con. M. Co.	Grase Valley		10	Oct 7	Dec 9	Dec 29	F. W. Hermann,	418 Kearny st
Knickerbocker M. Co	American Flat.	7	1 50	Nov 10	Dec 13	Jan 2	Henry Boyle,	Stevenson's Building
Leo Co.	Washoe		10	Oct 6	Nov 10	Dec 4	C. J. Eaton,	Express Build'g
Lady Franklin M. Co.			50	Oct 14	Nov 22	Dec 15	J. S. Luty,	507 Montg'y st
Lemon M. & M. Co.	Eureka District		50	Sept 27	Nov 2	Nov 24	T. Phillken,	608 Merchants st
Lane & Kurtz Carlhoo M. Co.	BritishCol		1 00	Oct 3	Nov 6	Nov 28	B. B Minor,	411½ California st
North Blocmfield Gravel M. Co.		28	1 00	Oct 17	Nov 24	Dec 15	T. Derby	320 Sansome et
Nicholson Pavement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
North Fork M. Co.	Plumas Co. Cal.	1	1 00	Nov 7	Dec 11	Jan 3	A Martin,	Sacramento City
Pride of the Mountain M. Co.	Nevada		10	Aug 25	Sept 30	Oct 20	T. W. Filsburn,	419 California st
Revenue Tom S. M. Co.	Arizona	1	25	Oct 11	Nov 12	Dec 10	R. H. Harney,	113 Leidesdorff st
Rising Star M. Co.	Nevada Co. Cal.	6	10	Oct 27	Nov 29	Dec 22	J. M. Buffington,	Merchants' Ex.
Silver Wave M. Co.	White Pine		40	Sept 20	Oct 30	Nov 25	J. W. Clark,	418 California st
Southern Pacific Cons. G. M. Co.	Cal		10	Sept 11	Oct 25	Nov 25	O. A. Eaton,	12 Express Build g
State of Maine M. & M. Co.	Cal	4	5	Oct 1	Nov 4	Nov 24	H. B. Comdon,	406 Montg'y st
Thompson Coal M. Co.	Cal.		2½	Oct 8	Dec 1	Dec 29	W. H. Parshley,	602 Montgomery et.
Umpire Tunnel and M. Co.	Utah T	2	6	Oct 21	Nov 24	Dec 15	F. A Eakins,	230 Kearny st
Wellington M. & S. Co.	Utah.	2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener.	414 California st.
Washington M. Co.	Mariposa Co. Cal.		1 00	Oct 30	Dec 8	Dec 31	T. B. Wingard,	318 California st
Woodville G. & S. M. Co.	Gold Hill Nev.	4	1 00	Nov 12	Dec 16	Jan 5	A. Noel,	419 California st
Wonder G. M. Co.	Cal.	1	10	Nov 5	Dec 15	Jan 5	H. C. Howard.	332 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Condor S. M. Co.	Ely District.	Geo. T. Grimes,	240 Montgomery et	Special.	Dec 15
Gold Canon Cons .M. Co	Nev.	A. A. Pardow,	420 California st.	Annual.	Nov 19
Patten M. Co.		Hill Beachy.	6 Liedesdorf street.	Special.	Nov 26
St. Lawrence M. & M. Co.	Cal.	R. B. Noyes,	411½ California street	Special.	Nov 25

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	P. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Waehoe.	H. O. Kibbe,	419 California st.	4 00	Nov 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Nov 10
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50	Feb. 1
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St.	1 00	Nov 10
		F. Cunningham,	304 Monty'g et	50	Oct 22
Diana M. Co.		N. C. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Nov 7
Eastnort Cooe Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 1
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willie,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 14
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

THURSDAY EVE, Nov. 13, 1873.

News from most all of the mining districts is enconraging and a nnmher of new strikes and expectations of strikes are reported. The development in the Consolidated Virginia is now an established fact, and the vein is large and rich. The prospect of an ore body in the Meadow Valley has helped the Ely stocks along this week and developed more activity in them. Belcher and Crown Point did well this month, having paid out as a dividend the sum of $716,000 in coin. Belcher paid a dividend of $4 per share, or $416,000, and Crown Point paid $3 per share, or $300,000. Coneolidated Virginia hae not hegun to pay dividends yet, hut is shortly expected to do so. The first shipment of hullion from that mine on November acconnt wae $22,018.

The Consolidated Amador, the famons California mine, formerly the property of Alonzo Hayward, continues to hold its own ae a first class gold producing mine. It sends down some $50,000 per month. Some difficnlty hae heen experienced for want of water, hnt a ditch ie being huilt to supply the want. The mine declared a dividend this week, of 50 cents per share, the first since last April. The Empire mine of Grass Valley has paid a dividend for the month of 50 cents per ehare, amounting to $10,000. The Eureka (Grass Valley) pays $1 per share this month also. The Idaho (Grass Valley) pays $15 per share, or $46,500. California mines, those of Grass Valley in particular, are making a good ehowing.

We see that the Emerald Hill Mining Co., of Little Cottonwood, which levied an assesemnt on the 2nd of last month, has had an injunction served upon it so that the pnhlication of the delinquent liet has heen postponed until further notice.

Belcher turned ont last week from 13,600 tons of ore the sum of $850,000; they are now taking out 500 tons of ore per day.

Among the new stocks listed on the Board thie week is that of the Chariot mine, Banner Dietrict, San Diego county. The names of the incorporators will he found in another column. This is the "banner mine" of Banner District, and is without exception the most productive mine in the lower couutry. A cruehing of 100 tons some time since paid $23,000 or $230 per ton. In one run of 50 tons ahout a year since they cleaned np $8,100, or $160 per ton; 52 tone cruehed in Angust of laet year yielded $13,621, or $257 per ton. When first opened, the rock was packed to the mills on mnlee; since then they have a mill of their own and a good wagon road, and the waste rock sorted ont at that time paid them at the mill $100 per ton. The mine is one of great promise and, if worked now as honeetly as when in private hands, ought to he a splendid paying property and add another to the liet of California dividend paying mines.

MINING SUMMARY.

THE following is mostly condeneed from jonrnals published in the interior, in proximity to the minee mentioned.

California.

ALPINE COUNTY.

M. & N. W. Co.—Alpine *Miner*, Nov. 8: The dam ie rapidly approaching completion, and the new steam hoisting works in the Silver Glance ehaft have heen thoroughly tested hy a couple of day'e continuous work, in clearing out ruhhieh and looee rock from the lower part of the ehaft. The machinery ie a perfect euccess in every respect. It ie thonght 3 houre work in the 24 will keep the shaft clear of water.

THE Schenectady mill will etart up on Monday on a rnn of ahout 75 tons of ore.

AMADOR COUNTY.

LINCOLN MINE.—Snttter *Independent*, Nov. 7: Some very rich free gold rock is heing taken from the 300-ft. level. The ventilating winze, from the 500 to the 300-ft. level is now up hetween 30 and 40 ft. The winze when completed will give a fine circulation of air.

AMADOR MINE.—Ahout 80 tons of ore per day are now heing taken out averaging ahout $25 per ton. It comes from, the upper levels, or Boulder ledge, and from the Colton or 1,600-ft. level. A drift is being run southerly from the main shaft on this level, and has now reached a distance of 50 ft. along the vein. The maiu ehaft has been eunk a short dietance helow the 1,600-ft. level. In the hottom of the ehaft the ore vein ie wider than in the Colton level, and tbe ore of an excellent quality.

SHUT DOWN.—The sulphuret worke, which had just commenced operations, were compelled to ehut down temporarily on Thnrsday evening on account of there not heing snfficient draft in the furnacee. The chimney ie now being huilt higher in order to remedy this difficulty.

CLEAN UP.—The proceeds of the clean np at the Eureka mill laet week amounted to $28,000. The amalgam cleaned up at the Lincoln mill is now heing retorted, and we are unahle ae yet to give the result.

NEW QUARTZ CLAIMS.—Amador *Dispatch*, Nov. 8: Several new quartz claime have heen taken up during the past week, in the vicinity of Murphy'e Gulch, a ehort dietance south of town. From the proepecte thus far ohtained, it ie estimated that eome of the rock on the lead will pay $200 per ton. The ledge is narrow on the eurface, hnt it is thought that it will increase in width as they go down.

CALAVERAS COUNTY.

WEST POINT DISTRICT.—Calaveras *Chronicle*, Nov. 8: The Zacatero main ehaft has reached a hody of very fine ore at the depth of 300 feet. Ite extent ie not known as yet. The Yellow Jacket Mining Company have commenced operations on their vein, near the Ohio. A 30-horse power eteam engine ie on ite way to the mine. The new hoisting works of the Ohio will he completed next week. The splendid main ehaft of the Good Faith is down nearly 80 feet. The Good Faith property consists of the main vein and three prominent spure or feeders, all of which yielded handsomely in former timee, the furthest spnr heing some 80 feet distant from the main shaft, laterally. The Carlton mill is crushing ore from the Steveneon miue. The Harris mill is to be enlarged.

RAILROAD FLAT DISTRICT.—A large and immensely rich hody of ore hae heen struck in the 200-ft. level of the Saudereon mine. The south level is in 30 feet, the ore averaging 2½ feet thick and estimated to mill at leaet $400 per ton. The ore ie dark hlue, showing some galena and enlphurete of iron. Pruesian Hill, sinking. The Chapman mine will he startsd again in a short time.

INCREASE OF WATER.—The cool weather of the past two weeks, together with the recent ehowers, have considerahly increased the volume of water in the ditch. Although as yet there is not over half a "full head" the supply is sufficient to warrant the resumption of hydranlicing and several claims of that description will inaugurate the winter campaign during the coming week. That epecies of mining will he carried on in this vicinity the approaching seaeon upon a mnch more exteneive ecale than ever hefore, and we apprehend a marked improvement of the times in conee-quence.

SAN BRUNO — RICH DEVELOPMENTE. — We learn that a lead of very rich quartz hae recently heen uncovered in the well known San Bruno mine at Mosquito. Although a good deal of money has heen previously taken from the mine, for the past year or eighteen monthe operatious have hoken confined to running a tunnel to open the ledge at a greater depth. The tunnel is ahont 400 feet in length, and its completion has subjected the company to a heavy expense. Witbin a few days, however, the lead hae heen reached and the rock ehows remarkable well. The pay chimney ie known to he a very long one, and as the new tunnel affords an opportunity for extensive stoping, the owners cannot fail to reap the merited reward for their indnetry. The work of taking out and milling the ore is to he commenced immediately.

KERN COUNTY.

Now Running.—Havilah *Miner*, Nov. 11: There are now ruaniag regularly the Big Blne mill, the Long Tom, St. John, Bright Star and Bacchus, all on good mines. Thers are besidss, several arastra companies operating in different parts of ths county, upon small leads. This is a good showing for these dull times. Next spring, we have not the least donht bnt that three, if not five, new mills will be in operation, one at Kelso, and one mere in towu.

We are informed that the Joe Walker company have got tha Cornish pump out from beneath the water; or, rather got the water below, and have replaced it and put it in operation. There seems to be no doubt now hut that the mill will soon be runniag regularly.

The Bright Star is now ruuning on $80 rock, lead about four feet in width.

MARIPOSA COUNTY.

Hornitos Mining Prospects. — Mariposa *Gazette*, Nov. 7: Two more "little pockets" have been struck on the Duncan Vein, by some Mexicans. One yielded over 75 oances; another 39 onnces.

From Coulterville. — Favorable reports come in from the mines on the Coulterville side of the river. The Banderita and Hasloe mines are yielding an abundance of paying ore. The extension of the Hasloe prospects well.

NEVADA COUNTY.

Rich Strikes in the Mines.—Grass Valley *Union*, Nov. 6: We mentionod yesterday that the Magenta mine is developing splendidly in eix places where the drifts have been opened up for stoping. Yeeterday the ledge proved to he more than splendid in the drifts and in the shaft. The ledge in the shaft shows a remarkablo quantity of free gold, while from the drift they are taking ont gold at the rate of $100 to the panful of quartz. Specimen rock is being boxed up and will he pnt in a secure place. The Magenta is north of the Empire mine and adjoine the ground of that company.

In the Empire, yesterday, much rich rock was struck and sent to the surface. As is well known, the Empire has heen having good milliug ore regularly for over a year past, and yestorday's rich strike is thrown in as an extra affair. The Magenta and Empire are showing that the old Ophir lead hae gold in it, by the quantity, from the surface to a great depth.

Hydraulic Mines.—Nevada *Transcript*, Nov. 8: The Eureka Lake Company is enlarging its ditch and flnmes helow the old San Jnan reservoir to douhle its capacity. This company has been making great preparations for the reiny season. For many months past it has heen engaged in the work of enlarging its ditches to head waters.

After three years of steady labor, both day and night, the Enterprise Company have completed a bed rock tunnel at Snoker Flat, 2,500 ft. long. This tunnel opens a vast amount of rich mining ground.

The Milton Mining Company are pushing the work on their new ditch to their dam at Milton very rapidly. They expect to complete their ditch this winter. When this ditch is completed the miners on this ridge will have an abundant supply of water the whole year ronnd.

The Sweetland Creek mine, at Buckeye Hill, has been psying large dividends monthly to its English stockholders. At present the supply of water is short and but a few hands are at work. The company are also engaged in runing a bed-rock tnnnel at a very heavy expense.

TRINITY COUNTY.

The Big Flume.—*Journal*, Nov. 8: R. N. Davidson, Superintendent, informs us that the work of fluming Weaver Creek progresses favorably. Thirty-nine boxes have been put in this summer.

TUOLUMNE COUNTY.

Starting Up.—Union *Democrat*, Nov. 8: The claim in Sullivan's Dry Arroyo was put in motion again on Friday; two hydraulic streams made sad havoo with the dirt and gravel. It's a rocky place to work, but the gravel does pay "mighty pretty."

Washing Again.—Thursday morning, the Kincaid Flat Company, commenced again with a hydraulic. Since last washing the tunnel has been extended several hundred ft., giving a bstter opportunity to wash dirt than where they commenced at first.

Nevada.

WASHOE DISTRICT.

Consolidated Virginia.—Gold Hill *News*, Nov. 8: Daily yield, 200 tons of ore, keeping the Bacon, Mariposa and Occidental Mills running. Ore breests, both north and south, on the 1,200-ft. level, are yielding splendidly. The raise from this level is up 49 feet in fine ore. North winze is down 88 feet, the entire distance in excellent ore, tub samples from the bottom of this winze giving an average assay of $96.87 per ton, while the samples from the bottom were $141. The south winze—307 feet from the north—is down 23 feet in ore, tub samples from the bottom last evening assaying $43 per ton. The main east drift, at the 1,000-ft. level, is being driven ahead with all the vigor possible to reach the ledge and connect with the up-raise from the 1,200-ft. level, for the purpose of ventilating that portion of the mine. Sinking the main shaft is progressing at the rate of three feet per day. It is now down 65 feet helow the 1,200-ft. level. As soon as it has reached the depth of 1,300 feet, another station will he opened and a drift started for the ledge.

Dayton.—The south drift from the main west tuansl at the third station is ia 55 ft., ths face still in good ors. The north drift at this etation is in 90 ft., also in good ore. This drift is bsing pushed with vigor to rsach and prospect the rich body of ore fouad in the north drift on the level above. The sonth drift from the main west tannel is is 112 ft., ths face still in fine ore. The nerth drift at this station is in 150 feet, having reached the point where the north winze from the level ahove is expected to make the connection with it. At this point a raise has been started which is np 50 feet, and is expected to connect with the winze to-day. This will give a sapply of pure air and greatly facilitate the work on that level. The company havo 1,000 tons of ore on the dump and can greatly increaee the daily yield whenever mills oan bo obtained to crush it.

Overman. — The main west drift, at the 1,200-ft. level, ie makiug good headway, with excellent indications of sooa reachiag the main ledge.

Chollar Potosi.—Daily yiold 140 tons, assayiag $40 per tou. The different stopes and breasts show rather an improvement in hoth the quality and qnantity of ore extracted.

Crown Point.—Daily yield 450 tons. Ore breasts and stopes throughout the mine are looking and yielding splendidly. The middle winze from the 1,300-ft. level and sonth winze, on the same level, are in fine ore. Main south drift on the 1,500-ft. level is making steady progress notwithstanding the intense heat. The main drift on the 1,400-ft. level is again heing driven vigoroasly ahead. The capacity of the mills on the Carson river for crushing ore, is steadily on the increase, and the futnre prospects of the mine look brighter every day. A dividend of $3 per ehare, payable the 12th instant, aggregating $300,000, was declared to-day.

Belcher.—Daily yield of ore, 500 tons. Working capacity of mills increasing, owing to the rise of water in the Carson river. The incline is down 151 feet below the 1,300-foot level. The north drift on the 1,300-foot level from the shaft, to connect with the sonth drift from the Crown Point line, is in 115 feet. The sonth drift on the same level is in 445 feet, still in ore. The winze starting from the 1,200-foot level is down 100 feet, in ore of the nsual quality. The mine is looking splendidly throughout. A dividend of $4 per share was declared on the 5th, aggregating $416,000.

New York Consolidated.—Sinking the ehaft is making excellent progress, the rock in the bottom working much softer, with occasional streaks of fine looking quartz crossing the shaft, that give great promise. The new boilers are in place ready for use.

Sutro.—The drift weet is in 60 feet; expsct to tap the ledge at a distance of 100 feet. The face of the drift is in clay, showing some very good spots of quartz. Considerahle intereet has been taken in this mine during the past week, owing to its proximity to the Sierra Nevada mine, and to the declared iutention of the water company to hydraulic Cedar Hill (npon which the Sutro mine is situated) as soon as the extension of the company's flume is completed.

Justice.—The ore body in the north drift at the 300-foot level is gradually widening ont and improving in quality. The ore is now eight feet in width and of fine quality. The extraction of ore from the Waller-Defeat section of the mine continnes as usual, keeping the Williams & Brigg's mills steadily running. The mills have already commenced shipping bullion.

Calednonia.—The new compartment of the shaft is finished. Tho new boilers are in place, and when the new reels are once in position, everything will be in fine condition for the prosecution of the work on the lower levels. About the usual amount of ore is heing extracted, keeping the Sapphire mill steadily running.

Baltimore Consolidated. — Sinking the main shaft is making excellent progrese, the rock in the bottom working finely. The north cross-cnt, 175 feet from the west drift at the third stetion, has developed a body of ore of considerable promise.

Imperial.—Sinking the incline is making excellent headway, although the rock in the bottom continues to blast quite tough and hard.

Occidental.—The main north tunnel has been discontinued for the present on account of had air. A winze is being sunk on the ore body near whore the ore was first struck in the main tunnel and is developing some fine ore.

Ophir.—The main south drift on the 1,300-ft. level is still driven ahead. Prospecting at the 1,700-ft. level is making steady progress, with no developments of interest as yet.

Utah.—The main west drift at the first station is in 50 ft., being pushed ahead at the rate of 6 ft. per dey during the week. This drift will have from 100 to 150 ft. to run to strike the ledge.

Hale & Norcross.—Sinking the main incline is making steady progress. The yield of ore from the nppor levels is steadily decreasing.

Julia.—The main southwest drift at the 900-ft. level is making good headway, with evident indications of a near approach to the main ledge. The water in the shaft is gradually subsiding.

Empire. — Prospecting the mine is being prosecuted with all the vigor possible.

Succor.—Some fine ore is being extracted from the east drift at the second station in the shaft east of the mill. Sinking the new shaft east of the bill is making good progress.

Kossuth —The shaft is down 260 ft., and a station opened from which a drift has been started to tep the ledge.

Yellow Jacket.—The usual amount of crosscntting and prospectiug is heing done on the 1,400 and 1,500-ft. levels.

Tyler.—The main west drift at the 200-ft. station is in 44 ft., making sxcellent progrsss, with fair proepscts of soon strikiug the main ledge.

Buckeye.—Ths ore-breasts and stopes are yielding finely. The Hope mill is kept steadily rnnniag on ore from the mine.

American Flat.—The main sonthwest drift at the third station is still driven ahead toward the ledge.

Mint.—Sinking the shaft for a new level is making rapid progress, the rock in the bottom blaeting and working well.

Jacoa Little. — Driviag the main tnnnel ahead is making steady progress.

Knickerbocker.—Erecting the new hoisting and pumping machinery is making excellent progress.

Phil. Sheridan.—Work is ahout being resnmed on thie mine, which is one of tho most eligibly located on Cedar Hill, adjoining the Sierra Nevada on the north.

Gould & Curry.—The prospecting operations on the 1,500 and 1,600-ft. levels are still vigoronsly prosecnted.

Silver Hill. — Sinking the main shaft is making good progress. No water to impede the sinking. The ore-broasts on both the first and second levels are looking finely, and promise a good yield of ore for the future. The north winze from the first station on the Justice line is still in fine ore.

Arizona, Utah & Globe. — The main west drift at the 400-ft. level is still driven vigorously ahead, the face in much softer ground, showing undonbted indications of a close approach to the main ledge. The sonth crosscut from the bottom of the winze developed some fine-looking ore.

Savage.—Sinking the main incline is making good progress. Prospecting other portions of the mine continnes as nsual.

Woonville.—Daily yield, 20 tons, which is being extracted from the north stopes at the 300-ft. level. Sinking the incline is making steady progress following the ledge, and still in good ore. Sinking the new shaft is making good progress.

Sierra Nevada.—Daily yield, 60 tons. The ore-breasts and stopes are all yielding well. The mill is kept steadily rnnning, crnshing ore from the mine.

Daney.—The shaft is down 231 feet in good sinking ground. When a depth of 260 feet is reached, a station will be opened and a drift started for the ledge. It is expected that this will be done by the first of next month.

ELY DISTRICT.

Meadow Valley.—Pioche *Record*, Nov. 9: In No. 3, 11 ft. was made last week. The west drift from the 10th station has been run 8 ft.; the west from the 9th is in 225 ft.; the east, from the 9th, 323 ft.; the east, from the 8th, 385 ft.; the east, from the 520-ft. station, 246 ft..... American Flag.—At a depth of 825 ft. from the snrface there is a vein of ore varying 2 to 5 ft. As yet the extent of the ore-body cannot be determined.....Pioche.—The moving of the building and the machinery from the old to the new shaft is nowgoing on....Raymond & Ely.—The perpendicnlar shaft is now 977 ft. in depth. A new winze has commenced at the 8th level, and it is in very good ore....Washington & Creole.—There is ore in the bottom of each of the two winzes, in which workmen are now engaged. There are on the dump between 30 and 40 tons of ore....Silver Peak.—The depth of the incline is now 370 ft. The width of the ledge continnes the same. A slight improvement in the quality of the ore is noticed.... Chief of the Hill.—A progress of 14 ft. has been made in the cross-cut from the 360-ft. level. The drift et the 210-ft. level has heen run 11 ft. during the week.... Condor.—The work is being pushed forward vigorously in the drift from the 160-ft. level.... Carolino.—The shaft is now 465 ft. deep, and the men in the bottom are working in soft rock.... Chief East Extension.—At a depth of 280 ft. the ledge is 2½ ft. in width. There is ore on both the foot wall and the hanging wall.

Arizona.

YAVAPAI COUNTY.

Arizona *Miner*, Oct. 18: Messrs. Goodwin & McKinnon were mining and working richer and better ore from their claim on the War Eagle lode, Bradshaw district, than that worked by them in the late successful run. The quartz is abundant, and will pay from $20 to $100 per ton.

Persons just arrived from Wickenburg tell us that Smith's 10-stamp mill was doing well with Vulture ore. The proprietor was making moves towards erecting a furnace.

Walnut Grove continues the liveliest mining district in this part of Arizona. All the arastras are running; miners are taking out a great deal of rich gold and silver rock.

The only gold dust known to have bsen brought to town this week came from the Hassayampa. It was taken in by C. P. Head & Co., worth between $17 and $18 per ounce.

Quite recently, Jesse Jackson concluded to save the water, as it left the mill, and use it over again. This plan has enabled him to run his 5-stamp mill and arastras eight or nine hours each day. The ore he is crushing is good.

EASTERN ARIZONA.

Copper Mines.—Silver city *Mining Life*, Oct. 18: Mr. R. Metcalf is trying the smelting process which promises fair, but want of materisl for furnaces is a great drawback. So far no material has been obtained that will stand the test more than thirty-six hours, and most of the time not so long. On Friday last, a train arrived loadsd with sandstone from near Silver city, which has been tried and fouad to stand from ten to fourteen days. Mr. Bardis also arrivsd on the same dats; has purchassd Mr. Stnrenhsrg's intsrsst in the mine and expscts to commence opsrations seon. The mine now shows a vein frem two to four fest thick. There is now corded np at the mine from 150 to 200 tons of ore.

The Buck Mining Co., of Arizona, will endeavor to bring a ditch of fifteen or twenty miles long in at the head of the gulch where the elaims are located.

Colorado.

BOULDER COUNTY.

Denver *News*, Nov. 5: Within tho past year Gold Hill has developed wonderful richness in quartz, and hae proven itself to he one of the leadiag districts in the Territory. The rock carriee largo quantities of tellurium, which is found nowhere else in Colorado, and which is the richest ore known. Many lodee have been opened up which have astonished the mining communities, and, as a result, there has been a large influx of prospectors and capitalists there.

VIRGINIA CANON.

Crystal Mine.—Central City *Register*, Nov. 5: The Fulton Mining Company of Philadelphia, is operating a small force of men in tho Crystal mine, in Virginia Cañon. Twenty tons of ore, second class in quality, was hanled to Collnm's, at Idaho, this week, and, by his process of concentration, was reduced to six tons, worth 200 onnces each. The lot has just been sold to Hill. The tunnel has been driven in 75 feet, with a two foot crevice in the breast.

Idaho.

Items.—Owyhee *Avalanche*, Nov. 1: The utmost activity prevails in every hranch of mining, and we do not hesitate to predict that our camp will see better times this winter than ever before. The richness and permanence of our principal mines is now thoroughly demonstrated, which has inspired confidence at home and established for our camp a good reputation abroad.

In the Empire Snpt. Hoyt is still driving the firet, second, third and fonrth level drifts north with all possible dispatch, and will commence sinking for the fifth level about the first of next month. Althongh no stoping is heing done, yet the ore honse is full of ore taken ont of the drifts, and it is the opinion of good jndges that it will pay over $100 per ton. The Empire looks splendidly.

The shaft on the Illinois Central is 120 feet deep, from the bottom of which they are stoping north 40 feet and sonth 60 feet. The ledge is from 10 inches to two feet in width, well defined and easy worked. The last crushing yielded $122 per ton, and they will have 54 tons equally as good ready for crushing next week.

Lower California.

The New Diggings.—San Diego *Union*, Nov. 6: Since the discovery of the diggings there has been quite a rush from all quarters, There are now about 100 miners in the camp, and fully thirty of them are either Americans or foreigners. The distsnce from San Diego to the mines is about one hundred miles. All of the new comers pronounce the diggings good. Water has not been plentiful; the miners have been carrying the dirt about three miles to wash it. Several wells are now hsing dug in the bed of a creek close by the camp, and plenty of water has heen found at a depth of 12 ft. Most of the miners have been making from $1.50 to $2 apiece, per day, (six hours) washiug with pans, and from $4 to $5 per day washing with rockers. There is plenty of feed in the neighborhood of the diggings. The locality has not been prospscted much yet, hut placer gold has been found over an area of country 25 miles in extent. In about six weeks rain and snow will commence to fall in the mountains, and then there will be an abundance of water. Already the miners have commenced to build log houses. There is plenty of pine and cedar. The road from San Diego to the mines is good, with water at short distances.

A dispatch from San Diego, Nov. 8th, states: News from the Japa placer diggings, in Lower California, is more exciting. The ground, from the surface down to the water, eight or ten feet, is said to be filled with fine gold. A handful of dirt taken from any place in the locality and washed, gives a pay showing. People are flocking to the diggings from every quarter. Parties are generally made up or pass through here.

Montana.

Boulder Valley.—*Montanian*, Oct. 30: We hear it reported that one-third of the Bismarck lode, in Boulder valley, owned by Mr. Vincent, has been sold to a New York Company for pretty large figures. It is also stated that an interest in the Rumley lode, on the Boulder, has been purchased by S. T. Hauser.

The cold weather that has prevailed for a week past, has greatly retarded mining operations throughout the county, and indicstions are that all hydraulic miniug will be suspended by the 10th of November.

The Flint Creek Ditch is progressing rapidly, but the contractors want more men to work on it.

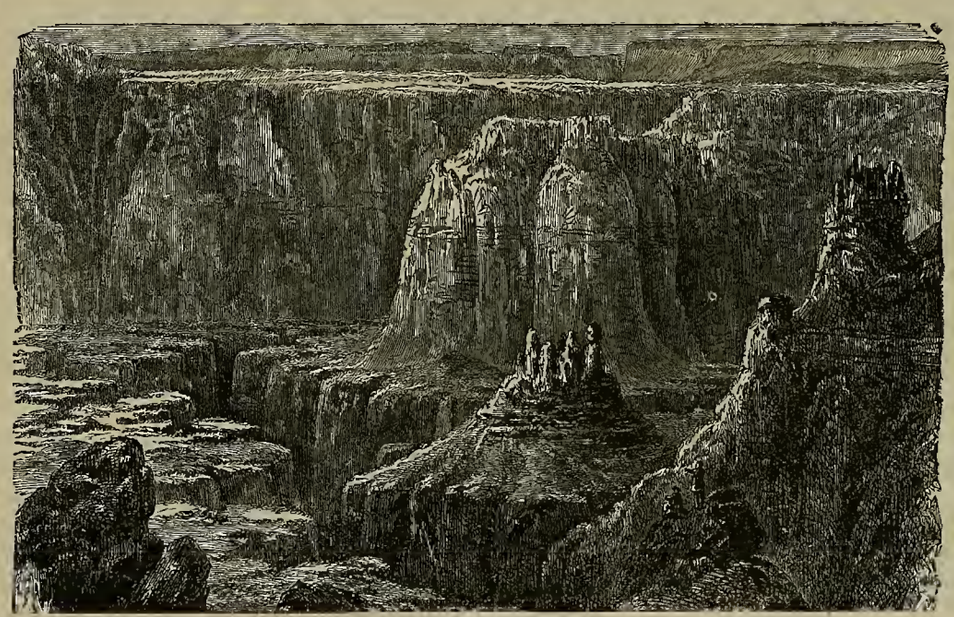
Mr. A. C. Hall deposited for shipment at the two banks in this city, on Monday, six hundred and eighty ounces of gold dust—the last clean-up of Hall & Hyde's flume at Summit. Over twelve thousand dollars at one clean-up isn't so bad.

[Continued on Page 320.]

The Chasm.

A Scene in Colorado.

The dweller in the crowded city, whose streets are filled with the surging throngs of commerce, has but a poor idea of the vast and wonderful scenes of Nature, which seeme to have selected the lone epots of the earth for the display of her mightiest wonders, and to have hidden them away in majestic solitudee, almost unapproachable by the feeble footsteps of man. Such scenes as those, one of which is depicted in onr engraving, present themselves only to the wild hunter, to tbe Indian eon of the desert and the mountain, or to the intrepid explorer in search of the scientific secrets of the metalliferous treasures of Nature. In earlier days, however, they were sufficiently familiar to tbe eyes of the emigrants who, croeeing the plains, had in order to reach the golden land to struggle throngh the cañons. and climb the peaks, and skirt the precipices of our mighty mountains. The land whose hills pierce the heavens and give birth to the mighty streams that feed the Mexique Gulf and reach the sea of Balboa is seamed with mighty chaems carved ont by the waters in the course of untold centuries. Their depth is as the height of mountains, one being lately described whose mnral precipices loomed tbree thousand feet above the shining waters that laved their almost invisible bases. Some of the cañons of the Colorado wiud hundreds of miles into the inmoet recesses of the mountains. There is no sameness about their appearance, for an infinite variety of forms, some beantiful, otheregrand and awfnl, present themselves to the eye of the explorer. Here the cañon widens out into a broad valley, there the rocks rise from the edge of the water perpendicularly, and from above it looks with the stream that flowe through it, like a silvery thread winding afar through the mountains. The scene presented in our illuetration, where there is a margin left on either side of the water, is not nncommon. Here the cañon is wide, with walls that almost hide away the heavens and leave nothing visible save a small patch of distant eky, the leaping river that dug out the abyee, aud the encircling rocks that have beeu carved by the waters, the winds and the slow dissolvent power of the air into a myriad of fautastic forms. In one place you see the semblance of rocky domes, and pinnacles, and towers; in another is presented in miniature a picture of the serrated hills iu whose bosom the cañon is sheltered. Originally the vast plateau of the Rocky Mountains with its crowning peaks was raised above semi-tropical seas. Exposed for nntold ages to the action of the wind and rain and air, and of the streams that issued from their womb of waters, the softer rocke have been worn away, some mountains rounded, others serrated, and these abysses leading into the bowels of the mountains opened.



THE CHASM.

THE WORK AT HELL GATE.—The report of General Newton on the work done at Hell Gate during the laet year shows that the progrese made in driving forward the tunuele and galleries was 2,731 lineal feet. The quantity of rock removed during this period was: By hammer drilling, 1,750 cubio yarde; by the Burleigh drills, 7,619 cubic yards, and by tbe two diamond drills, which were at work during July and part of Angust, 185 cubic yards. The total removed was 9,554 cubio yards. The number of feet of holee drilled was 95,851, or at the rate of ten lineal feet of holes drilled to one oubic yard of rock. The quantity of explocives ueed to blaet thie length of holes was 11,808 pounde of nitro-glycerine, 1,218 pounde of giant powder, and 3,445 pounds of black powder, divided into 23,592 oartridges—*i. e.*, an average of one oartridge to four feet in length of hole. The length of Buckford fuee expended was 94,150 feet. The average spend of the hammer drilling per shift of eight houre was 5.4 feet, or at the rate of 2.7 feet for each man of the gang. Tbe number of drills sharpened for hammer work was 34,529 and the loss by abrasion and dressing was 2,952 pounds of Englieh eteel, or nearly three ounces per lineal foot of hole drilled. Oue thousand feet of tunnels remain to be excavated.

PREVENTING FIREE ON BOARN SHIP.—Dr. M. Schuppert, of New Orleane, proposee to have, in the holds of vessele whose cargoes are liable to epontaneous combuetion, boxes filled with marble duet, into which pipes are to be led to convey dilute eulphuric acid. The carbonic acid gae disengaged by the contact of the eulphuric acid will extinguish the fire; and Dr. Schuppert pointe out that the gas, being heavier than atmospheric air, oan easily be confined to the hold of the vessel.

The Liability of Stock Brokers.

A case wae decided last week in the Fourth District Court by Judge Morrison which is of great interest ae showing the relation of agent and principal in stock operations. The caee was tbat of Margaret L. Whittaker against McDonald & Wbitney. Ite bistory is abont as follows:

Tbe facte ehow that defendants, McDonald & Wbitney, who are stockbrokers in this city, were employed by the plaintiff to purchase certain mining stocke for her, consisting of Savage, Crown Point, Yellow Jacket, Consolidated Virginia and several others, "*buyer* 30." These stocks were bought by McDonald & Whitney, and the margin required by the rules of the Stock Board was put up by the plaintiff —a margin of 20 per cent. Tbe stocks were held for some time, until by a fall in the market the margin was uncovered, and McDonald & Whitney notified the plaintiff that she must pay them what she owed them. A written notice to this effect was in the first place sent to her. She called to see them, and gave them to understand that if she could raise the money she would pay them. She also gave them to understand subsequently, that she was negotiating for the loan of the money, and would probably be able to get it. She was then notified positively that unless she paid the amount due, the defendante would sell her stock in the board the next day. The following day, at the afternoon eession, the plaintiff's stocke were sold by the direction of the defendants, by the President of the Stock Board. That wae about the 5th or 6th of May, 1869. The defendante sent her an acconnt of these sales, and in the following December she called upon them and demanded the balance in their hands alleged to be due her, about $1,800 or $2,000. They did not deny the indebtedness, but owing to some troubles which had grown ont of stock transactions, between the plaintiff's brother-in-law, one Coon, and the firm of Cahill & Co., McDonald & Whitney refnsed to pay the balance at that time. Thinge went on without any more being said about this matter until the following April. At that time mining etocke advanced to almost unprecedeutly high prices, and then the plaintiff brought her action againet McDonald & Whitney, claiming $150,000 damages for the nnlawfnl convereion of these etocks.

The plaintiff relies mainly upou two points ae grounds upon which she is entitled to recover in this cäee. In the first place, it ie contended that, under the circumstances, McDonald & Whitney had no right to eell theee stocks at all; and in the second place, that they had no right to sell them in the Stock Board.

This second point has been very much discussed in the numerons cases which have arisen, not only in this country, but in England; and the authorities thereon are conflicting. The qnestion, whether a persou dealing with a Broker, deale with him subjeot to the rules of the Stock Board, is one upon which the authorities appear to be very much in conflict. In the English Courts, however, the rule seeme to be well settled that "one who emyloye a Broker to transact business for him upon the Stock Exchange or other general market, impliedly authorizes him to deal according to the general and known usages and customs of that market, although he may not himself be aware of their exietence." Grissell *vs.* Bristowe *et al.*, First Common Pleas, page 112.

To the eame effect ie the case of Duncan *vs.* Hill; Court of Exchequer, page 262. And to the eame effect, also ie the case of Pollock against Staples; 12 Queen'e Bench, page 765. The eame doctrine is held by the Supreme Court of Maryland in the caee of Maryland Fire Insurance Company against Dalrymple: "A eale at the Board of Brokers, publicly and fairly made, would in our opinion, have been legal and valid, and if the sale of the 20th of November had been made to a third person, it would have been a legal sale." So says the Court. The same point ie decided by the Supreme Court of Maryland, in the latter case of Rosenstock *vs.* Tormey, 32 Marylaud, 178.

The case of Markham againet Jandon, 41st New York Reports, page 243, ie relied upon as an authority the other way. And it seems to eustain the view upon this point, preeented by the plaintiff, and it is conflict with the authorities to which I have referred, ae well in conflict with other New York cases decided previously, wbich it overrules.

The [Purchase Was Made Under Rules of the Stock Board.

The Court is in tbis case, however, relieved of tbe duty of paseing upon these conflicting authorities, for the reason that tbe plaintiff, when these stocks were bought, gave McDonald & Whitney written orders in tbis form: "Please buy for me, for my account and risk, twenty-five shares of Overman at $95 per share, payable in gold coin of tbe United States, subject to the rules of the San Francisco Stock and Exchange Board." It is very clear to my mind that in giving these orders, the plaintiff adopted the rules of San Francisco Stock and Exchange Board, and that these rules were incorporated into, aud became a part of the contract. When McDonald & Whituey bought theee stocks, buyer 30, under these orders, they were bought subject to the rules of the San Francisco Stock and Exchange Board, and those rules provide that if the margin is not kept good (the 20 per cent. margin) tbe broker shall have the right to sell the stock, upon snoh a notice as was given in the case. It is shown that the stocke were sold, in tbe manner and form prescribed by the rules of the San Francisco Stock and Exchange Board, and that they were sold for all that they were worth at the time the sale was made. In my opinion, tbe eale was a good and valid one, and one which McDouald & Whitney had a right, under tbe circumstunces, to make.

Ground of Defense.

But there is another ground upon which the learned counsel for the defendants rely in thie case, and that is that, even if McDonald & Whitney sold these stocks without authority and in violation or the duties which they owed their principal, and thereby became liable ae for a conversion, their unauthorized act wae subsequently approved and ratified by tbe plaintiff. It will be borne in mind that theee stocks were sold in May, 1869; that an account was rendered at that time; that no objection wae made by the plaintiff to the sale; that in the following December the plaintiff demanded of defendants the balance remaining in their hande due plaintiff ae the proceeds of the sale. And another fact which the Court has not yet noticed, but which appears from the evidence, ie that in a caee in which the plaintiff was a defendant she filed an answer in which she averred that McDouald & Whitney had about $2,000 of her mouey in their hands, evidently referring to the money aeceived by them upon the sale of these stocks. She demanded the money in December, 1869, and not until April, 1870, did she think—so far ae the evidence showe—of commencing this action for an unlawful conversion of these stocks.

No Advantage Taken of a Depressed Market.

It ie also in evidence before the Court that in the interval betweeu the sale of these etocks and the commencement of thie action McDonald & Whitney could have replaced the stocks at a cost of between $10,000 and $12,000 *less than they were sold for*. But during all tbis time of depreesion, when the plaintiff would have been a loeer if she had repudiated the act of McDonald & Whitney in selling the stocks, she remained silent, or rather ehe gave them to underetand by her conduot that she acquiesced in what they had done.

A Principal Must Repudiate the Unauthorized Acts of an Agent.

Now, it is a well settled rule of law, that if a person assumes to act as the agent of another, without authority, such act may be ratified by the principal, and such ratification is equivalent to a prior authority, and even the silence of the priucipal may amount to a ratification. Upon this point the authorities are numerous; and the principle seems to be fully eetablished. In Story, on Agency, Section 255, it is said that "long acquieescence, also, without objection, and even the silence of the principal, will in many casee, amount to a conclueive presumption of the ratification of an nnauthorized act; especially, where such acquiescence ie not otherwise to be accounted for, or such eilence is either contrary to tbe duty of the principal, or it has a tendency to mislead tbe agent."

In the caee of Crane *vs.* Bidwell *et al.* 25 Missiesippi 513, the Court says:

"But if it be conceded that he (the principal) had a right to disavow the act of the agent in thie particular, it was his duty to have done so when first informed of it, and to have notified the defendant thereof."

In the case of Norris *et al. vs.* Cook *et al.*, 1, Curtie' Reports, page 469, the learned Judge says, quoting from the decision of the Supreme Court of New York:

"It is a salutary rule, in relation to Agenciee, that when the principal has been informed of what has been done, he must diesent, and give notice in a reaeonable time, otherwise his aesent to what has been doue shall be presumed."

In the case of Owsley *vs.* Woolhopter, 14 Georgia, page 128, the Court says: "Indeed, if the agent, without anthority, should do any act, and the principal, after a knowledge of the fact, should make no objection, but acquiesce for a length of time—especially where such acquiescence cannot be explained or otherwise accounted for, and which hae a tendency to mislead the agent; in all such cases, and many others, which migbt be supposed, the law would construe such silence as contrary to the duty of the principal and he would be held bound by it."

The same view is held in 1et Livermore on Agency, pages 45 and 47. In Hanks *vs.* Drake *et al.*, 49 Barbour, page 186. It appeared that the plaintiff received information of the eale by the broker on the 20th of May and in September demanded his account aud made no objection thereto; and commenced suit in December. He was held to have ratified the acts of the broker.

The Plaintiff Ratified the Acts of the Brokers.

These authoritiee are, to my mind, conclusive upon tbe point that the plaintiff in thie action, by her long aquiescnce, after being informed of whet the defendents had done, and by demanding the balance remaining in the bands of Wbitney & McDonald, on accouut of these sales, ratified the acts of McDouald & Whitney in making the sales; even conceding for the purpose of argument, that by such acts they were guilty of couversion.

The evidence satiefies me that the plaintiff never thought of bringing thie action until sbe was stimulated to do so by the almost unparalleled rise in these stocks, aud then, for the first time, she conceived the idea of holding defendants liable in damages for a conversion of her property. In my opinion this case is wholly without merit.

There is a balance due by McDonald & Wbitney; but it cannot be recovered in this form of action. Thie action is for a tort, for an unlawful conversion of property, and the balance dne plaintiff by defendants can only be recovered in another form of actiou, a form of action founded on contract. The distinction between actions arising out of torte and actione founded on contracts ie well eettled, and is euch that a party in an action for a tort cannot recover money due on a contract.

Let judgment be entered in favor of the defendants.

THE WINTERS' QUICKSILVER MINE IN MONTEREY COUNTY.—John B. Wintere gives to tbe *Territorial Enterprise* the following information concerning the mine located by him in Monterey county, California: "It is eituated in the Coast Range mountains, at the head of Chalamot creek, in the north-west corner of Monterey county. The lead ie abont fifty feet in width and crops out for a distance of half a mile. The lead is about a mile and a quarter above the valley of Chalamot creek and the route by which it ie reached ie steep. A large ravine cuts through the lead and along this ravine are to be seen boulders of several tons weight tbat have been torn from tbe vein. About thirty yarde below the vein in this ravine ie a fine spring. In the bouldere and in the croppinge of tbe ledge are to be seen small streaks of cinnabar and other traces of quicksilver. A party of five men have been eet to work to run a tunnel into the vein. Ae yet the company have only what they believe to be excellent indicatione of a large and valuable mine."

Useful Information.

How to Improve the Appearance of Furniture.

Mr. G. J. Henkels, of Philadelphia, Pa., suggests that when the polish on new furniture becomes dull it can be renewed by the following process: Take a soft sponge, wet with clean cold water, and wash over the article. Then take a soft chamoie skin and wipe it clean. Dry the skin as well as you can by wringing it in the hands, and wipe the water off the furniture, being careful to wipe only one way. Never use a dry chamois on varnish work. If the varnish is defaced and shows white marks, take linseed oil and turpentine in equal parts; shake them well in a vial and apply a very small quantity on a soft rag until the color is restored; then with a clean, soft rag wipe the mixture off. In deeply carved work, the dust cannot be removed with a sponge. Use a stiff haired paint brush instead of a sponge. The cause of varnished furniture becoming dull, and the reason why oil and turpentine restore its former polish, it will be appropriate to explain. The humidity of the atmosphere and the action of gas cause a bluish white coating to collect on all furniture, and show conspicuously on bright, polished surfaces, such as mirrors, pianos, cabinet ware and polished metal. It is easily removed as previously directed. The white scratches on furniture are caused by bruising the gum of which varnish is made. Copal varnish is composed of gum copal, linseed oil, and turpentine or benzine. Copal is not soluble in alcohol as other gums are, but is dissolved by heat. It is the foundation of varnish, as the oil is used only to make the gum tough, and the turpentine is required only to hold the other parts in a liquid state, and it evaporates immediately after its application to furniture. The gum then becomes hard and admits of a fine polish. Thus, when the varnish is bruised, it is the gum that turns white, and the color is restored by applying the oil and turpentine.

If the mixture is left on the furniture, it will amalgamate with the varnish and become tough, therefore the necessity of wiping it entirely off at once. To varnish old furniture, it should be rubbed with pulverized pumice stone and water to take off the old surface, and then varnished with varnish reduced, by adding turpentine, to the consistency of cream. Apply with a stiff haired brush. If it does not look well, repeat the rubbing with pumice stone, and when dry, varnish it again.

Moths in Furniture.

The same author says: There are two species of moths which infest furniture. One is a large fly of silvery white color; the worm of the same is shaped like a chestnut worm, and is familiarly known. It rarely infests furniture. The other is a small fly of a dark drab color; the worm is about one-fourth of an inch long, and tapering from the head to the tail. It was first observed by upholsterers about thirteen years ago. This fly penetrates a sofa or chair, generally between the back and seats of sofas, or under the seats, where the vacancy among the springs affords a safe retreat. It may make a lodgment in one week after the furniture is placed in the house. If such should be the case, in two months the worm will appear; and the continual process of procreation in a few months increases the number to thousands. This moth has no season. It destroys in winter and summer alike, and it is kept in active life by the constant heat of the house. We find at the same time, in the same piece of furniture, the fly, the worm, and the eggs; thus showing that they are breeding and destroying all the time. It does not eat pure curled hair, but fastens its cocoon to it, the elasticity of which prevents its being disturbed. The inside of furniture is used by it only for the purpose of propagation. The worm, when ready for food, crawls out and destroys the covering, if of woolen or plush material; and falling to the carpet, destroys it. It rarely cuts through plush from the inside, as it is of cotton back, but there are instances where the worms have cut up muslin on the outside back of sofas. There is no protection against them but continual care. New furniture should be removed from the walls at least twice a week at this season of the year, and should be well whisked all around, and particularly under the seats, to prevent the fly from lodging. This is an effectual preventative, and the only one known. Cayenne pepper, Scotch snuff, camphor, turpentine and all other remedies for protection from the large moth are of little or no avail against the furniture moths. Saturation with alcohol will not destroy them when in a piece of furniture.

If the furniture is infested, they may be removed by taking off the muslin from under the seats and off the outside ends and backs, where they congregate most, and exposing to the air as much as possible. Beat well with a whisk or the open hand, and kill all the flies and worms which show themselves. This done often will disturb them, and may make them leave the furniture, in their desire to be left in quiet. When the furniture is free from moths and is to be left during the summer months without attention, it may be protected by camphor in small bags or highly concentrated patchouli. The safest way is to have the furniture well whisked twice a week. If the moths attack the carpet, which they will first do under the sofas and chairs, spread a wet sheet on the carpet and pass a hot flat iron over it quickly; the steam will effectually destroy both worms and eggs.

If furniture is delivered in a dwelling free from moths, the upholsterer's responsibility ends there and all rests with the housekeeper, as no tradesman can tell whether the moth will attack it or not. There are cases where the furniture has been in use ten or twelve years before being attacked. It would be as fair to hold the tailor responsible for the safety of clothing from moths as to hold the upholsterer responsible for the safety of furniture.

An Anatomical Hint.—Dr. Herman Meyer, of Zurich, asserts that a shoemaker ought not only to produce a shoe that does not pinch, but a shoe so constructed that it will give to a foot distorted by the pinching it has borne already, a fair chance of a return to its right shape, and full possession of its power as a means of carrying the body onward. He says that in measuring a foot for a shoe or boot, the first thing to be considered is the place of the great toe. Upon this toe, in walking, the weight of the whole body turns at every step; in a natural foot, therefore, it is in a straight line with the heel. A central straight line drawn from the point of the great toe to the middle of its root, if continued, would pass very exactly in the middle of the heel. But, by the misfitting boot usually worn, the point of the toe is pressed inwards, the root outwards. No last, or model of a foot already injured by wearing ill-fitting boots or shoes, should ever be made of the exact size of such a foot.

Good Health.

Heart-Disease and Overwork.

The early break-down of health observed among Cornish miners, and commonly regarded as an affection of the lungs—"miner's phthisis"—is declared, by competent authority, to proceed rather from disturbed action of the heart; and this, according to Dr. Houghton, the distinguished Dublin physiologist, is caused by the great and sudden strains put upon the system by the ascent from the pits, at a time when the body is not sufficiently fortified with food. In his valuable address on the "Relation of Food to Work," Dr. Houghton says: "The labor of the miner is peculiar, and his food appears to me badly suited to meet its requirements. At the close of a hard day's toil the weary miner has to climb, by vertical ladders, through a hight of from 600 to 1,200 feet, before he can reach his cottage, where he naturally looks for his food and sleep. This climbing of the ladders is performed hastily, almost as a gymnastic feat, and throws a heavy strain (amounting to from one-eighth to one-quarter of the whole day's work) upon the muscles of the tired miner, during the half-hour or hour that concludes his daily toil. A flesh-fed man (as a red Indian) would run up the ladders like a cat, using the stores of force already in reserve in his blood; but the Cornish miner, who is fed chiefly on dough and fat, finds himself greatly distressed by the climbing of the ladders—more so, indeed, than by the slower labor of quarrying in the mine. His heart, over-stimulated by the rapid exertion of muscular work, beats more and more quickly in its efforts to oxidate the blood in the lungs, and so supply the force required. Local congestion of the lung itself frequently follows, and lays the foundation for the affection so graphically though sadly described by the miner at forty years of age, who tells you that his other works are very good, but that he is 'beginning to leak in the valves.' Were I a Cornish miner, and able to afford the luxury, I should train myself for the ladder-feat by dinning on half a pound of rare beefstake and a glass of ale from one to two hours before commencing the ascent."—*Popular Science Monthly.*

The Fruits as Diet.

Fruit properly used, it is acknowledged, has a healthful effect. Eaten raw, this is the case; cooked, it is in general better, and then may be used to advantage with the regular meal.

It has been found more recently that the fruits are more nutritive than was formerly supposed. There is more water than with solid food, hence they are more diluted, but also more grateful with their sub-acid and aromatic properties which, with the rest, have a medicinal as well as nutritive effect—all favorable if properly indulged in. Green or unripe fruit contains a poisonous acid, and should not therefore be used, though cooking remedies this to some extent.

Perhaps chief among the fruits should be put the grape; it contains with the apple, the most soluble, that is, digestible material, of any of the fruits. Except the cherry and the whortleberry, it shows a greater percentage of nitrogen or the flesh-forming principle, falling but a trifle below these two. Apples also rank high. They are hence widely used and with advantage. A ripe apple, of a sub-acid character, baked slow and long till reduced to a fine pulp, is one of the most grateful and is the most nutritive of all the fruits, being unsurpassed as a table relish to take with the meal. It also finds its way frequently to the sick room with benefit.

But variety is wanted. The pear too is nutritious; but it has a short season. So with the berries. The blackberry is the most healthful of all the fruits, and is also very grateful; it can hardly be eaten to excess so as to occasion harm, which is not the case with the more aromatic strawberry, which, though strong in flavor, has yet a comparatively small amount of the nutritive elements, but little exceeding the blackberry. It is the apple and the grape that concern us most, as these may be kept, the first, if need be, the year through, the latter half that time.—*Indiana Farmer.*

Coffee and Milk as an Aliment.

Pere Maigne discourses as follows with regard to a table beverage, very agreeable and very common among the American people: "M. E. Marchland solves, in a very happy manner, the question so long agitated, of its advantages and disadvantages. Milk is a valuable aliment, suitable for all ages, all temperaments, and all conditions, and is always a harmless and nutritious food, when the person who takes it is in good health. It is also well known that clear coffee is a valuable stimulant and tonic, and, taken after a meal, facilitates digestion.

"Now, it is a remarkable fact that this milk and this coffee, which are so well assimilated, when they are taken separately, and with an interval of time between, constitute, by their mixture, a new agent, a new compound, absolutely indigestible, and, consequently, absolutely unassimilable, when the mixture is made in the right proportions. And it is still more remarkable, and even surprising, that to this the compound owes its reputation, among the laboring classes as a strong aliment. This needs an explanation. The infusion of coffee is rich in tannin. When it is mixed with milk, there results immediately a transformation of the albumen and casein which it contains into a sort of imputrescible, indigestible leather, like that which is formed in a tan-vat, in which animal tissue has been immersed. Such a compound cannot always be taken out with impunity. Those who are not accustomed to it are frequently subjected to a purgative effect consequent upon indigestion, and those to whom it is apparently innocuous, sometimes end by experiencing gastric difficulty, or disarrangements of the digestive organs. It may be well to make them understand that the best made coffee, with milk, is, in reality, only a sort of leather soup. We launched the same anathema against coffee and milk twenty years ago, without being listened to."

Dr. E. M. Hunt thus generalises on the facts of digestion: Food should pass into the stomach in a finely divided state. The rapidity with which digestion is performed, depends upon various circumstances. Strong emotion, as anger or grief, will retard it; moderate exercise hastens it, and thus the state both of body and mind influences it. A usual meal is generally digested in a healthy person in from three to five hours. A mixture of food is not especially objectionable, except as by variety it encourages the appetite, and often leads us to consume more than is needful. Animal food is digested more quickly than vegetable, and solid food more speedily than soups. Oily food is more quickly appropriated by the system than muscular fiber, when agreeing with the stomach. Uncooked oil is more digestible than cooked. Cream and butter are the purest of oils. Boiled meats are most digestible, roasted next, broiled and fried the least so. Bulk is necessary to digestion. The people of cold climates who live much on fats, mix crude matters, sometimes even sawdust, with them, and thus find them more readily digested. Milk is among the most nutritious and digestible of foods. It is considered constinating, but the chief reason is that it is almost entirely taken up by the system, and no residue left. With the same exertion, we need richer food in cold weather than in warm. Never eat between meals, unless extra exertion or exposure require it, and then select hearty and quickly digestible food. As a rule, ripe fruits or vegetables are more digestible than green, and green fruit stewed more digestible than when eaten in the raw state. Smoked meats are less digestible than fresh, and of smoked or salted meats, the inner portion is more easily digested than the outer part. The inner part is preserved as much by the saltpetre and the exclusion of the air, as by the salting and smoking process, and is in a state more allied to preserved fresh meat. Dried fruits, as prunes, raisins, apples, etc., are unfit to eat unless well cooked, and all unbroken seeds are indigestible. Alcoholic stimuli, or condiments of any kind, are not necessary in healthy conditions of the stomach.

Lead Poisoning.—Dr. Wittstein has analysed the constituents of the capsules used for champagne, beer, and mineral water bottles, and he finds that, so far from being made of tin, with an addition of lead, they are rather made of lead, with a small addition of tin. In half a dozen cases he found that the percentage of load was 90. Thus champagne capsules contained 90.13; mineral water capsules 93.1; and beer capsules from 94.2 to 99.4 per cent. of lead. The prevalent habit of covering the top of the bottle with the capsule after the cork has once been drawn, is consequently to be deprecated. The acid contents of the bottle in contact with the capsule at the mouth of the bottle, even in minute quantities, necessarily produces a deleterious solution of lead.

Domestic Economy.

Food and its Preparation.

The following notes are taken from an interesting essay by Dr. George Derby, Secretary of the State Board of Health of Massachusetts, treating upon the forms of food in common use throughout that State, how they are prepared and how they are eaten, together with the considerations whether this food, as generally used, promotes public health, power and usefulness. The question:

Is Such an Article Wholesome or Not?

Cannot be truly answered in a general sense. Very few articles ranked as good are absolutely unfit; but a man laying a stone wall may digest and thrive on diet which would be very unwholesome to him if employed in shoemaking or other sedentary occupation. Of the many causes of consumption, want of proper food is surely one, and there is good reason to believe that the many forms of dyspepsia so commonly met with are but too often the danger-signal that Nature gives us to show that the food, either in its quality, its preparation, or its variety, is unsuited to maintain the vital process. It is but a modified form of starvation, with the mockery of a display of abundance.

Bread.

Leavened or fermented bread is as old as the time of Moses and its value has been fairly tested. Whatever be the precise action of the leaven, it transforms grain by partial decomposition of its original elements, and leaves as its resultant what men in all ages have approved. Modern substitutes impair the flavor, diminish the nutritive property, and break the staff of life. Bakers' bread is almost universally composed of flour with extraneous substances, alum and carbonate of ammonia being most employed. Bread hastily made in families is mixed in a variety of ways with carbonates of soda or potash, combined with phosphate of lime, with cream of tartar or with sour milk, and is generally imperfectly cooked. Very often the elements of wheat and fat which the body demands are furnished in underdone pastry made of flour and hogs' lard; the first legitimate effect of such food as this with people of average condition is indigestion or dyspepsia; the second is all that train of ailments caused by imperfect nutrition. Good bread should be made from a mixture of flour such as is generally used in our markets, water, salt and yeast, and nothing else. The yeast is composed of malt, potatoes and hops, and the dough, kneaded for from one and a half to two hours, is then thoroughly baked.

Variety of Food.

Experience has proved that, for some reason unknown to science, variety is essential to health after reaching the age when we are free to choose our food. The perpetual recurrence of the same edibles, even though their number be considerable, becomes in all periods of life except infancy, not only wearisome, but positively injurious. The lack of variety in many cases is due to the poverty of poorer classes and the difficulty of buying fresh provisions in places remote from markets. Salt-pork, salt-fish, and potatoes, with pies, poor bread and Japan tea, are the staples of food of thousands of families during our long winters. It should be understood how needful a change of diet is from time to time. Fresh vegetables, particularly in the country, are readily obtained and preserved, and should be unsparingly used. The edible roots, as turnips, carrots, onions, and beets, and cabbage, are as well worth preservation as the omnipresent potato. All these vegetables need thorough boiling, and more than they generally get.

Frying Meat.

A common habit in American cookery, is most unprofitable to the eater. It robs the meat of its juices and hardens its texture. The extreme heat of the fat not only burns the outer layers of the meat, so as to injure their value for nutritive purposes, but also changes the chemical condition of the fatty acids, giving rise to products which obstruct the breathing and cause tingling of the nose and eyes of the cook, and which are more or less harmful to the eater. The peculiar flavor of the meat is in a great measure lost by frying, and for it is substituted the flavor of the fat in which it is cooked. This fat permeates the fibers of the meat in such a way as to render them less soluble in the watery fluids of the mouth and stomach, and thus cause difficult digestion. Broiling on a gridiron over a quick fire costs a little more time and trouble, and very likely fuel also, but by this process the juices of the meat are sealed up (to a certain extent) instead of being evaporated, and the nutritive value is thereby much increased.

How to Iron Linen.—A *Hearth and Home* correspondent says linen that is placed immediately after being ironed near the stove or in the hot sun, is stiffer when dry than if it is permitted to dry slowly. It is a good plan to lay collars and small articles on a waiter, and set them on a kettle or other support on the stove, till they are quite dry. Sometimes the iron will stick in a manner quite unaccountable; if it is rubbed on a board on which fine salt has been sprinkled, and then passed over a brown paper with wax in its folds, the sticking properties will be checked. A bowl of clear water and a clean old linen cloth, are useful to remove any specks the linen may acquire before or while being ironed.

MINING AND SCIENTIFIC PRESS.

W. R. EWER.....SENIOR EDITOR

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San Francisco:
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Legal Tender Rates.—S. F., Thurs., Nov. 13.—buying 92¾; selling 93⅛.

TABLE OF CONTENTS.

GENERAL EDITORIALS. — Fiedler's Condenser; Mining Commissioner's Report, 305. The Oldest Mining Corporation; The San Juan Mines; Phillips' Metallurgist's Companion; Northern Coast Mines, 312. Miners' Association of Colorado; The California Titmouse; A Curious Case, 313.

ILLUSTRATIONS. — Fiedler's Quicksilver Condenser, 305. The California Titmouse; A Curious Case, 313.

MECHANICAL PROGRESS. — Making Telescope Glasses; Steel vs. Iron; The Center-rail Railway; New Material for Making Paper; Ditching by Steam Power, 307.

SCIENTIFIC PROGRESS.—Is Hydrogen a Compound Body? New Process of Manufacturing Steel; Cheap Sugar; Paint Poisoning; Fluorene; Mercury in the System, 307.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 308.

MINING SUMMARY from various counties in California, Nevada, Arizona, Colorado, Idaho, Lower California, Montana, Utah and Washington Territory, 309.

USEFUL INFORMATION. — How to Improve the Appearance of Furniture; An Anatomical Hint, 311.

GOOD HEALTH.—Heart-Disease and Overwork; The Fruits as Diet; Coffee and Milk as an Aliment; Lead Poisoning, 311.

DOMESTIC ECONOMY.—Food and its Preparation; How to Iron Linen, 311.

MISCELLANEOUS.—The High Sierra South of Mount Whitney; The Value of Gold and Silver; "A Mine What is a Mine;" Chemicals in Pan Amalgamation; The Pardee School of Mines; A Neat Method of Testing with Bunsen's Flame, 306. The Liability of Stock Brokers; The Winters' Quicksilver Mine in Monterey County, 310. Metalliferous Mines of Wales; The Tecumseh Mining Company; The Coal Mines of Amador; New Mill at Eberhardt; Mariposa Mill; More Coal Discoveries; Quicksilver Suggestion; Replacing a Severed Finger, 314. Mineral Oils for Iron; Willow Creek Mines; Worth Knowing; A New Needle Gun, 315.

Our Oldest Corporation.

The Ural Mining Company, incorporated in August 26th, 1851, is the oldest mining incorporation in the State. Since that time, according to the *Post*, the number of incorporations of all kinds organized in this city is 5,752. The Ural Company was organized with a capital stock of $40,000 in 40 shares, which shows how modest people were in those days as compared with the present when companies are not stocked for less than a million, and some ten millions. The articles state that the company was formed "for the purpose of quartz mining and extracting gold from the quartz rock by pounding and crushing the same. Now-a-days the articles claim all sorts of things, such as mining, milling, building roads, cutting timber, doing a transportation business, buying and selling real-estate, etc.; the principal object—namely, selling the stock—is carefully omitted in the articles of incorporation.

The incorporators of the Ural were John S. Hagar, Joseph Bidleman, Wm. H. Block, Jas. Blair, James Whitney, E. M. Block, Joel F. Lightner, William Norris, B. D. Baxter, D. S. Lord, F. Butler King, and Greenville A. Meudon. The company was to mine on the Eureka and Inyo vein, in Nevada County, Cal. Of course long before this incorporation was formed, numbers of companies were organized without the formality of any regular incorporation, and that kind paid best in the end. Where a few men were working in their own interest, all equal owners, there was more to encourage them to labor earnestly than where one or two owned a controlling interest. This holds true now as well as then, and as a general rule the small companies pay much better than the large ones. We mean legitimate mining, of course, not stock-speculating operations.

The San Juan Mines.

Considerable interest is being manifested just now concerning the San Juan country and its mines, and glowing accounts of the district appear in the papers from the pens of correspondents, most of whom, however, know little about mining, judging from their effusions. The specimens of ore recently exhibited at the Territorial Fair, in Colorado, have had the effect of creating an "excitement," and numbers of people are going to the new mines just as winter has set in, contrary to the advice of those who have been there, and know what the winter is. Mr. P. H. Newbill, who has been in this State some twenty-one years, and has been "in the mines" a portion of the time, spent the past summer in the San Juan country, and returned to this city last week for the winter. In conversation with him since his return we learn some interesting facts concerning the mines there. He says that there have been in all about 500 people there this year, but not more than 300 at one time. There was only one other Californian there besides himself, most of the prospectors being Colorado men, but quite a number from Kansas and Dacotah. The majority of the men there know nothing at all about mining, but were stock men, farmers, etc., a fact which may account for the wonderful reports of richness we see in print. They talk of rock *yielding* $2,000, $3,000, $8,000, and even $15,000 per ton, which is of course all "bosh," especially in connection with the statement that the leads run from 30 to 80 feet in width, all mineral.

Mr. Newbill says that nearly all the prospectors have left for the winter, most of them, however, himself included, intending to return in the spring. The country itself is not so bad in the winter, but the Rocky Mountains have to be crossed from Del Norte, which is 100 miles from the mines. After preparations are made, adequate shelter provided, etc., work can be carried on all winter. There are two districts—Las Animas and Lake—both in the same mineral belt. They comprise a Territory from 12 to 15 miles in width and 60 miles in length. All the locations made by the miners so far have been made on croppings, no blind leads having been searched for. The leads run from the foot of the mountains up to the top, and vary in width from a few inches up to 70 and even 80 feet in width. The ore is generally galena, interspersed with what the miners call gray copper, some of which assays over $3,000 to the ton.

At present there are no towns, nothing but a few scattered tents and log cabins, as usual in new districts. The men who went in there made a few locations, and then left for the winter. There is a small mill there called the Little Giant, with a Dodge crusher, which has a capacity of about five tons per day. There have been several thousand leads located during the summer, the owners of which intend returning in the spring to work them. All over that part of the country the people are much excited, and Mr. Newbill thinks there will be a great rush over there in the spring.

We inquired of him the expense of the trip there from this city, and he says it will cost $85 from here to Cheyenne; from Cheyenne to Denver, $10; Denver to Pueblo, $10. From Pueblo there is now a stage line, the fare on which will be from $5 to $8 to Del Norte. Or, if preferred, the prospector can procure *burros* or horses from Pueblo to Del Norte, a distance of 130 miles, with a good road all the way, and wood, water and grass in plenty. Del Norte is the proper place to outfit for the mines, as provisions, tools, etc., can be purchased there. From there to the mines the distance is 100 miles, with a good road to within 30 or 40 miles of the mines; from there the road is mountainous. Wagons have been running to the Little Giant mill during the summer, but the road is rough as yet. This wagon road is good to within 40 miles of the mines, and men are working every day on a toll road over the mountains. It took Mr. Newbill five days to get to Pueblo, and from there to the mines will consume about eight or ten days. This will make in all (say) about two weeks' trip. Provisions can be procured at Del Norte, and packed or hauled to the mines.

The summer there is quite pleasant, but somewhat showery. It is difficult to get into the country until well along in May, on account of the heavy snows on the road. The mines are in Baker's Park, and the Las Animas river heads in the district. The most natural way to get to the country is out by some place near Salt Lake City, the only objection to a route in that direction being the pressnes of Indians all the way from Fort Gunnison. Parties should not go that way at present on account of the Indians, but it will eventually be the route most traveled. The mines are only about 350 miles from Salt Lake, and a road in the direction indicated would save the circuitous route by rail.

Mr. Newbill brought with him a quantity of ore to be properly tested, some of which is in appearance very rich. He says the most peculiar thing in the district is the enormous size of the ledges and their number. He says the reports from there are exaggerated, but that the district is perfectly able to stand on its own merits without any puffing. Some of the large ledges—70 or 80 feet—contain ore assaying from $140 to $200 per ton, and plenty of it. The $8,000 ore he did not say anything about, but probably specimens could be found that would *assay* that much.

Among the principal mines of Las Animas District are the Green Mountain, Shenandoah, Mother Comstock, McGregor, Stephens, and Little Giant. The Green Mountain has a vein of mineral from three to five feet in thickness, and an assay of the ore made by Mr. Hemme, of this city, gave $242 and $2,693 per ton. It is owned by Messrs. Miles, T. Johnson, of Del Norte, D. Andrews, of Santa Fé, William Mulholland and Thomas Blair, of Animas District. The Shenandoah has a vein of ore three to five feet wide, which assays from $200 upwards, and is owned principally by Major Hamilton, of the Little Giant Co. The Mother Comstock has a large vein of mineral, which is said to assay well; it is owned by Robert Bell, F. S. Ketchum, J. W. Wallace, Wm. Cook and others. The Mandsfield is a very large lode, carrying mineral almost 70 feet in thickness, and is said to assay very high for galena ore. It is owned by Dr. Andrews and others. The McGregor is not so large as the above named mine, but the ore is very rich; owned by Robt. McGregor. The same will apply to the Stephens' lode, named after its owner.

The Little Giant is a gold lead, upon which has been done nearly all the work in the district, in the way of development. Besides the above named, hundreds of others that promise to be equally valuable have been located. Among these is one lately discovered by R. J. McNutt and George Howard, called the Poughkeepsie, which is said to assay from $1,900 to $2,800 per ton. Mr. J. L. Wightman, District Recorder, has some very large and apparently rich leads. Dr. James Berton, of Pueblo, also made some valuable locations. Messrs. Carley, Johnson & Co., at the mouth of Eureka Gulch, have a large number of mines which promise as much as any in the district, prominent among which are the Ohio, American Flag and Hamlet.

In the Lake District, which lies northeast of Las Animas, there are some very valuable mines, among them the Major, owned by Major J. Carey French, James Phillips, Fred. Simms, Peter Robinson, Mr. Shaw, of Del Norte, and Capt. Nugent, of Kansas. The Scotland and Mark mines are also considered good, and are owned by Peter Robinson, Fred. Simms, J. Phillips, Shaw, Capt. W. N. Green and Capt. Nugent. The Ule and Ulay are also good looking claims, with from three to five feet solid mineral, owned by Charles Goodwin, Mr. Mead and Mr. Hanson. There is a large field for prospecting, but none should attempt the trip during the winter.

Thanksgiving Proclamation.

State of California, Executive Department, Sacramento, November 6, 1873.

In conformity with a proclamation by the President of the United States, and in keeping with a custom sanctioned alike by time and propriety, I hereby appoint Thursday, November 27th, instant, Thanksgiving Day, and by virtue of authority of law declare it a legal holiday.

I earnestly request the people of the State to abstain, as far as practicable, from their ordinary business pursuits upon said day, and to devote it to family and friendly re-unions, to innocent recreations, to a generous remembrance of the poor and unfortunate, to the forgiveness of injuries and reconciliation with enemies, and to a grateful acknowledgment of blessings received from the Giver of all Good.

In testimony whereof I have hereunto set my hand and caused the great seal of the State to be affixed, at Sacramento, California, this 6th day of November, A. D. 1873.

[Seal] NEWTON BOOTH, Governor.

Attest: DRURY MELONE, Secretary of State.

IT is mentioned as a "festher in the cap of Southern industrial progress;" an encouraging sign of the times; an enterprise fruitful (in a double sense) of the best results, that the Rosebank Nurseries, near Nashville, Tenn., will disseminate this fall fully a million trees and plants, worth $75,000.

Explorer's, Miner's and Metallurgist's Companion.

The second edition of the above named work, by J. S. Phillips, M. E., has just been published and is now for sale by all booksellers, or can be had direct from the author. The book comprises a practical exposition of the various departments of geology, exploration, mining, engineering, assaying and metallurgy. It gives descriptions of geological formations of the primitive earth, its secondary rocks, its mineral veins, minerals, metals, coal fields, etc.; general composition and peculiarities of mineral veins; their comportment with each other and with cross courses, dikes and slides. Geological and mineralogical characteristics of the most extensive mining districts; exploration for, and examination of mineral veins; discrimination and assay of minerals by the most available and practical methods; mining and mechanical engineering above and below the surface, for dressing of ores, deep mining, etc.; assorting, crushing and concentration of ores. The best methods for reducing the minerals for market by roasting, milling, chloridizing, smelting and chemical treatment; the recurring errors in mining, etc.

The whole work has been revised and enlarged, and now comprises 672 pages, about 32 pages having been added. The appendix contains: the mining Laws of the United States; new methods for testing and assaying the base and precious metals; various useful tables of the weights, specific gravities and strength of materials, etc. The inferior engravings in the former edition have been replaced by better executed ones and a few new cuts have been added. Mr. Phillips is eminently a practical man and has had much experience in the business of which he writes. The first edition of the work met with ready sale, as will this one, no doubt. It has been very favorably spoken of by the leading journals of this coast, and those representing the mining industry in Europe. The book is neatly printed and substantially bound, and is a most comprehensive and valuable work of reference, fully justifying its title of "Explorer's, Miner's and Metallurgist's Companion."

Northern Coast Mines.

The Yakima and Swauk River mines are beginning to attract considerable attention. We publish in another column an article on these mines from the Portland *Bulletin*, which will give a good idea of the mines. The Walla Walla *Statesman* also describes the mines at length. We received from Mr. J. W. Fish this week a letter stating that he has assayed several lots of dust from these camps, coming from an area of 20 miles around. The gold runs from $12 up to $18 per ounce, and from his own knowledge of the country he feels confident that there is going to be a large and extensive camp established here.

Mr. Hurst of this city is prospecting in the Coeur D'Alene mountains, and we understand has struck some very rich rock. Another gentleman of Vancouver, W. T., is sinking a shaft on a galena vein, 50 miles north of Vancouver, which promises well. He is now down 30 feet and the vein is 12 inches in width. Assays from the mine give a yield of $55 per ton in silver and 70 per cent lead. Good news is daily expected from the Yakima and Swauk River. The Tacoma *Tribune* is informed that the mines there are deep, not surface diggings, as previously reported. There are about 350 claims located. Being in a grain and stock raising valley living is not high as compared with other mining regions. The diggings are 200 miles from Walla Walla and 65 from Yakima City. As the weather in that locality is mild it is thought that the miners can work all winter.

In addition to these mines dispatches from Victoria, states that the news of the recent discovery of rich gold fields in the Cassiar country is confirmed by the arrival of the "Californis" from Sitka and way ports; she brought down twelve miners and $15,000 in dust. One party is said to have taken ont $197 in 8 hours, working. The men who came down on the California intend returning early in the spring. Miners wintering on the Stickeen River have bought up all the provisions, so that a large supply will be required in the spring. Judging from the information from different sources there will probably be quite a profitable mining field opened up in these localities, but it is highly probable that the best ground is already located. There are plenty of men in the adjacent country to prospect and locate all the good ground, so it is not likely that miners from this State would make much by a trip up North.

The Miners' Association of Colorado.

A Miners' Association hae been formed in Colorado on an entirely new plan, and with objects so different from similar organizatione in this country, that it deserves more than a passing notico. The Association was formed at Denver, Colorado, within the past few weeks. It is not, however, sectional, bnt is to fally represent every portion of the Territory. They reqnest all those who feel an intorest iu the development of the mineral resources of Colorado, to co-operate with them iu their undertaking. The object of the Association, as stated in the circnlar sent to us, is, iu effect, to take proper steps to attract tho attention of capitalists to the Colorado mines. The mining interests are the paramount ones in that Territory, and mining is the basis of their wealth aud prosperity. The orgauization i. created to promote tho development of the mines and bring capital in contact with mining iudastry; to establish a cabinet representing the different minerals of Colorado; to register and record each lodo or mine so rocorded; to koep on file the different mining journals and a library of mining works for the use of miners, and to genorally establish and maintain an office as headqnarters for those intereested in mining; and also to take such steps ae may be necessary to represent and display the varied ores of Colorado at tho different fairs in the United States, especially at the fairs of the Colorado Indnstrial Association and the coming Centennial Exposition, to be held in the city of Philadelphia, in the year 1876.

The organization is called the Minere' Aesociatiou of Colorado and its principal office ie at Donver. Officere are to be elected annually. Any pereon intereeted in the development of the mining intereste of the Territory may become a member upon the annnal payment of $5, which ehall entitle him to free uee of the roome, to examiue all reports, booke, registers, maps or statietical data which may be obtained from time to time by the Associatiou. The management ie vested in a Board of Control, consieting of the Preeident, two Vice Preeidente, Mineralogist, Secretary and Treasurer. In order that the Asociatiou may obtain reliable and eatisfactory iuformation from the varioue mining dietricts of the Territory, aud, at the eame time furnish such mattere of intereet as will be valuable to the miners, the Board of Control appoiute annually an Advisory Board, consieting of one pereon (a member of the Association) iu each mining dietrict of the Territory, who are thereby couetituted agents of the Association in thoir locality, to collect minerale and information in roference to the minee of their section, and forward the eame to the Aesociation.

The Board of Coutrol ie to have the management of the affaire of the Association, and can make By-Lawe for ite government, not to conflict with the Articlee of Aesociation, or to promote any other interests than the ones intended in the organization. The Snperintendeut's duty ie to euperviee aud arrange the cabinet of ores; make arrangements for the traneportation of the eame; eee that euitable roome are provided, etc. The duty of the Mineralogiet is to make aesaye and examinations of oree, and eee that they are properly arranged and classified, etc. None of the officere are to receive any ealary, fee or reward, unleee the eame ehall be voted at an annnal meeting of the membere.

The plan of this organization ie a good one, if carried out ae expreeeed in tho circnlar. Of conree, some modifications will, however, be neceeeary. For inetance, while many persone might be fonnd who wonld eerve on the "Advisory Board" withont fese, the Snperiutendeut, Mineralogist and Secretary would, if they atteuded to their businese properly, reqnire some remnueration. Their dutiee would consnme most of their time, if the organization ever reached a permanent basie of any magnitude. The wholo plan really amounte to a method of advertieing the mining interests of Colorado, and ie one that might be followed with beuefit eleewhere. If they carry out the objecte proposed, and do not let any one set of men manage the thing in their own interests, it onght to henefit the working minere greatly.

The mining intereete of the conntry are not taken into coneideration nearly ae much ae they ehonld be. Information aud statistics ooncerning the mines are exceedingly meager. The Government, althongh very much exercised just now abont the coin produced from the mines, paye little attention to them ae a general thing and seems to think they will take care of themselves. It scatters broadcast voluminous reports on agriculture, natural enrlosities, like the Yellowstone conntry, railroad surveys, commerce aud navigation, etc., bnt precious little is printed abont the mines. True, there is a Mining Commissioner, with an appropriation sufficient to pay for printing circulars, which are sent to people, asking for gratuitous information, and which enables him personally to make a trip of about three months every year, but hie Annual Reports are never seen by any miners. Perhaps three thousand are printed aud then boxed up in Washington, where he has no coutrol over them and where they will lie uutil members of Congress choose to pay postage on them to their constituents. This particular matter ie referred to more at length in another columu.

As far as any matter of information is concerned in new practical methods of working ores, mechanical improvements in miuing machinery, methods of smelting, amalgamating, mining, hoisting, blastiug, drilling, timbering, roasting, hydraulicing, etc., the miuers are entirely dependent on the uewspapers for a knowledge of what is going on. If this associatiuu will keep a library of technical works on mining and kindred eubjects, and keep a file of all the papere likely to interest the members, they will benefit those men in their immediate vicinity. Of course the minere in isolated camps will derive ouly an indirect benefit by having attention called to their claims. A fine geological cabiuet could be collected by the proposed method at little expense and its exhibition at various placee would do much to attract attention to the localities from whence the specimens camo.

An attempt to make an exhibition of thie kiud wae made at the last Mechanice' Institute Fair in thie city, but owing to the lack of interest it would have been a failnre if Mr. Hanks and a few othore had not exhibited their private collectione. At that time ciroulare wore sent reqnesting minere to forward specimens, but as no eyetematic method of collecting them was made, the exhibition wae meager when we take iuto cone ideration the extent of mineral region on thie coaet. If the Colorado Minere' Aeociation carries out its plan honestly and makee a sncceee of it, no donbt similar organizatioue will be formed elsewhere.

The California Titmouse.

The architecture of the uest of the Califoruia Titmouse is a remarkable example of the ingenuity of birds in constructing their places of shelter. These birds are not commou in the Eastern States, though they are in Europe, but in California they are fouud in the timbered localitles on the coast, where the mountains are not high. There are several varieties, all distinguished for the beauty of their plumage. They are fond of densely wooded conntries and are extremely active; they can bo seen clinging to the branches and twigs in every conceivable positiou, and running around the large limbs with the agility of a monse, henco, perhaps their name.

They huild their uest in the shape of a sack, pendent from the limbs of treee in exceedingly inacceseible positions. They are composed of moeses and textile fibere filled in with bits of leaves that seem attached by a glutinous substance, the sidee of the sack being from a fonrth to a half inch thick and lined on the inside with a substance eoft as velvet. The only entrauce ie near the top, ae ie shown in our illustratiou. The engraving ie upon a scale of two-thirds the size of the specimen in our poeseeeion, but truthfully repreeents ite form.

NEST OF THE CALIFORNIA TITMOUSE.

The titmouee is known to lay from 8 to 12 eggs, and how ehe manages to inonbate and rear that number of yonng birde in euch a close, eack-ehaped neet and bring them all up ont of the same, introducing them to the outter world one at a time and jaet when they have strength enough to fly and eet them safely afloat every one for itself; and how lady titmonse, wholly untaught, can at the firet attempt construct her first domicil in all the perfection and beauty of a ekilled architect, are among the mysteriee that pertain to the untaught knowledge poseeeed by the lower animal creation everywhere, in contradistinction to that of primitive man, who hardly knows enough, untaught, to build the rudest hut.

What one Mine Does.—A good paying mine in a community ie a good thing, especially in "dull timee." The *Silver State* in epeaking of dull timee eaye: Unionville has no cause of complaint, eince one mining company—the Arizona—even with ite reduced force at the mine, dietributes monthly from $15,000 to $20,000 for labor at the minee and mille. Thie little item only showe the benefit accrning from the fact that a eiugle company of reepectable proportione will support a goodly sized town. The large amounte of mouey paid out by mining companiee for labor, in many of oar interior towne, hae the effect of making them prosperoue eettlemente, even whon timee are dull in the outeide world.

A Miners' inch of water ie abont twenty thousand gallons. The nsual price for an inch of water in the minee ie ten cents. The Spring Valley Company eells water in large quantities at eeventy-five cente per thousand gallone, or at fifteeu dollare and eeventy-five cents per inch—which ie one hnndred and fifty-eeven times the price which minere pay. Furnished in emall qnantitiee to honsekeepere, the company chargee from thirty to fifty dollars per inch—five hnudred timee the miner'e ratee.—*News Letter.*

Death of Seth Green.—The name of Seth Green in connection with fish cnlture ie known throughout the United Statee, and his untimely death by drowning ie much to be regretted. Mr. Green hae, for eome yeare past, devoted hie whole time and energies to the euccessful culture of fish, and the experiments conducted by him have done much to create the intereet now felt in thie enbject. He was an enthusiaet in piecicultare, and epared no paine in carrying on exteneive experimente in that direction. His death ie a national loss and it will be difficult to fill hieplace by another equally efficient.

A CURIOUS CASE.

The Eberhardt & Anrora Mill at White Pine ie to etart np next week, and ae no other mine or mill in that eection seeme likely to be run during the eeaeon, the *News* ie pleaeed to record the fact. The iron roofing for the mill hae arrived, and ie being put on the building, so that there can be no donbt that the mill will start ae intended. With 1,000 tone of ore at the mill and more being conetantly added, coneiderable bullion onght to be tnrned out.

Geanite Creek, Grant County, Oregon, ie the latest place up there where a promising quartz ledge hae been discovered. The aesaye run high.

Patents & Inventions.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports for the Mining and Scientific Press, Dewey & Co., Publishers and U. S. and Foreign Patent Agents.]

By Special Dispatch, Dated Washington, D. C., November 11th, 1873.

For Week Ending October 28th, 1873.*

Construction of Tunnels and Sewers.—Geo. Knoll, S. F., Cal.

Beer Drawing Attachment for Casks.—Samuel Marks, S. F., Cal.

Method of Laying Off Shoe Uppers.—Conrad Glanville, S. F., Cal.

Reissue.

Apparatus for Teaching Music.—Louis A. Seward, S. F., Cal.

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

A Curious Case.

We copy from the *Veterinarian* an engraving ehowing a remarkable caee of diseaeed skull of a horse, associated with prolonged life under great suffering. A correspondeut of that journal writes that he ie indebted to Mr. Mitchie of Sidney, iu whoee eurgery the specimen ie preserved, for the history of the case. The auimal is deecribed as being four years old when he broke loose; and as the teeth now denote him to be rising seven, it would appear that he lived nearly three yeare with his jawe imprisoned, ae it were, in the halter. It may be a matter of wonder to some that the horse ehould have lived so loug, but the owner accounte for this by their boing plenty of succulent grass and water where the skull wae found; and there is no doubt that so soon as the noose band of the halter had by continual preseure caueed exfoliatiou of the anterior portiou of the nasal bones (ae will be observed to be the case), the poor creature's life, by reaeon of hie jawe being capable of partial opening, wae prolonged. This, however, was not for long, as it ie quite evident from the etill fixed condition of the jaws, owing to the tightness of the rope, that death had resulted from etarvation, *i. e.*, incapability of opening the jaws to take food.

The owner of the horse wrote to Mr. Mitchie that in the year 1862 the horee wae roped, entirely wild, and when haltered he broke ont of the yard and got clean away with the halter on. The horse wae never again yarded, and in the year 1865 his remains were found on the top of a very high range, with the halter etill npon the head, which wae detached from the body, and nothing bnt bone left. The head wae carefully preeerved exactly ae it was picked up, with the same rope upon it. The side view of the skull which is given, illustratee all the points of iuterest. It ie very remarkable that the animal could have lived eo long nnder the circumstance.

The *Nevada Mining Review* ie the title of a newspaper publiehed in Virginia City, the first number of which hae reached ns. It ie to be devoted exclusively to the mining intereets, and will pay considerable attention to the etock market. The first number ie quite emall bnt ie neatly printed, and contains oonsiderable intereeting matter. J. D. Bethel & Co. are the publishers.

Now comes Humboldt county, in this State, with the claim that ehe has diamond fields in the vicinity of Boulder Creek, abont 30 miles from Eureka. We would like to see some of the Humboldt County folke offer diamond stock of California Street, where they would soon find out that potato raising paid better.

Miners and Mechanics will confer a favor oa each other, by writing ue occasionally on eubjecte of intereet to them in the eame business.

The Idaho placer minee are closing down and the miners are betaking themselves to winter quarters, as the streame are freezing np.

The Chinese miners are still working away at the claims below Oroville. They are buying np all the ground they can.

There are now no less than eight quicksilver claims heing developed in San Lnie Obispo county.

Montana ore ie arriving at Corriuue for shipment East.

Metalliferous Mines of Wales.

The mines of the Principality have heen worked with varying energy and succees from the very ealiest times, the minerals sought heing chiefly copper and lead. Since the great discoveriee at the Van Mine some few years back, there have been periodical rushes of investors to Welsh mining, and many lesser euccessee have to be recorded. Taking for the moment the county in which the mine is situated and the adjoining one (Montgomery and Cardigan) a great field of mineral wealth presente itself, which is heing hut very inadequately developed; hut it is impossihle bnt that capital will eventnally he turned, to some extent at least, in this direction, the more so now that Cornish mining is looking so depreesed, owing to the high price of coal, which hardly affects Wales, supplied as it is with an almost houndless water-power. It cannot be said that mining generally in the district just alluded to is in a very flourishing condition—a good deal, no donbt, due to the want of proper means of communication either hy roads or rail. This ought to he remedied. The Cornwall Minerals Railway is a specimen of what a mining district can do, though it is not to be suppoed that anything eo exteneive can be attempted in Wales, at any rate just at present, but landlorde ought to come forward and encourage narrow-guage linee, like the Festiniog, to he made through their hills and valleys; lines like this double and trehle the mere surface value of the land they pass through, and create their own traffic, and bring proeperity to all.

Much of the prejudice against Welch mining ie due to the recklessness of investors themeelvee. A few promising discoveries of lead are made; probahly the discoverere have no fnnde of their own to go further upon; it gets into the hands of speculators, and is hrought out at a large price as a company; there is no reserve of calle of money probahly to fall back upon, and after the little ready money the vendors have left the directors to spend is exhausted, the mine etope, and Welch miuing is condemned. If instead of thie a moderate price were paid where the chancee were undeveloped, and the public were told the real outlay necessary to make the property a paying one, some few might be deterred, hut they would not he the majority. The undulating nature of the surface in Wales, with its abrupt hille and valleys, renders it (when compared with a county like Cornwall) very inexpeusive for the diecovery of lodee of mineral, and in many cases tone aud tone of ore cau he taken away without any sinking at all; hut it should be horne in mind that this is not mining; it is as if the discoverer of the potato had contented himself with merely gathering the stalk, and yet how many minee have had their stalks and hlossoms plucked, whilst the real wealth lies hidden underneath.

How many miues in Cardigan or Montgomeryshire have heen sunk more than 50 fathoms deep? And, on the other hand, how many mines in Cornwall have turned out their mineral at all until that depth had heen attained, and there, too, most of the pumping has to be done hy steam? We have had huudreds of thousands of pounds inveeted in American mining, and with what result—when there are lucrative fields of mining enterprise at our very doors waiting for development. The principal mineral of the district of Cardigan and Montgomery ie lead, hut large quantitiee of copper are also fonnd; hut it ie not considered hy competent authorities that regular copper lodes exist in the clay-slate except in the vioinity of granite. Granite has not ae yet heen found in thie district, nor near it; whether or not it underlies the present formation, no one has ever ae yet gone deep enough to decide; lead, however, is found cropping up to the snrface throughout and contains in some instances as much as 50 ozs. of silver to the ton, hut as a rule from 10 to 20 ozs. is the produce. The price of lead is good, and likely to continue; and, with a fair discrimination on the part of investore, there is no reason why Welsh mining ehould not flourish, and prove a great eonrce of wealth to the whole country.—*London Mining Journal.*

Mining Discovery.—From J. W. Crawford, who visited Secret Cañon yesterday, we learn of an important mineral discovery in that portion of our highly favored district. It seems that Messrs. J. B. Osborne, E. J. Elzy and Geo. J. Gardner were impreased with the helief that there were good ledges undiscovered iu that locality. Accordingly on Tuesday morning last they put some men to work at a point just acroas the ravine from the justly celebrated Geddee & Bertrand. Within eix iuches of the surface a perfect foot-wall was diaclosed carrying splendid carbonate ore of extraordinary riohneee. Work has been indnstriously prosecuted for two days, aud last night a depth of eight feet had been reached. Au incline is heing carried down aeven feet in width, and eo far as prospected the ledge is known to exceed five feet in thicknesa. About ten tons of ore, estimated to he worth over $200 per ton, have already been deposited ou the dump. The lucky discoverers have locatod three claims of 1,500 feet eaoh to he known as the Oshorne aud Elzy series. Good judges are of the opiniou that the new diacovery will ere long eclipse the famous Geddes & Bertrand. It is certainly a very important discovery, and the gentlemen whose good fortune it was to make it are in every way deserving of such a eubstautial atreak of luck. They are among our moet enterprising and peraiatent mining men. We congratulate them on their "fiud."—*Ex.*

The Tecumseh Mining Company.

In the foothille of Calaveras county, two milee from Telegraph City and not more than twelve miles from Milton, the preeent terminue of the Stockton and Copperopolis Railroad, is situated the property of the Tecumseh Mining Company. Unostentatiously, without the blowing of horns, hut nevertheless with steady, untiring and never-failing confidence in their ultimate euccess, the management has continued the development of their mine, until now, at a depth of a little over 400 feet, they have come to a realization of their hopes in the ehape of stratified, gold-hearing quartz of a high grade. Their Superintendent, Mr. A. E. Kennedy, favorably known all over the State, and especially in Calaverae conuty, as one thoroughly understanding his bnsinese in all its branches, is of the opinion that, before a depth of 100 feet more is reached, he will he in an inexhaustible eupply of good milling ore. Their main shaft ie now down 420 feet. The rock through which it is sunk is composed entirely of porphyry, impregnsted with gold and silver-hearing sulphurets. The ore taken from the hottom of the shaft is eimilsr in character to that taken from the 308-foot level, hut of a higher grade, the sulphurets heing muoh coarser and containing a larger percentage of gold, and notwithstanding its being richly stained with silver sulphurets, ie gold-bearing in character and very easily worked. Two cross-cuts have been rnn in a southwesterly direction toward the hanging wall, the first 116 feet from the surface, being in 76 feet, and the second one, 308 feet from the surface, and having been run 118 feet to the west wall, both cross-cuts being suhstantially timbered, with an iron railroad track their entire length, and developing a great number of veins. Their main shaft ie one of the most substantially timbered in the State, 5 hy 15 feet, and is in three compartments, creating a splendid draft aud keeping the air at the hottom of the mine as fresh and sweet as on the surface. Their hoisting works are of the newest pattern, and the engine, hoiler and everythiug connected with it, are put up with a view to work the mine to a depth of 1,000 feet, without making any material alteratione. The Company have on their grounds a large dwelling for their Superintendent and his family, and run a hoarding-house, capable of accommodating any number of workmen. They have at this date a supply of firewood on hand that will last them for one year. A ten-stamp mill is on the gronnd, to which are to he added ten more stamps, and the management intends to put on their dnmp a good supply of milling ore during the winter, and start crushing in the spring, with every reasonahle hope of good returns to their stockholdere. In fact, it would he hard to fiud a mine in the county where the future prospects to the owners are hrighter, and where a more economical and busiuess-like management could be found, than that of the Tecumseh.

It is a wonder to us that more is not known of this most promising enterprise, unless the reason is found in the fact that all the stock of the Tecnmsch is held in large qnautities hy a few owners, who are more for the actual results of their lahors than for tho usual empty clap-traps of long-winded reports, so often resorted to by mine owners, iu order to give their property a fictitious value among etock-brokers and outsiders. For the credit of Calaveras county, as well as for the well-earned success of the Company, we hope that the Tecumseh mine will soon srrive at a full realization of all the expectations of its owuers.—*Calaveras Chron.*

The Coal Mines of Amador.

The editor of the Stockton *Independent* paid a visit to the coal mines in this county a few days ago, and speaks of them as follows:

The development of the Amador coal fields may be summed up as follows: The Lancha Plana miue, in the southern part of the county, is sufficiently developed to prove it a valuahle and extensive deposit. Coal in emall quantities has heen found in points between thie miue and the Ione mine, a distance of over ten miles, although no extensive deposit has as yet been fouud. The indications are, however, very favorahle, and there is little doubt that a more thorough examination of this region of territory will show that it is rich in this valuahle product. Near Ione City a mine has heen opened on the Arroyo Seco grant, owned hy Messrs. Bailey, Beagle, Hart and Goodman, which promiaes to he very extensive. This deposit is ahout fifty feet from the surface of the gronnd and the vein runa horizontally. An incline haa heen rnn into the hillside which taps the vein and a tunnel hae heen rnn therein a distance of one hundred feet on either side. The coal etratum is found to be from nine to eleven feet thick over the epace thus prospected, with no sign of au end of the deposit in either direction. In this mine there are ahout 10,000 tons of coal to every square acre of ground. Between this opening and Buckeye, aonthwest of Ione, the distance is ahout sevon miles, and the coal depoeit has heen struck at several placea between these two poiuts, while at Bnckeye a careful examination has heen made which shows that the deposit there extends over several hundred aores.

From the present development it ia apparent that the coal helt extends for nearly twenty miles, and that fuel efficient to supply the wants of the Stato for years to come can he thus procured at comparatively small cost. It must be admitted that the coal is not a first class artiole, yet a gentleman in Iono who has used it for the paet 11 years to oreate eteam to run a steam flonr mill, asserte that four tons of the coal will make ae much steam as five cords of the best wood he can purchase. This ehows that thie coal will be valuahle for msnufactories, as it can be delivered in this city, as soon as the railroad to Ione is constructed, at ratee much below the prices now charged for fuel now used for the creation of steam for manufacturing purpoees. Stockton is particnlarly interested in these developments, as there is a prospsct that railroad communication will soon be opened hetween this city and that valuahle regiou of country.

New Mill at Eberhardt.

By the courtesy of David Mitchell, Secretary of the Eberhardt & Anrora Company at Eberhardt, the White Pine *News* has inspected the premises and learned eomething of the future statue of the mill now heing huilt by this company. The site chosen is the one formerly occupied hy the hurned International, and through the kindness of Chief Engineer J. H. Montgomery and Master Millwright Perlia Rowell, the *News* gathered the following information regarding its dimensions and capacity: The length of the whole structure covering the working machinery is 154 feet; hreadth 145 feet; and the amount of material used in conetructing is 189,000 feet of lumher; 120,000 hrick; 1,100 perch of stone and 16,000 feet of No. 27 iron for roofing purposee. The dimensions of the different snbdivisions are: one dump, 20x62 feet, with a fall for ore from wagons of 9 feet, ore room, in rear of building, 20x62 feet; dry kiln, 56x16 feet; hattery room, 52x62 feet; pan room, 33x132 feet; engine room, 42x40 feet and boiler room, 42x52 feet. These dimensions have heen furnished ue hy the engineer and millwright, and we publish them to show the fact that the etructure has beeu huilt with a view to roominess and to afford facility in working. The machinery of the mill consists of eix tuhular hoilere, each 54 inches in dianeter and 16 feet long, with a capacity of 150 horse-power, set in hrick; one engine occupying a epace 20x42 and of 110 horse-power capacity; six hatteries of five stamps each, making 30 in all, with an average weight each of 733lbs; 16 pans, five feet in diameter; eight settlers, eight feet in diameter; four agitators, six feet in diameter; two cleaning up pans, four feet in diameter; one 9x16 Blake rock crusher; one 10x14 steam pump and four 14x48 inch retorts. There has heen placed in position 200 feet of line shafting, varying from 9 to 4¼ inches in diameter, and 72 feet from 4¼ to three iuchee. The capacity of the 30 stamps is 50 tons per day of 24 hours with dry crushing, and that of the settlsrs 72 tons. We give the above figures for the henefit of those iuterested in mattere pertaining to mills, aud are assured hy the gentlsman having charge of construction that, when finished, this will he the largest and most efficient 30-stamp mill in Nevada. When one reflects that under the supervision of Mesers. Montgomery and Rowell, who have conducted the actual work, that all the old, hent and apparently useless machinery, such ae engine, hoiler, shafting aud the like, has heen utilized and worked into this mill, it certainly is due them that credit should he given for their ability in the saving they have made the company. In consequence of the delay in furnishing material, the structure will not he completed within forty to sixty days from date. To Manager Frank Drake we extend our congratulatione that he has shown so good discrimination in the choice of his lieuteuants to perform the work laid out hy himself. We must not omit to mention that there are 1,000 tons of good ore now at the mill ready for a start, and teams are daily hanling more from the mines of the company ou Treasure Hill, thus giving a guarantee that the stamps will he kept in operation during the eutire Winter.

Mariposa Mill.—This mill, situated at the foot of Cedar Hill, on a branch of Seven Mile Canyon, is at present engaged in crushing ore from the Consolidated Virginia mine. The mill contains ten stamps, five amalgamating pans and two settlers. It is capable of reducing forty tons of ordinary ore per day, hnt owing to the extraordinary richness of the Consolidated ore, they work of it only ahout twenty-five tons. The ore ia paying $200 per ton, heing the richest ore now going to the milla from the Comstock lode. We paid a hasty visit to the mill day before yesterday, and found that by ita late overhauliug it has been made almost a new mill, aud a very snug and couvenient one at that. The mill is in charge of John Hereford, Superintendent of the mills of Fair, Mackey & Co. At the time of our visit they had in their retort a batch of about $8,000 in crude hullion. A great deal of the ore is so much decomposed that it does not require crushing. After being separated from that of a coarser nature, hy means of screens, it is at once placed in the pans for amalgama tion. It is said to he hetter to pnt it into the pane in thia shape than to first rnn it through the stamps, as, if made too fine (it heing so very rich), much eilver will not he amalgamated, aud will float away in the water. There is a considerable stook of ore on hand at the mill, with more coming daily, aud there ia also piled up at the mill a supply of wood sufficient to last about three months. Teams are daily adding to thia stock. A large roservoir has been constructed a short distance below the mill, in which to catch all the tailings flowing from it. Doubtlesa these tailings are very valuable.—*Enterprise.*

More Coal Discoveries.

The Sacramento *Union*, of Novembsr 1st, saye a coal bed hae been discovered on the land of W. E. Bryan, member elect to the assembly, near Michigan Bar, Sacramento county. It eeeme to he of the character termed "lignite." It ie softer and more hrittle than ordinary coal, and splits up into layere when it is expoeed to the air and dried. It is dnll black in color, aud has none of the bright gloee of the usual article of coal. Some of it wae tried in the furnaces at Horace Adams' foundry. It wae fonnd to burn very well, with a good blaze, and answered the purpose ae well as the fuel that customarily wae hurned in the foundry. It will keep np steam as well without the blower as with it. The existence of coal was accidentally diecovered in 1863, and the matter rested for a numher of years without any endeavor being made to gain more knowledge of it. Not long since a company determined to prospect the claim, and entered into an agreement that in a certain contingency Bryan should sell the land to them for a certain amount. The Company contracted with Laufkotter Bros., of Sacramento, to bore for the coal, and they made nine horings. A shaft was snnk to the coal, and the stratnm was found to be on an average from five to eight feet in thickness. There ie a bed of ssndstone about fifteen feet from the surface, and about twenty feet below this ie the coal. It is the opinion of several coal "sharpe" that the discoveries of that mineral that have been made at Lincoln, Placsr county, at Lancha Plana, Amador county, and in Yolo county, are all on the same lead, and that wherever the layer of sandstone is found there is coal underneath. At Lincoln, the existence of coal was first known in 1869, in horing an artesian well for a flouring mill. Piecee of the coal came up in the auger, and they were tested in a blacksmith's forge, and burned well. The matter was forgotten until a few months' ago, when a coal miner happened in the community, and hearing of the circumstance, made arrangements to proepect. He bored down to it and satisfied himself that the coal was good. A capitaliet who ownes the land determined to mine for it, and a shaft has heen sunk to the coal. It lies at a depth of fifty-five feet from the surface, and is of the same kind as that fouud in this county. Coal has heen taken from the mines at Lancha Plana for a year or two, and several quartz and a flouring mills use it as fuel. The mines in Yolo county are but recently discovered.

Quicksilver Suggestion.

The Gold Hill *News* eays: As ie well known, quicksilver is essential to the prodnction of gold and silver. Nature eeems to have beeu aware of that fact when gold was planted in the Sisrra Nevada mountaine, and accordingly placed parallel with the Sierra Nevada gold and silver hearing mountains the Coast Range, which contains the quicksilver. The two rangee hearing the different metals are placed convenient to each other, and it was the design, no doubt, that the Coast Range, with ite quicksilver, should suhserve the development of the gold and silver of the Sierra Nevada. Rscent explorations have shown that the Coast Range is very rich in quicksilver; that it contaiue more than enough for uee in gold and silver mining. Notwithstanding the plenty which ahounds, quicksilver ie high in price, and is going up every day. Its preeent price of $1.12¼ per pound is now a eerious drawhack to mining, all becauee it has fallen undsr the control of the monopolists of the State. They ask what they please for the neceesity and the minere are obliged to pay what is asked. It is very certain that the monopoliste will never lower their demands with anything like willingnese. Congrees will not help in thie matter hy aholishing the duty on foreign quicksilver, hecause Congress does not protect either through tsriff or patent lawe, the indnstriee or the producere of the country. The protection from that source goee to the monopoliats every time. But in the quicksilver affair, it eeems to us that miners might protect themeelvee. The gold and silver mining companies of California and Nevada, which have plenty of capital, might join together and work enough quicksilver minea to supply their own wants. Theee large companiee could own quicksilver mines and work them, as many of them now own and work wood ranchee to get a cheaper eupply of wood. For inatance the Idaho, Enreka, Empire and North Star minee of Grass Valley might combine and purchase one of thoae quicksilver minea recently diecovered, and work their purchased mine to get out their owu needed quicksilver. The Comstock lode mining companies could do the eame thing. At any rate there should he some eort of a combination of gold and silver minera to put down the preaent monopoly iu quicksilver.

Replacing a Severed Finger.—Mre. Mitchell, who lives ou Eigthteeuth atreet, near Miseion, met with a painful accident yeaterday. She was cutting hay in a hay-cutting machine when her left hand, hy some mischance, fell under the knife, which severed the index finger and badly lacerated the hand. Dr. J. S. Coleman was called in, and succeeded in replacing the finger, which givos every promise of being ae good as it ever was.

Miscellaneous.

Mineral Oils for Iron.

The use of heavy mineral oil as a preservative for iron is strongly recommended by the London *Oil Trade Review*, the snbstanee referred to being, we presume one of the products of shale distillation, so extensively practiced in Great Britain. Whether a similar prodnct can be obtained from our petrolenms ie a good subject for resoarch. Onr contemporary says: The action of the oil is two-fold. First, it is detergent when vigorously aud freely brnised over an already rnsted snrface. It seems to loosen the bulk of the rust and it darkens that which remains. Secondly, it acts as a varnish if applied after the cleansing has beeu effected, or to new and bright work. Its superiority to animal and vegetable oils depends upon the fact that the hulk of the oil evaporates, and it leavca only a very fine film hehiud. If the oil ia light and fully refined it evaporates so completely as to do bnt little good in this way; but if tinged or "once run" oil of sufficiently high gravity be nsed, tho resinous or carbonaceous matter which gives tho tinge to the oil remains behind and forms the protection film of varnish. Ordinary varnish leaves far too thick and obvious a film, while the film of the once run oil does its work of protection without displaying itself. As regards the density of the oil reqnired for this purpose, we recommend that which stands between the burning oil and good lubricating oil; it is known and sometimes sold as "intermediate oil." We are satisfied that a good trado may be done by anybody who will bring this before the public in a proper manner, and supply the article as required. For domestic purposes, for the cleaning of all kinds of household iron work, for the preservation of snch things as mowing machines and other garden tools, or exposed iron implements, the brown oil should be sold in small hottles at a cheap rate. For manufacturers of iron work and for iron mongers, to whom it will prove invaluable, it mnst of coursc be snpplied in larger parcels.

Willow Creek Mines.

The new district is in Beaverhead county, near the head of Willow Creek, which is a tribntary of the Big Hole, and is about eight miles from Vipond district, and has been named Bryant district. The Lady Elgin was the first lode discovered in the district, on Jnly 3d, 1873, by T. J. Grotevante and Joseph McCrary. Grotevante discovered the next lode, the Trapper, on August 6th, 1873. The Trapper is now owned by the Trapper Company, comprising Grotevaute, D. A. Parker, J. McCrary, J. A. Bryant, N. Sanders and Charles DeLorimer. These parties have been in Vipond district since its discovery, and this year have built an expensive wagon road from Divide Creek to Vipond district—eighteen miles. The Trapper is the richest lode known in the district. Fifteen feet of vein is exposed hy a cnt, and twenty tons of ore are now ont, worth, on an average, $400 per ton. The ore is black snlphurets, and has abont six per cent. copper and six per eent. lead. The Trapper Company has other lodes in the district. G. W. Stapleton and James McCammon own the Keokuk and Marc Antony lodes, both of which ehow well, and next year ore will be mined from the same and shipped. Owen Gaffney, James Moffatt and Maynard own several lodes in the district, one or two of which will prodnce ore that will pay to ship.—*Montanian.*

Worth Knowing.—One ponnd of green copperas, costing seven cents, dissolved in one quart of water, and poured down a water-closet, will effectually concentrate and destroy the fonlest smells. On board ships and steamboats, about hotels and other pnblic places, there is nothing so nice to pnrify the air. Simple green copperas, dissolved in anything nnder the bed, will render a hospital, or other places for the sick free from nnplessant smells. In fish-markets, slanghter-houses, sinks, and wherever there are offensive gases, dissolve copperas and sprinkle it abont, and in a few days the smell will pass away. If a cat, rat, or mouse dies about the house, and sends forth an offensive gas, place some disolved copperas in an open vessel near the place where the nuisance is, and it will purify the atmosphere.

A New Needle Gun.—The Vienna journals speak of a new needle gun by Dreyse, and which is said, with regard to simplicity and solidity of construction, especially of the different parts of the lock, is to be very mnch snperior to the Mauser rifle. It is stated that twenty-four shots per minnte can be fired with it. It appears, however, remarkable that although a considerable nnmber of new breach-loading rifles, snch as those of Werndl, Werder, Henry and Martini, have received the first prize, *i. e.*, the large medal, this Dreyse rifle has not even been honorably mentioned.

A new photo-process, announced by an English photographer, consists in censitizing gelatin by means of bromide of silver. The mixture ie applied warm to the glass plate, and the picture may be taken with the plate either wet or dry. The time of expoeure ie the same as for ordinary wet collodion plates. The alkaline pyro developer is nsed, the picture making its appearance rapidly, with any reqnired degree of intensity. This process, it is thought, promises to compete sharply with the ordinary collodion process.

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New Incorporations.

This following companies have filed certificates of incorporation in the County Clerk's office, San Francisco:

CHARIOT MILL AND MINING Co.—Nov. 7. Location: Bannor Mining District, San Diego County, California. Directors—James B. Lang, Duncan McLillan, Henry H. Johnston, Charles J. Pilsbury and John Jullan. Capital stock, $3,000,000, in shares of $100 sach.

VENTURA M. Co.—Nov. 8. Location: Stats of California. Directors—Maurice Dore, G. D. Roberts, S. Hay denfeldt, Jesse S. Wall and E. R. Burks. Capital stock, $12,000,000, in shares of $100 each.

NORTH BELMONT M. Co.—Nov. 8. Location: Philadelphia Mining District, Nys County, Nevada. Directors—A. K. P. Harmon, J. D. Fry, Robert Sherwood, E. R. Warsaw, H. O. Kibbis. Capital stock, $5,000,000, in shares of $100 sach.

PATTEN M. Co.—Nov. 10. Location: Gold Hill Mining District, Storsy County, Nevada. Directors — Hill Beachy, George M. Pinney, P. J. Kennedy, M. F.Truett, Jacob Smith. Capital stock, $5,000,000.

THE ALAMEDA WATER COMPANY.—Nov. 11. Ths corporation is formsd for ths purpose of supplying San Francisco and Oakland and othsr cities, towns and placss with frssh water for drinking and household purposss, for manufacturing, extinguishing firss and all other purposss for which frssh water is used by ths public, and to carry on ths businss of s watsr company gsnerally. Ths place of businss of the company is in San Francisco. Trustees—Faxon D. Atherton, Chas. N. Felton, San Mateo county; Maurice Dors, George Loomis and George T. Ives, San Francisco; Charles Hadsll, Alamsda. Capital stock, $5,000,000, in shares of $100 each.

SAN FRANCISCO PACKING AND PROVISION Co.—Nov. 12. Object: To carry on ths business of curing msats and importing, manufacturing, buying, sslling, trading and dsaling in provisions. Trustees—C. P. Hubbell, John B. Wooster, Albert F. Collins, Georgs H. Whsaton, John Stroufs, L. H. Sweeney and William H. Dietrich. Capital stock, $200,000.

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Mining and Other Companies.

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Bunker Hill Quartz Mining Company—Location of works, Amador, Amador County, California.

Office, No. 19 First street, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment (No. 12) of Ten Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 19 First street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 20th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, Cal. nov15

Black Mountain Coal Mining Company—

Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of Decsmber, 1873, to pay the delinqueat assessment, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. nol

Buena Vista Petroleum Company.—Location of principal place of business, San Francisco, California. Locstion of works, Buena Vista, Kern County, California.

NOTICE.—Thers ars delinquent upon ths following dscribed stock, on account of assessment lsvied on ths 25th day of September, 1873, ths ssveral amounts sst opposite ths names of the rsspsctivs sharsholdsrs as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Stephan Bond	248	150	$150 00
Stephan Bond	249	70	70 00
John Hambleton		30	30 00
Wm S Kavanaugh		20	20 00
J O Lovejoy	203	5	5 00
J O Lovejoy	247	20	5 00
John Pfeifls	229	6	5 00
Chas Slespsr	105	1	1 00
Chas Slespsr	105	1	1 00
Chas Sleeper	107	1	1 00
Chas Slcspsr	108	1	1 00
Chas Slecpsr	109	1	1 00
Chas Sleeper	110	1	1 00
Chas Slespsr	111	1	1 00
Chas Sleeper	112	1	1 00
Chas Sleeper	113	1	1 00
Chas Sleeper	114	1	1 00
Chas Sleepsr	115	1	1 00
Chas Slespsr	116	1	1 00
Chas Slespcr	117	1	1 00
Chas Sleeper	118	1	1 00
Cbas Slesper	119	1	1 00
Chaa Sleeper	120	1	1 00
Cbaa Sleeper	121	1	1 00
Chas Sleeper	122	1	1 00
Chas Sleepsr	125	1	1 00
Chas Sleeper	125	1	1 00
Chas Sleeper	127	1	1 00
Chas Slesper	128	1	1 00
Chas Sleeper	129	1	1 00
Chas Slespsr	130	1	1 00
Chas Sleeper	131	1	1 00
Chas Sleeper	132	1	1 00
Chas Sleeper	133	1	1 00
Chaa Sleeper	134	1	1 00
Chas Sleeper	136	1	1 00
Chaa Sleeper	136	1	1 00
Chas Sleeper	137	1	1 00
Chas Sleeper	138	1	1 00
Chas Sleeper	139	1	1 00
Chas Sleeper	140	1	1 00
Chas Sleeper	141	1	1 00
Cbas Sleeper	142	1	1 00
Cbas Sleeper	143	1	1 00
Chas Sleeper	144	1	1 00
Chas Sleeper	145	1	1 00
Chaa Sleeper	145	1	1 00
Chas Sleeper	147	1	1 00
Chas Sleeper	148	1	1 00
Chas Sleeper	149	1	1 00
Chas Sleeper	150	1	1 00
Chas Sleeper	161	1	1 00
Cbas Sleeper	152	1	1 00
Chas Sleeper	153	1	1 00
Chas Sleeper	164	1	1 00
Chas Sleeper	155	1	1 00
Chas Sleeper	166	1	1 00
Chas Sleeper	157	1	1 00
Chas Sleeper	158	1	1 00
Chas Sleeper	159	1	1 00
Chas Sleeper	160	1	1 00
Chas Sleeper	161	1	1 00
Chas Sleeper	162	1	1 00
Chas Sleeper	163	1	1 00
Chas Sleeper	164	1	1 00
Chas Sleeper	166	1	1 00
Chas Sleeper	166	1	1 00
Chas Sleepor	167	1	1 00
Chas Sleeper	168	1	1 00
Chas Sleeper	169	1	1 00
Chas Sleeper	170	1	1 00
Chas Sleeper	171	1	1 00
Chas Sleeper	172	1	1 00
Chas Sleeper	173	1	1 00
Chas Sleeper	174	1	1 00
Chas Sleeper	176	1	1 00
Chas Sleeper	176	1	1 00
Chas Sleeper	177	1	1 00
Chas Sleeper	178	1	1 00
Chas Sleeper	179	1	1 00
Chas Sleeper	160	1	1 00
Chas Sleeper	181	1	1 00
Chas Sleepor	182	1	1 00
Chas Sleeper	183	1	1 00
Chas Sleeper	184	1	1 00
Chas Sleeper	185	5	6 00
Chas Sleeper	186	6	6 00
Chas Sleeper	187	6	6 00
Chas Sleepor	188	5	5 00
Chas Sleeper	189	6	5 00
Chas Sleeper	190	6	6 00
Chas Sleeper	191	5	6 00
Chas Sleeper	192	6	6 00
Chas Sleeper	193	6	5 00
Cbas Sleeper	194	6	6 00
Chas Sleeper	195	5	6 00
Chas Sleeper	105	6	6 00
Chas Sleeper	197	10	10 00
Chas Sleeper	198	10	10 00
J Castagnetto	1	10	10 00
J Cstagnetto	210	10	10 00
Frank Chevillot	28	20	20 00
H G Crane	40	1	1 00
H G Crane	41	1	1 00
H G Crane	42	1	1 00
H G Crane	43	1	1 00
H G Crane	44	1	1 00
H G Crane	45	1	1 00
H G Crane	46	1	1 00
H G Crane	47	1	1 00
H G Crane	48	1	1 00
H G Crane	49	1	1 00
H G Crane	60	1	1 00
H G Crane	61	1	1 00
H G Crane	62	1	1 00
H G Crane	53	1	1 00
H G Crane	64	1	1 00
H G Crane	55	1	1 00
H G Crane	66	1	1 00
H G Crane	57	1	1 00
H G Crane	58	1	1 00
H G Crane	59	1	1 00
H G Crane	60	1	1 00
H G Crane	61	1	1 00
H G Crane	62	1	1 00
H G Crane	63	1	1 00
H G Crane	64	1	1 06
H G Crane	66	1	1 00
H G Crane	66	1	1 00
H G Crsne	67	1	1 00
H G Crane	68	1	1 00
H G Crane	69	1	1 00
H G Crane	70	1	1 00
H G Crane	71	1	1 00
H G Crane	72	1	1 00
H G Crane	73	1	1 00
H G Crane	74	1	1 00
H G Crane	75	1	1 00
H G Crone	75	1	1 00
H G Crane	77	1	1 00
H G Crane	78	1	1 00
H G Crane	79	1	1 00
H G Crane	80	1	1 00
H G Crane	81	1	1 00
H G Crane	82	1	1 00
H G Crane	83		300
H G Crane	84	1	1 00
H G Crane	86		00
H G Crans	86	1	1 00
H G Crans	87	1	1 00
H G Crane	88	1	1 00
H G Crane	89	1	1 00
J J.Cook	29	5	5 00
Scalmanini & Frapolli	204	6	5 00
Scalmanini & Frapolli	205	6	5 00
Youse & Wilcox (not issued)		175	175 00
E O Darling	215	10	10 00
E O Darling	225	10	10 00
Geo Petit	218	1	1 00
Jas Dolan	221	10	10 00
Hugh Hannah	223	20	20 00
W B Floyd	234	20	20 00
Edwin Moore	235	80	80 00
N G Woodward	236	90	90 00
Alexander Deering	238	6	5 00
James Hambleton (not issued)		30	30 00
C E Farnsworth	245	50	50 00
C E Farnsworth	255	30	30 00
Geo Roberts	39	20	20 00
J A Henry	27	20	20 00

And in accordance with law, and an order of the Board of Directors, made on ths 25th day of September, 1873, so many shares of each parcsl of said stock ss may be neccssary, will be soldat public auction, at the offics of the Company, No. 430 Jackson street, San Francisco, California, on Tuesday, ths 25th day of November, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessmant thereon, togsther with costs of advsrtising and expenses of sale.

L. AGUAYO, Secrstary.

Offics, 430 Jackson street, San Francisco, Csl. nol5

POSTPONEMENT.—BUENA VISTA PETROLEUM COMPANY.—Ths abovs sale is hereby postponsd until Wednesday, December 10, 1873, at the same hour and place. By ordsr of the Board of Directors.

L. AGUAYO, Secretary.

Cupel and Tiger Silver Mining Company—Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 25th day of October, 1873, an assessmeat af Twenty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Wednesday, the 26th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Saturday, the 20th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, Cal.

San Francisco, October 25, 1873.

Commercial Coal Mining Company of San Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 402 Montgomery street, room No, 23, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

S. B. HANSON, Sooretary.

Office—No. 402 Montgomery street, room No. 23, San Francisco, California. oct8

Equitable Tunnel and Mining Company—Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the 7th day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bsker Samuel D	6	200	$20 00
Brown, J W W	18	20	2 00
Burns, B J	274	26	2 50
Burns, B J	276	26	2 50
Carroll, James	139	40	4 00
Chapman, Mrs. Charlotte	790	150	15 00
Cohen, Jacob	464	50	5 00
Collins, Charlee J	159	300	30 00
Collins, Charles J	369	20	2 00
Collina, Charles J	409	444	44 40
Collins, Charles J	434	236	23 50
Collins, Charles J	794	250	26 00
Coopa, H F	156	50	5 00
Daly, James	732	5	50
Delfs, Henry	113	10	1 00
Dinan, J B	326	50	6 00
Esten, John	176	10	1 00
Esten, John	177	10	1 00
Esten, John	178	10	1 00
Esten, John	179	10	1 00
Esten, John	180	10	1 00
Esten, John	181	10	1 00
Esten, John	182	10	1 00
Esten, John	183	10	1 00
Esten, John	184	10	1 00
Esten, John	278	10	1 00
Esten, John	289	10	1 00
Estgn, John	443	100	10 00
Esten, John	444	60	6 00
Esten, John	445	50	5 00
Esten, John	447	60	6 00
Esten, John	448	60	6 00
Esten, John	449	60	6 00
Esten, John	450	50	6 00
Esten, John	451	60	6 00
Esten, John	491	10	1 00
Esten, John	492	10	1 00
Esten, John	493	10	1 00
Esten, John	494	10	1 00
Esten, John	495	10	1 00
Hayea, Henry G	613	20	2 00
Hayea, Henry G	731	26	2 60
Higgins, J F	48	50	5 00
Higgins, J F	791	1000	100 00
Higgins, J S	407	1833	183 30
Higgins, J S	488	10	1 00
Higgins, J S	600	20	2 00
Higgins, J S	601	317	31 70
Higgins, J S	576	234	23 40
Higgins, J S	797	83	8 30
Hix, Jennie	160	50	6 00
Hoffman, Mrs. G R	10	100	10 00
Hodge, A	403	10	1 00
Howland, F P	506	25	2 50
Jackson, Andrew	765	50	5 00
Jackson, Andrew	766	5	60
Kester, S B	31	100	10 00
Kester, S B	32	100	10 00
Kester, S B	33	100	10 00
Kester, S B	34	50	6 00
Kester, S B	35	50	5 00
Keater, S B	787	300	30 00
Mackley, J E	145	10	1 00
Marka, A	744	60	5 00
Marka, Bertha	122	25	2 50
Marks, Sol. L. Trustee	777	200	20 00
Michaelis, Henry	9	100	10 00
Modry, Marcus	136	10	1 00
Newhall, W. T	127	25	2 50
Parks, John O	343	10	1 00
Santiff, Nicholas	153	50	6 00
Savory, Edward	45	100	10 00
Savory, Edward	51	100	10 00
Sniffen, Elijah	19	50	5 00
Sniffen, Elijah	20	25	2 50
Sniffen, Elijah	21	25	2 50
Sniffon, Elijah	22	20	2 00
Sparrow, Wm. S	217	5	50
Spratt, Geo. S	54	25	2 50
Spratt, Geo. S	55	25	2 50
Spratt, Geo. S	56	26	2 50
Spratt, Geo. S	57	25	2 50
Spratt, Geo. S	58	25	2 50
Spratt, Geo. S	59	25	2 50
Spratt, Geo. S	60	25	2 50
Spratt, Geo. S	61	25	2 50
Spratt, Geo. S	74	50	5 00
Spratt, Geo. S	75	25	2 50
Spratt, Geo. S	76	26	2 50
Stege, John R	245	10	1 00
Trumbull, R. J	42	50	5 00
Ward, O	763	10	1 00
Werder, Msx J	120	25	2 50
Wheeler, Elizabeth	133	160	15 00
Whsaton, H. B	125	13	1 30
Wood, Mrs E. A	577	100	10 00

And in acco dance with law, and an order of ths Board of Directors, made on the ssventh day of October, 1873, so many parcels of such Stock aa may be necssary, will be sold at public auction at the offics of ths Company, No. 35 New Merchants' Exchangs, San Francisco, on Monday, ths first day of December, 1873, at the hour of 11 o'clock A. M., of such day, to pay delinqunt assessment thereon, together with costs of advertising and expenss of the sals.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchsnts' Exchangs, San Francisco, California.

Gold Mountain Mining Company—Principal place of bnsiness, San Francisco, California. Location of works, Lower Rancheria, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 31st day of October, 1873, an assessment of 25 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at No. 115 Leidesdorff street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 15th day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the Fifth day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. AUG. KNAPP, Secretary.

Office, 115 Loidesdorff street, San Francisco, Cal. no8

Homiguera Mining Company—Location of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 29th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bayerque, Romain	24	100	300 00
Bayerque, Romain, Dec'd) O. Livermore and A. Borch) Executors.	38	17	61 00
Benchky & Oo, L B	26	134	402 00
Benchky & Co, L B	36	24	72 00
Butterworth, S F	32	1400	4200 00
Butterworth, S F	37	245	735 00
Dauriac, Juan	20	109	327 00
Dauriac, Juan	39	19	57 00
Flint, Edward P	12	1632	4896 00
Flint, Edward P	40	285	855 00
Flint, Edward P, Trustee	29	1200	3600 00
Flint, Edward P, Trustee	41	210	630 00
Flint, Edward P, Trustee	48	4	12 00
Friedlander, J, Trustee	23	1259	3777 00
Rankin, Ira P	26	5	15 00
Rankin, Ira P	42	220	660 00
Robinson, Jsmes P	33	2000	5000 00
Robinson, James P	43	350	1050 00
Robinson, L L	27	1925	6775 00
Robinson, L L	35	340	1020 00
Robinson, L L	44	398	1194 00
Robinson, E N	34	10	30 00
Russell & Erwin Manufacturing Co	31	370	1110 00
Russell & Erwin Manufacturing Co	46	64	192 00
Smith, Hamilton, Jr	17	100	300 00
Smith, Hamilton, Jr	46	17	61 00
Vermot, Felix	21	54	162 00
Vermot, Felix	47	9	27 00

And in accordance with law and two orders of the Board of Directors, made on the 29th day of July, 1873, and on the first day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of L. L. Robinson, the President of the Company, No. 603 Washington street, corner of Montgomery street, in the city and county of San Francisco, Cal., on Thursday, the 27th day of November, 1873, at the hour of one o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. PICHOIR, Secretary pro tem.

Office, No. 603 Washington street, San Francisco, Cal.

Hayden Hill Mining Company—Location of works, Hayden Hill, Lassen County, California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 29th day of September, 1873, an assessment (No. 1) of Fifteen Cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the offic of the Company, No. 331 Montgomery street, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the 14th day of November, 1873, will be delinquent, and advertisod for sale at public anction, and unless payment is made before, will be sold on the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. H. KNIGHT, Secretary.

Office, No. 331 Montgomery street, San Francisco, Cal.

Lady Franklin Gold and Silver Mining Company. Location of principal place of bnsiness, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at his office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. J. S. LUTTY, Secretary.

Office, No. 507 Montgomery street, San Francisco, California. oct8

Ophir Copper, Silver and Gold Mining Company—Location of works, Ophir, Placer County, State of California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 4, Duncan's Building, 411½ California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 5th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

O. H. BOGART, Secretary.

Office, No. 411½ California street, San Francisco, California. nol5

Ida and Rhoda Lewis Consolidated Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 24th day of October, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 29th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Wednesday, the 21th day of December, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale

C. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, California, October 27, 1873.

Jacob Little Gold and Silver Mining Company.

Location of works, Virginia Mining District, Storey County, Nevada.

NOTICE.—There are delinquent upon the following described stock on account of assessment levied on the twenty-ninth day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No Shares.	Amount.
Bachort, Mar	149	100	$100 00
Cahill, E & Co, Trustees	150	50	50 00
Cahill, E & Co, Trustees	151	50	50 00
Cahill, E & Co, Trustees	152	10	10 00
Cahill, E & Co, Trustees	153	10	10 00
Cahill, E & Co, Trustees	154	5	5 00
Coruwall, Geo C, Trustee	1	1	1 00
Coruwall, Geo C, Trustee	2	1	1 00
Cornwall, Geo C, Trustee	3	2	2 00
Coruwall, Geo C, Trustee	4	2	2 00
Cornwall, Geo C, Trustee	5	5	5 00
Coruwall, Geo C, Trustee	44	100	100 00
Cornwall, Geo C, Trustee	49	100	100 00
Cornwall, Geo C, Trustee	54	100	100 00
Cornwall, Geo C, Trustee	61	10	10 00
Cornwall, Geo C, Trustee	18	10	10 00
Cornwall, Geo C, Trustee	36	5	5 00
De Pass, J M, Trustee	106	25	25 00
De Pass, J M, Trustee	107	40	40 00
De Pass, J M, Trustee	108	15	15 00
De Pass, J M, Trustee	109	10	10 00
De Pass, J M, Trustee	110	10	10 00
De Pass, J M, Trustee	111	20	20 00
De Pass, J M, Trustee	112	20	20 00
De Pass, J M, Trustee	113	20	20 00
De Pass, J M, Trustee	114	20	20 00
De Pass, J M, Trustee	115	20	20 00
Fish, Chas H, Trustee	141	20	20 00
Fisb, Chas H, Trustee	142	20	20 00
Fish, Chas H, Trustee	143	20	20 00
Fish, Chas H, Trustee	144	10	10 00
Fish, Chas H, Trustee	145	10	10 00
Fish, Chas H, Trustee	140	10	10 00
Fish, Chas H, Trustee	147	10	10 00
Hawkins, J J E, Trustee	174	100	100 00
Hawkins, J J E, Trustee	175	50	50 00
Hawkins, J J E, Trustee	170	50	50 00
Hawkins, J S E, Trustee	177	50	50 00
Lewis, F R, Trustee	125	100	100 00
Lewis, F R, Trustee	126	100	100 00
Lewis, F R, Trustee	127	50	50 00
Lewis, F R, Trustee	120	5000	5000 00
Lewis, F R, Trustee	135	100	100 00
Lewis, F R, Trustee	136	100	100 00
Lewis, F R, Trustee	137	100	100 00
Lewis, F R, Trustee	138	100	100 00
Lewis, F R, Trustee	139	100	100 00
Lewis, F R, Trustee	140	17000	17000 00
Lewis, F R, Trustee	155	4	4 00
Lewis, F R, Trustee	162	100	100 00
Lewie, F R, Trustee	163	100	100 00
Lewie, F R, Trustee	164	100	100 00
Lewie, F R, Trustee	105	100	100 00
Lewie, F R, Trustee	166	100	100 00
Lewis, F R, Trustee	168	1000	1000 00
Lewie, F R, Trustee	169	1000	1000 00
Lewis, F R, Trustee	171	565	666 00
Lewis, F B, Trustee	172	815	815 00
May, N	23	5	5 00
May, N	26	5	5 00
Morgan, M P	81	100	100 00
Morgan, M P	83	100	100 00
Petitepierre, A P	21	5	5 00
Petitepierre, N	22	5	5 00
Richardson, E A, Trustee	173	100	100 00
Richardson, E A, Trustee	178	100	100 00
Richardson, E A, Trustee	179	100	100 00
Richardson, E A, Trustee	180	100	100 00
Richardson, E A, Trustee	181	100	100 00
Richardson, E A, Trustee	182	100	100 00
Richardson, E A, Trustee	183	100	100 00
Richardson, E A, Trustee	184	100	100 00
Richardson, E A, Trustee	185	100	100 00
Richardson, E A, Trustee	186	100	100 00
Richardson, E A, Trustee	187	100	100 00
Richardson, E A, Trustee	188	100	100 00
Richardson, E A, Trustee	189	100	100 00
Richardson, E A, Trustee	190	100	100 00
Richardson, E A, Trustee	191	100	100 00
Richardson, E A, Trustee	192	100	100 00
Schwarz, R M	24	5	5 00
Schwarz, R M	25	5	5 00
Smith, J P	116	100	100 00
Schwartz, B	157	50	50 00
Schwartz, B	158	50	50 00
Schwartz, B	159	50	50 00
Schwartz, B	160	50	50 00
Wbite, Martin, Trustee	161	6050	6050 00

And in accordance with law and an order of the Board of Directors, made on the 29th day of September, A. D. 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, Court House Building, Virginia City, Nevada, on Monday, the first (1st) day of December, A. D. 1873, at the hour of twelve (12) o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

L. B. HASTINGS, Secretary.

Office—Conuty Recorder's Office, Conrt House Building, Virginia City, Nevada.

R. H. HARNEY, Transfer Secretary,

Office—Room 1, 119 Leidesdorff street, San Francisco, will receive assessments.

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 5) levied on the seventh day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bennett R K	15	100	$10 00
Collins Chas J	392	500	50 00
Collins Chas J	393	500	50 00
Collins Chas J	413	1000	100 00
Cooper J B	120	100	10 00
Eade George O	329	100	10 00
Eade Georgo O	330	100	10 00
Eade George C	331	100	10 00
Eade George O	332	100	10 00
Eade George O	333	100	10 00
Eade George C	409	1000	100 00
Eade George O	410	1000	100 00
Higgins J T, Trustee	421	100	10 00
Higgins J T, Trustee	422	46	4 50
Higgins Jas S, Trustee	318	667	66 70
Higgins Jas S, Trustee	348	10	1 00
Higgins Jas S, Trustee	353	10	1 00
Sautiff Nicbolas	63	50	5 00
Thompson B E	87	10	1 00
Wheeler Elizabeth	1	100	10 00
Wheeler Elizabeth	226	100	10 00

And in accordance with law, and an order of the Board of Directors, made on the seventh day of October, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the company, No. 35 New Merchants' Exchange, San Francisco, on Monday, the first day of December, 1873, at the hour of 11 o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. no15

Lemon Mill and Mining Company—Principal

place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on accounnt of assessment (No. 7) levied on the 27th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E Van Santen, Trustee	2	100	$50 00
E Van Santen, Trustee	3	100	50 00
E Van Santen, Trustee	4	100	50 00
E Van Santen, Trustee	6	100	50 00
E Van Santen, Trustee	7	100	50 00
E Van Santen, Trustee	9	8	4 00
E Van Santen, Trustee	68	100	50 00
E Van Santen, Trustee	69	100	50 00
E Van Santen, Trustee	72	102	51 00
E Van Santen, Trustee	73	10	5 00
E Van Santen, Trustee	119	364	182 00
E Van Santen, Trustee	121	100	50 00
E Van Santen, Trustee	215	190	95 00
E Van Santen, Trustee	270	190	95 00
E Van Santen, Trustee	280	1542	771 00
E Van Santen, Trustee	327	80	40 00
Camilo Martin, Trustee	172	200	100 00
Camilo Martin, Trustee	173	100	50 00
Camilo Martin, Trustee	307	532	316 00
Camilo Martin, Trustee	308	645	323 00
E Hestres	23	53	20 50
E G Lyons	24	53	25 50
H Zeitska	287	100	50 00
P Casson	29	40	20 00
P Casson	30	40	20 00
P Casson	125	20	10 00
P Casson	204	15	7 50
P Casson	225	40	20 00
P Cassou	226	10	5 00
Paul Ronsset	31	27	13 50
John Schott, Trustee	37	50	25 00
H F Kappke	43	27	13 50
John Hahn	44	20	10 00
Erbard Weissig, Trustee	50	50	25 00
Erbard Weissig, Trustee	229	10	5 00
Erhard Weissig, Trustee	230	38	19 00
Erbard Weissig, Trustee	237	11	5 50
Erhard Weissig, Trustee	238	6	3 00
Erbard Weissig, Trustee	239	20	10 00
Erbard Weissig, Trustee	240	10	5 00
Erbard Weissig, Trustee	241	20	10 00
Erhard Weissig, Trustee	242	62	31 00
Erhard Weissig, Trustee	250	50	25 00
Erbard Weissig, Trustee	255	25	12 50
Erbard Weissig, Trustee	256	10	5 00
Erbard Weissig, Trustee	258	3	1 50
Theo Le Roy	62	26	13 00
L Ponton de Arce, Trustee	64	50	25 00
N Duckel	62	24	12 00
J M Briceland	330	200	100 00
J M Briceland	331	250	125 00
T J Stack	66	50	25 00
T J Stack	67	50	25 00
T J Stack	234	100	50 00
A E Lellevre	76	200	100 00
L Scellier	77	53	26 50
N Gaxiola	81	53	26 50
N Gaxiola	82	50	25 00
Jas Thos Boyd	85	20	10 00
Jas Thos Boyd	87	20	10 00
Jas Thos Boyd	88	13	6 50
B Mendesolle	326	10	5 00
Edwin Goodall	97	25	12 50
W H Richardson	101	100	50 00
H H Noble, Trustee	110	53	26 50
H H Noble, Trustee	274	50	25 00
John Fay, Trustee	113	200	100 00
John Fay, Trustee	114	200	100 00
John Fay, Trustee	115	200	100 00
John Fay, Trustee	116	200	100 00
John Fay, Trustee	117	200	100 00
H H Scbafer, Trustee	205	50	25 00
H H Scbafer, Trustee	206	50	25 00
H H Scbafer, Trustee	207	50	25 00
H H Scbafer, Trustee	218	25	12 50
H H Schafer, Trustee	219	25	12 50
H H Scbafer, Trustee	259	100	50 00
H H Scbafer, Trustee	270	50	25 00
H H Scbafer, Trustee	271	100	50 00
H H Scbafer, Trustee	272	100	50 00
H H Scbafer, Trustee	273	100	50 00
H H Scbafer, Trustee	328	25	12 50
H H Scbafer, Trustee	329	131	65 50
H H Scbafer	139	200	100 00
H H Scbafer	140	200	100 00
Henry Steinegger	151	40	20 00
Carl Keller	156	10	5 00
Andrew J McGoveru	163	50	25 00
Edouard Cunin	170	182	91 000
Ed Richard	178	210	105 00
Ed Richard	179	160	80 00
E A Richardeon, Trustee	181	100	50 00
E A Richardeon, Trustee	182	100	50 00
E A Richardeon, Trustee	183	100	50 00
E A Richardson, Trustee	184	100	50 00
E A Richardson, Trustee	185	100	50 00
E. A. Richardson, Trustee	263	400	200 00
John C. Benz	190	12	6 00
J. C. Bollingor	297	50	25 00
G. Almada	196	5	2 50
F. W. Leugee	197	53	26 50
G. Beer	203	54	27 00
Elizabetb Scbool, Trustee	210	20	10 00
Ellen J. Hyde, Trustee	211	10	5 00
Ellen J. Hyde, Trustee	213	10	5 00
Georgia School	214	10	5 00
John W Kobler	227	50	25 00
John W Kobler	294	50	25 00
John W Kobler	295	100	50 00
B. Heringbi, Trustee	228	25	12 50
B. Heringbi, Trustee	235	25	12 50
B. Heringbi, Trustee	285	56	28 00
B. Heringbi, Trustee	289	41	20 50
B. Heringbi, Trustee	290	22	11 00
G. M. Johnson	231	30	15 00
D. W. Davies, Trustee	245	10	5 00
D. W. Davies, Trustee	247	10	5 00
D. W. Davies Trustee	264	15	7 50
Clement Smith	309	10	5 00
F. J. Thibault, Trustee	Not issued	53	26 50

And in accordance with law, and an order of the Board of Directors, made on the 27th day of September, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at pnblic Auction at the office of the Company, No. 608 Merchant street, San Francisco, California, on Monday, the 24th day of November, 1873, at hour of 12 o'clock M., of said day, to pay said Delinquent Assessment thereon, togetber with coste of advertising and expenses of the sale.

T. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal.

Ohio Consolidated Gold Mining Company.

Principal place of business, San Francisco, California. Location of works, West Point, Calaveras County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifteen cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold and silver coin, to the Secretary at his office, No. 116 Leidesdorff street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 15th day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 8th day of December, 1873, to pay the delinquent assessment together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Secretary.

Office—No. 116 Leidesdorff street, San Francisco, Cal.

Phenix Tunnel and Mining Company—

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the 29th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buell, Chas S	567	50	$10 00
Cooper, H F	569	50	10 00
Esten John	610	100	20 00
Esten, John	623	20	4 00
Esten, John	624	20	4 00
Esten, John	625	20	4 00
Higgins, James S	108	25	5 00
Hix, Jennie	575	50	10 00
Lapham, Mrs. Nellie	660	25	5 00
Long, George R	554	25	5 00
Sanft, Nicolas	577	50	10 00
Smith, B	690	30	6 00
Stege, John R	596	50	10 00
Werder, Max J	558	25	5 00
Westover, Obanning	200	100	20 00
Westover, Channing	207	100	20 00
Wheeler, Elizabetb	564	150	32 00
Wheaton, H B	561	12	2 40

And in accordance with law, and an order of the Board of Directors, made on the 29th day of September, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public anction, at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, Cal., on Tbnrsday, the Twentieth day of November, 1873, at tbe bour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco Cal. nov 8

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

Notice is hereby given, that at a meeting of tbe Board of Directors, held on the 27th day of October, 1873, an assessment (No. 6) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary. Any stock upon which this assessment shall remain unpaid on the 29th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 22d day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, Cal. nev 1

Southern Pacific Consolidated Gold Mining

Company—Principal place of business, San Francisco, California. Location of works, Keru County Californuia.

NOTICE.—There are delinquent upon the following described stock, on account of sssessment levied on the 11th day of September, 1873, tbe several amounts set opposite tbe names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Dan H Bibb	17	100	$10 00
A C Thome	21	228	22 80
J N Risdon	22	200	20 00
W F Golden	24	457	45 70
E T Carrique	25	100	10 00
K S Knowlting	26	457	45 70
H W Byington	27	228	22 80
Lonie Pierson	28	228	22 80
W W Moore	35	100	10 00

And in accordance witb law, and an order of tbe Board of Directors, made on tbe 11tb day of September, 1873, so many sbares of each parcel of said stock as may be necessary, will be sold at public auction at the office of tbe company, room No. 12, Express Building, San Francisco, Californuia, on Tuesday, tbe Twenty-fifth day of November, 1873, at tbe bour of 12 o'clock M., of said day, to pay said delinquent assessment tbereon, togetber with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, Californuia. no8

Silver Wave Mining Company—Principal

place of husiness, San Francisco, Cal. Location of works, White Pine Mining District, Nevada.

NOTICE.—There are delinquent upon tbe following described stock, on account of assessment (No. 11) levied on the 20th day of September, 1873, tbe several amounts set oppocite the names of the respective sbareholders, as follow:

Names.	No. Certificate.	No. Sbares.	Amonnt.
Crocker, J H, Trustee	475	20	$8 00
Crocker, J H, Trustee	540	300	120 00
Gates, William, Trustee	528	50	20 00
Kent, R T, Trustee	534	50	20 00
Marcucci, D	542	500	200 00
Richardsen, E A, Trustee	427	30	12 00
Richardson, E A, Trustee	445	20	8 00
Richardson, E A, Trustee	536	250	100 00
Stevens, T H, Trustee	530	5	2 00
Stevens, T H, Trustee	531	3	1 20
Thompson, M, Trustee	538	50	20 00
Tbompson, M, Trustee	539	180	72 00

And in accordance witb law, and an order of tbe Board of Directors, made on the 20tb day of September, 1873, so many sbares of each parcel of eucb stock ae may be necessary, will be sold at public auction, at the office of the Company, on Tuesday, tbe 25tb day of Novemher, 1873, at the bour of 2 o'clock P. M. of said day, to pay said delinquent assessment tbereon, together witb costs of advertising and expenses of tbe sale.

J. W. CLARK, Secretary.

Office, 418 California street, San Francisco, Cal. n8

San Francisco Co-operative Land and

Building Association.—Location of principal place of business, San Francisco, California.

NOTICE.—Tbere are delinquent upon tbe following described sbares on account of montbly installments np to and including tbe month of September, 1873, as provided in tbe By-Lawe of said association, tbe several amounts set opposite tbe names of the respective shareholders ae follows:

Names.	No. Shares.	Amount.
James Adams	5	$30 00
Frank E Brown	1	14 00
H G Bloomor	3	42 00
Mrs Mary D Barnes	5	25 00
Tbos Boyce	5	05 00
F G L Edwards	2	4 00
Henry Eagan	2	14 00
Henry Horstman	2	26 00
Carsten Joost	5	55 00
Geo E Lane, Jr	10	90 00
F J Maynard	3	30 00
Cbarle Mordaunt	2	26 00
E C Newboff	3	18 00
F Crt man	2	26 00
Cleveland Rockwell	5	35 00
Tbos S Rnssell	2	12 00
Dr B J Smitb	1	13 00
Miss O Smith	1	13 00
Mrs Ang Smitb	1	13 00
S K Thornton	10	120 00
D W White	5	45 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of November, 1873, so many sbares of each parcel above specified as may be necessary, will be sold at pnblic anction, to the bighest bidder for cash, at tbe auction saleeroom of Johu Middleton & Son, No. 310 Montgomery street, San Francisco, Cal., on Tuesday, December 2d, 1873, at the bonr of 12 o'clock M., of said day, to pay said delinquent installments, togetber with fines, costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office, 306 Mongomery street, San Francisco, San Francisco, California, Nov. 15, 1873.

State of Maine Mill and Mining Com-

pany—Principal place of business, San Francisco, Cal. Location of works, Amador County, Cal.

Notice.—Tbers are delinquent upon tbe following described stock, on account of nssessment levied on the First day of October, 1873, tbe several amounts set opposite tbe names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Allen, James M, Trustee	78	100	$5 00
Beach, H H	8	1000	50 00
Beach, H H	18	1000	50 00
Beach, Mrs Ella	23	400	20 00
Burr, Platt, Trustee	52	20	1 00
Burr, Platt, Trustee	57	50	2 50
Congdon, H B, Trustee	37	100	5 00
Congdon, H B, Trustee	40	500	25 00
Congdon, H B, Trustee	62	100	5 00
Congdon, H B, Trustee	63	100	5 00
Congdon, H B, Trustee	64	100	5 00
Congdon, H B, Trustee	65	100	5 00
Congdon, H B, Trustee	66	100	5 00
Congdon, H B, Trustee	67	100	5 00
Congdon, H B, Trustee	68	100	5 00
Congdon, H B, Trustee	69	100	5 00
Congdon, H B, Trustee	70	100	5 00
Congdon, H B, Trustee	71	100	5 00
Congdon, H B, Trustee	81	100	5 00
Congdon, H B, Trustee	82	100	5 00
Congdon, H B, Trustee	87	3600	180 00
Fanikner, Wm, Trustee	94	466	23 30
Faulkner, C P	95	200	10 00
Higgins, V H	4	1000	50 00
King, James, L	99	2000	100 00
Irelan, Wm	86	100	5 00
Morse, A O, Trustee	42	500	25 00
Morse, A O, Trustee	43	500	25 00
Morris, Wm Mc	93	1400	70 00
Tilley, Charles B	1	1634	81 70
Tilley, W J	61	1000	50 00
Tower, L N	28	100	5 00

And in accordance with law, and an order of tbe Board of Directors, made on tbe First day of October, 1873, so many sbares of each parcel of said stock as may be necessary, will be sold at public auction, at tbe anction sales rooms of John Middleton & Sons, No. 310 Montgomery street, San Francisco, Cal., on Monday, the 24th day of November, 1873, at tbe bour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office, 306 Montgomery street, San Francisco,

Thompson Coal Mining Company—Prin-

cipal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is bereby given, that at a meeting of tbe Board of Directore, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United Statcs gold coin, to tbe Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of December, 1873, will be delinquent and advertised for sale at public anction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. PARSLEY, Secretary.

Office, No. 402 Montgomery street, Rnom No. 23, San Francisco, California. no1

Virginia Consolidated Mining Company.

Principal place of business, San Francisco, State of California. Location of works, Kearsage Mining District Inyo county, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of Octoher, 1873, an assessment of five cents per sbare was levied upon the capital stock of the corporation, payable immediately, in United Stetes gold coin, to the Secretary at the office of the Company in San Francisco.

Any stock upon which this assessment shall remain unpaid on the 17th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street, (Room, No. 13,) San Francisco. oct8

Umpire Tunnel and Mining Company—

Principal place of business, No. 230 Kearny street, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of Octoher, 1873, an assessment (No. 2) of Six Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States currency, to the Secretary, at the office of the company, No. 230 Kearny street, San Francisco, California, or to W. A. Beal, President.

Any stock upon which this assessment shall remain unpaid on the 15th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

Wyoming Gold Mining Company—Loca-

tion of Principal Place of Business, San Francisco, California. Location of Works, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 13th day of September, 1873, an assessment of Twenty-five cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the eightcenth day of November, 1873, will be delinquent and advertised for sale at pnblic anction, and unless payment is made before, will be sold on Monday, the eight day of December, 1873, at 1 o'clock P. M., to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. J. GUNN, Sec'y.

Office, 410 Montgomery street, San Francisco, California.

Washington Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Marlposa County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 30th day of October, 1873, an assessment of One Dollar per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 318 California street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 8th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 31st day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, Room No. 13, No. 318 California street, San Francisco, Cal. no8

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THE RISDON
Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

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Wm. Norris, Wm. H. Taylor, J. B. Haggin,
James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-oy

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Embracing ALL SIZES of
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Machinery and Castings of all kinds.

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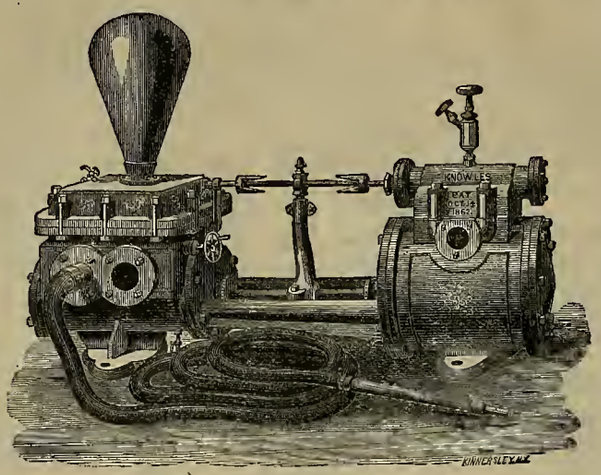

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CENTRAL PACIFIC R. R., OFFICE OF THE GEN'L MASTER MECHANIC,
SACRAMENTO, Cal., January 14, 1873.

A. L. FISH, Esq., Agent of the Knowles Steam Pump, San Francisco—Dear Sir: In reply to your inquiry as to the merits of the Knowles Steam Pump, in use upon this road, I will say that it gives me great pleasure to report that they have performed their work well whenever called upon. In no instance have they failed. We have now over 30 of them in use on this road as fire engines, and pumping water for shop and station use. I consider the Knowles Steam Pump the best in use, and prefer it to any other. Yours truly, A. J. STEVENS, General Master Mechanic.

A. L. FISH, Agent Knowles' Steam Pump—Dear Sir: In answer to your inquiries, we state that the highest award for Steam Pumps at the Eighth or last Mechanics' Fair in San Francisco, was a FIRST PREMIUM and Diploma, awarded to the Knowles Patent Steam Pump, as published in the Official List September 23d, 1871.
A. S. HALLIDIE, President Board of Managers.
W. H. WILLIAMS, Sec'y Board of Managers Eighth Industrial Exhibition, M. I.

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The Largest Stock of Pumps in the World,
And for Every Conceivable Purpose.
SOLE AGENT ON THE PACIFIC COAST FOR THE
CLAPP & JONES SUPERIOR STEAM FIRE ENGINE,
Challenging the World!
THE CELEBRATED BOOMER PRESS,
For Wine, Cider, Lard, Paper, Wool, Hops, Hides, Tobacco, Rags, etc.—the Most Powerful in Use.

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Nos. 9 and 11 First Street, San Francisco, Cal.

P. S.—All kinds of new and second-hand Machines on hand. 10v26-1amhp

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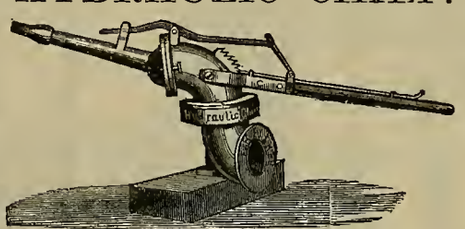
FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.
9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

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MINING STEAM PUMPS.

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IRON FOUNDERS.
IRON CASTINGS of all descriptions at short notice.
Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.
NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.
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SHIP, AGRICULTURAL, STOVE, RANGE AND HOUSE CASTINGS.
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Machinery.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

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Machines of all sizes always on hand.

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For further particulars apply to

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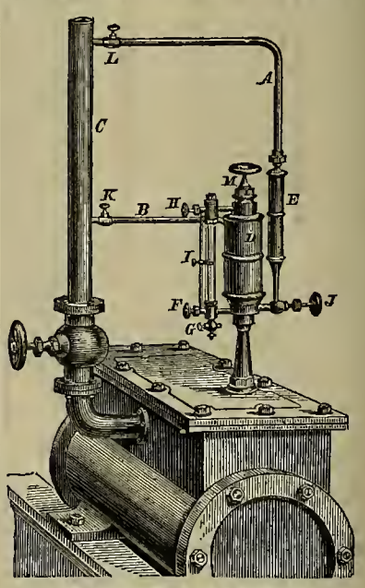
Dutch Flat, August 1, 1873. 6v27-2m

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM
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These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; T, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

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This machine, complete, weighs 1,500 lbs. Has an iron frame, five steel arms with stamps weighing 17 lbs. each, which strike 200 blows per minute, in a mortar provided with screens on both sides, and crushes FINE 600 lbs. per hour, requiring one-horse power to drive it. Has been thoroughly tested, and is guaranteed to give good satisfaction. PRICE, $400.

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Having been engeged in furnishing these supplies since the first discovery of mines on the Pecific Coest.

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Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity puiverizing and amalgamating ores, they have no eqnal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the greet number now in operation, not one has ever reqnired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the puip, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the puip to the center, where it is drewn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates egein draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfeces and into the quicksilver, until the ore is redneed to an impelpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others They bring the puip so constantly and perfectly in contact with quicksilver, that the particles ere rapidly and completely absorbed.

Mill-men are invited to examine these pans and settera for themselves, et the office, 229 Fremont Street, San Francisco

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Ores worked by any process.
Ores sampled.
Assaying in all its branches.
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Plans furnished for the most suitable process for Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

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Mining Enginssrs and Metallurgists.

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Separetes the METALLIC ore from the BARREN gangue by means of AIR instead of WATER. Cost nominal; concentration perfect. Every miner and business man interested in this invention, which renders the working of low grede and "rebelllons" ores PROFITABLE. The machine is in operation daily between 10 and 1, at 105 First street.

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Important to Miners and Mill Men.

Silver-Plated Copper Amalgamating Plates, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

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On all kinds of Ores, and particular attention

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RICHARDSON & Co. have been for thirty years established in Swansea as Agents for the preparation, Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 25v26-1y

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Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,

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C. W. STRONG & CO.,

Metallurgical Works,

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Platinum Scrap end Ne tive Platinum purchased.

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Are prepared to meke SHEET IRON AND ASPHALTUM PIPE, of any size and for eny pressure, and contract to lay the same where wanted, guarenteeing a perfect working pipe with the least emount of material.

Standard sizes of railroad Car Wheels, with speciel patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and cen be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

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Manufacturers and have constant on hand

SPORTING,

MINING,

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POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the Interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

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HERCULES POWDER.

Which combines all the force of other strong explosive now in nse, and the lifting force of the BEST BLASTING POWDER, thns making it vastly superior to any other pompound now in nee.

A circniar containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

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To Miners, Millmen and Others.

Yonr attention is called to the very superior AXLE OREASE menufactured by ns for over 18 years.

Recent improvements in the chemical errangement of the lnbricants nsed in its manufecture render its use as serviceble on the lightest buggy as on the heaviest team.

The extensive demend for the **H. & L. Axle Greass** hes enabled the proprietors to reduce its price to as low a rate as any of the inferior compounds, which are continnelly being forced upon the market.

See that the trade-mark (H. & L.) is on the red cover of the peckage, and take no other.

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Manufacturers & Sole Proprietors,

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Depot.....312 Jackson Street.
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GAS FIXTURES.

All sizes of Iron Pipe, plein and galvenized, with cocks elbows, tees, etc., for seme.

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Bibbs, Plated Besin Cocks, Copper Boilers, Beth Tubs, Lead Pipe, Gerr's and Smith's Patent WATER CLOSETS, Wash Besins end Closet Bowls, singly or by the crate,

As Low es any Honse in the City.

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G. & H. BARNETT,

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Sold by all the principal hardware stores in San Francisco. 18v25.1y

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We have just added a large amount of new machinery of the latest and most improved kind, and are again prepared o fill orders for Rope of any special lengths and sizes. Constantly on hand a large stock of Manila Rope, all sizes; Tarred Manila Rope; Hay Rope; Whale Line, etc., etc.

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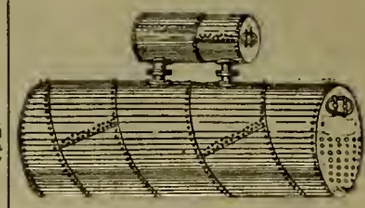

High and Low Pressure Boilers of all Descriptions.

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SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

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Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

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All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

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Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND POINTED DRILLS, now brought to the highest state of perfection, are prepered to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices Abundant testimony furnished of the greet economy and snccessful working of nnmerous machines in operation in the quartz and gravel mines on this coest. Circulers forwarded, and full information given upon application.

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Lsroy W. Fairchild's Gold Psns and Pencils.

Chas. Eneu Johnson & Co.'s Fins Printing Inks.

JOHN D YOST, San Francisco. H. S. CROCKER. Sacramento.
19v27-hp3m

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Froiseth's New Sectional, Topographical and Mineral

MAP OF UTAH.

SIZE, 40 BY 56 INCHES; SCALE, 8 MILES TO AN INCH.

Handsomely engraved on stone, colored in connties, and mounted on cloth, showing the Counties, Towns, Rivers, Lakes, Railroads, Mines and Mining Districts throughout the Territory, and all GOVERNMENT SURVEYS made to date. Price, mounted, $8; Pocket form, $5.

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Showing the bounderies of the principel mining districts, some 30 in number, edjecent to Salt Lake City. Price, pocket form, $2.50.

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Showing the location of some 400 mines and tunnel sites, together with the mines snrveyed for U. S. Patent. Price $3. For sele end mailed to any part of the globe, on receipt of price, by A. L. BANCROFT & CO., A. ROMAN & CO., and LECOUNT BROS. & MANSUR, San Francisco. 10v25-tf

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MANUFACTURERS OF ALL KINDS OF

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ATWILL & CO.'S

WESTERN MINING AGENCY,

No. 240 Montgomery street, S. E. cor. Pine, opposite Russ Honse, San Francisco.

Mining Stocks bonght and sold. Offices in New York, Philadelphia end London. Visitors to the city invited to call and make our rooms their headquarters. Mining Companies incorporeted and Working Capital furnished. Interest of Locators and Shareholders attended to. Mines registered end described. Informetion relative to Mines, Ores, etc., given. P. O. Box 771. oc18-1y

[MINING SUMMARY.—Continued from Page 309.]

Utah.

LITTLE COTTONWOOD DISTRICT.

THE GRIZZLY.—Salt Lake *Tribune*, Nov. 6: This mine shipped 200 tons last week and expect to make a good ehipment this week. The Grizzly ehows in all its works the largeet hody of fine ore that we have seen, and that we are eatisfied cannot he ehowu hy any other mine in our district. The first and second levels show a continuous hody of ore on each side, and over head as well. The incline ie 75 ft. down and rune from the second level in good ore, at the end of which a uew incline has been commenced, running in a southerly direction abont 30 ft. in a solid body of ore, ahout six feet wide. The ore ie easily taken ont and requiree no blasting. All the different levels and inclinee have been carefully timbered.

THE EMMA shipped 90 tone for the week, and is still washing the secoud-class dump. The new assay office has just been completed.

THE VALLEJO shipped ahout 60 tons laet week, and ie generally looking well.

THE WELLINGTON, it ie rumored, hae struck a good body of ore in their tunnel.

THE LADY ESTEN TUNNEL is making extensive preparations to work this winter. This company has worked winter and summer for the laet two yeare, but has not ae yet struck anything of importance.

THE PIONEER No. 2 ie ahont 300 ft. from the Flagetaff mine, and hae a body of fine ore in ite shaft, specimens which we have eeen showing an assay of $200 in silver. The body is ahout one foot wide.

THE DAVENPORT ehipped 480 tone during last week, and 800 tone for the month of Octoher. The mine is improving daily.

THE REED & BENSON, in Big Cottonwood, ie working in a large hody of valnable ore, and is shipping daily. The tramway is not quite covered. The mine is to be worked all winter, and will be ahle to ehip its oree without difficulty.

THE FLAGSTAFF is etill cloeed. The men are here awaiting their pay, which is expected on the 6th. The new ore house is ahont completed, and it is to he hoped that the company will soou reeume the development of thie property.

TINTIC DISTRICT.

THE WYOMING MILL.—*Tribune*, Nov. 4: Thie mill, eitnated at Homaneville, started up recently, and expecte to keep running this winter, mainly, we are informed, on ore supplied by the Sunheam mine, recently purchaeed by that company.

THE OLD SMELTER at Homansville, ie also being started up on an experimental basis, by Mr. Nesbitt, Superintendent of the Enreka Mining Company's works, who propoeee, hy meane of some peculiar invention of his own, to smelt refractory ores to advantage, which have hitherto proved non-paying.

THE MAMMOTH.—We are informed the appearance of their mines underground is that of steady improvement, on what was of iteelf originally very good, to say the least. The Copperopolis Smelting Works, we understand, answer well. The mill helonging to that company is not yet at work.

Washington Territory.

THE SWAUK RIVER GOLD MINES.—Portland (Or.) *Bulletin*, Nov. 4: Much interest has lately been awakened in this State and Washington Territory by reporte of rich discoveries of gold placers on the Swauk River. We yesterday received a call from Mr. John Shoudy, a gentleman just down from the new El Dorado, and from him we have received the following interesting information: The mines are located in Washington Territory, on the Swauk River, a branch of the Yakima, ahout 150 miles from the Dalles. The Swauk River is twenty-five miles in length, and from ite eource to its mouth rich indicatione are found at every point, as aleo on its small tributaries, and in the eurrounding hille. A mining company has just been formed, compoeed of ten members, with Thomae Goodwin as President, and active operations inangnrated — many slnices having hesn put in when our informant left.

Specimens hrought to this city by Mr. Shoudy aeceyed $14.50 to the ounce—weighing 3.85 previous to assay and 3.45 after—.742 gold. Several of the prospectors have picked up solid lumps weighing from half an ounce to one ounce. Old miners give it as their opinion that the new diggings will "pan out" remarkably well. The company just formed have already taken up eleven claime, and eager prospectors are out in every direction. Mr. Mycock, one of the diecoverers, sold ont one claim for 27 head of cattle, to provide heef for the eettlement. Living at the new diggings is almost ae cheap ae in Portland—the principal staple, flour, costing only $7 per hariel, and other neceearies of life in proportion. Mr. Shondy is very enthnsiastic with regard to the new placers, and thinks the party have certainly "etruck it rich." Should subsequent developments verify their expectations, we may look for a regular stampede in the spring toward the Swauk River from all directions. Great excitement exiete in that section of the country. Ahout 300 persone are already at the mines, in varioue localities, and hnndreds are preparing to go to the diggings. Mining laws are in force, and claims are recorded at the very low sum of $1. Three yeare ago prospectors found very favorahle indications at the head of the Yakima River, and the impression has alwaye prevailed that the region wae of an auriferoue character. The minee are easily accesihle from the Dalles —plenty of freighting facilities, at 7 cente per pound.

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SCIENTIFIC PRESS
Patent Agency.

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LITTLE LAKE, Mendocino Co., Cal., Nov. 3, 1873.—MESSRS. DEWEY & CO.—Sirs: We acknowledge the receipt of our patent papers, hy the Express of to-day. We also return our thanks to you for the strict attention and ability shown in our behalf. Yours truly,
GEORGE L. FITCH, HENRY M. JONES.

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26v26-aw bp

NOTICE TO BUILDERS.

SEALED PROPOSALS, for furnishing certain materials and constructing a portion of the Napa State Asylum Building for the Insane, will he received at the office of the President of the Board, No. 204 Sutter street, San Francisco, nntil 12 o'clock M. of the 30th day of October, 1873.

The printed specifications and printed forms of proposals can he had on application to Messrs. Wright & Sanders, Architects, 418 California street, where plans and drawings can be seen and all further information obtained. No bids will be entertained unless made on the specified printed forms of proposals and accompanied with a certified check or hond with two or more good and sufficient sureties, in a sum equal to ten per cent. of the total sum of the tender, to be returned on the due entering into the contract by the party to whom it may be awarded, or to be forfeited if the party fails to enter into the said contract.

The Board reserves the right to reject any or all bids.

oc4-td J. F. MORSE, President of the Board.

The time for receiving the above tenders is extended until 12 o'clock M. on THURSDAY, November 20th next.

J. F. MORSE, President.

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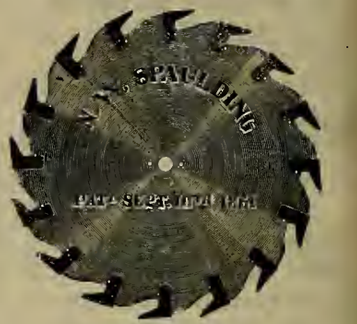

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HALLIDIE'S
Patent Endless Wire Ropeway.
Covered by Numerous U. S. Patents.

IMPORTANT TO
Mining Companiss, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I hog to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN - My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mins in Freihurg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get ont of order—nothing to wear out. While ours requires hut about two thousand five hnndred feet of wire rope, I can see no reason why the lins could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might he donbled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to yon, nse it in any way yon think proper. Very respectfully, C. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO.,
Little Cottonwood, Utan,
Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may he on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall to this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, NOVEMBER 22, 1873.

VOLUME XXVII. Number 21.

The Napa Insane Asylum.

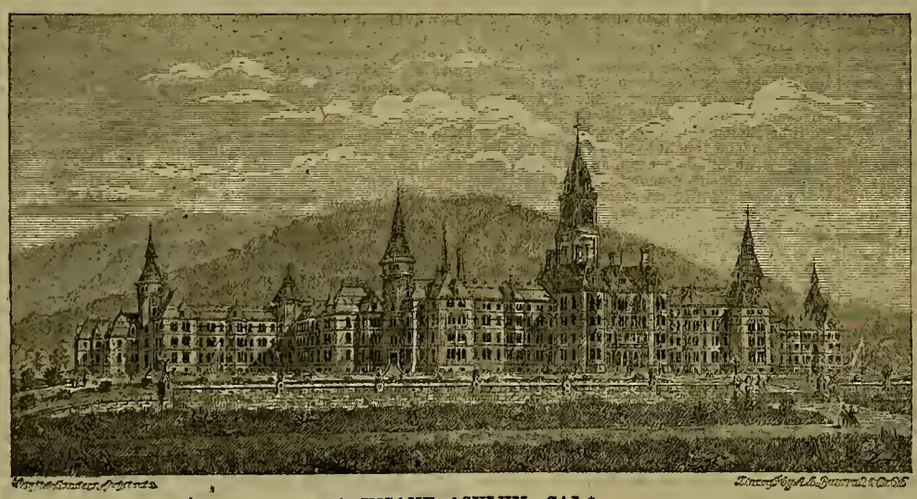
For a long time the State Insane Asylum at Stockton has been confessedly inadequate in size. When it was built, the calculated accommodation for 600 inmates was considered ample. But it was soon found that sufficient allowance had not been made. There is something in the high-pressure mode of living—some call it the result of the prevailing stock gambling, which, it is asserted, leavens our whole social and commercial being—here, which is evidently beyond the grasp of ordinary statistics. And though the State has grown rapidly, the number of her insane has increased still more.

It was to relieve the present overcrowded Stockton asylum, that the noble structure which we here illustrate, was planned. There are now 1,290 patients at the former place, or about double the number for which the building was constructed. The sooner, therefore, the new asylum is finished, the better for all. The foundations are all in, and part of the basement story. The building is to be put up in three sections, each of which, complete in itself, will be thrown open to patients, when finished. The principal material is brick, and from the plans, and what is now built, the asylum promises to be solid and substantial in all its parts, as well as imposing in appearance. The stipulated cost is $600,000

The architects, Messrs. Wright and Sanders, of this city, have paid especial attention to the sanitary requirements demanded for the purpose for which the asylum is intended. They have worked on the principles laid down for the construction of hospitals, at the convention of medical superintendents of American institutions for the insane, in 1871. All the appointments of offices, reception rooms, dormitories, baths, day rooms, library, store rooms, etc., will be complete. The wards for excited patients are to have on one side of the corridor a conservatory for flowering plants, birds, etc., and a water fountain in the center of each. Thorough ventilation will be secured by means of large galvanized iron tubes, receiving the vitiated air from the different wards and discharging it through the towers and ventilating turrets. Downward currents of fresh air are to be secured by an arrangement of pipes, terminating in the fire-boxes of the boilers. Ample provision will be made for protection against fire, by numerous hydrants throughout the building and by the partially fire-proof nature of its construction.

It is to be regretted that the new asylum was not finished long ago. Roominess is one of the first requisites in effecting cures, and when twice as many persons are crowded together as there is properly room for, as at Stockton, the effect can be imagined. It will thus be seen that complaints made against the management of the Stockton asylum are solely on this ground.

The architects are to be congratulated on the excellence of their plan. The outlines are such that they will far surpass in reality their appearance on paper.



NAPA INSANE ASYLUM, CAL.*

*This engraving, with some of the facts accompanying it, is taken from Menifee's Sketch Book of Napa, Sonoma, Lake and Mendocino counties, now published by Haas Bros., Napa City, Cal.

Coal Mining.

Coal mining by machinery is being rapidly introduced in Great Britain. Several of these machines are described in Saward's New York *Coal Trade Circular*. Most of them are worked by compressed air, a few by hand and by steam. They are on the same principle. They aim at imitating the hand pick stroke. They usually cut out an undermining 2¼ inches, tapering to 1¼ inches. The cut is about 2½ feet deep, and they usually progress about 30 yards per hour. One machine weighing 15 cwt. and costing $500, cuts 80 tons a day of ordinary coal, with two men and one boy. A new hand learns in a few days to master its working.

We ask attention to the above brief description of what is being done, to cheapen coal mining one-half and to reduce wasteage of the seam fully as much.

From all parts of California we have coal discoveries—north, south and east, so that instead of being almost destitute of mineral fuel, we are likely to find ourselves amply provided.

Our coals are inferior to those of England and of Pennsylvania; but though of comparatively light weight and copious ash, our coals are generally free from sulphur and equal to average wood as fuel. In size, too, the seams exceed the average elsewhere, which adapts them particularly to machine mining.

For all purposes which Diablo coal answers, almost all our newly discovered coals can be profitably used; and generally they have much less sulphur.

Perhaps we may find new ways to burn these lignite coals, so as to smelt iron. We find iron ore almost every where, not far off, and this is usually accepted as Nature's hint that the two will work together. Enterprise may venture to make experiments and expend capital in finding ways to smelt iron ore with our lightest lignites under such circumstances of juxtaposition.

The mines in Storey county, Nevada, turned out 121,200 tons of ore during the past quarter, valued at $4,616,650. Of this amount the Belcher turned out 35,060 tons, valued at $2,252,550 and Crown Point, 30,100 tons, valued at $1,752,700.

The North Star Mining Company's ten-stamp mill in Star District, Utah, has been running since the 27th ult. successfully.

Oleomargarine.

The California Oleomargarine Manufacturing Company, West Evans, President, Henry Phillips, General Manager, and John G. Baker, Secretary, commenced operations during the past week at No. 405 Sansome St., in this city.

They announce that they are prepared to supply the market with the best quality of *fresh butter*, at greatly reduced prices. That this new style of butter, manufactured from suet of fresh beef, is endorsed by some of the ablest chemists of this country, including Professors Silliman, Hossford, Chandler and Doremus. The latter, who holds the position as Prof. of Chemistry at Bellevue Hospital, Medical College, and also at the College of the City of New York, speaks very favorably of it, as will be seen from some extracts we give from a recent letter published in full in the *Alta* of Nov. 4th.

Bellevue Hospital Medical College,
New York, August 18th, 1873.

Vernon Seaman, Esq.—Dear Sir: The butter fabricated from the fresh fat of beeves by the process of Mr. Alfred Paraf, contains, according to analysis made in my Chemical Laboratory, the constituents of the best butter from cow's milk, with no greater variations in the proportions of said ingredients than are found in samples from different dairies, with the omission of some abnormal substances which excite and facilitate the well known changes in ordinary butter.

It is a pure, sweet and palatable butter.

I have samples of the butter prepared after this novel and rapid process, which I have kept for five months, and they are well preserved, whilst butter, supplied by one of our first-class grocers and similarly exposed, has become disgusting to the sense of smell and utterly unpalatable. Experiment, therefore, verifies theory.

In my opinion, butter made according to Mr. Paraf's method, is better adapted for transportation and preservation than any butter produced from milk alone.

As a chemist, I deem this discovery as one of the most remarkable of the age, and give it my unqualified recommendation.

I have the honor to remain, your ob't s'vt.
(Signed,) R. Ogden Doremus.
Prof. of Chemistry and Toxicology, Bellevue Hospital, Medical College, and Professor of Chemistry and Physics, College of the City of New York.

As we were invited to take a look through the establishment, we give a brief description of the mechanical process through which the suet passes, until it emerges from the churn as a new article of commerce. The suet, fresh from the slaughter house, is thrown into a vat of cold water and thoroughly washed. It is now ground in a machine similar to a sausage cutter and then 700 or 800 pounds of the hash are put into a large tub with about an equal weight of water. The steam is immediately turned on and the contents of the vessel brought to a heat of low temperature. After standing from one to two hours, the oil and stearine arise to the top, the scraps sink to the bottom, the water occupying the intermediate space.

The oil and stearine are now readily drawn off, placed in sacks and put in large quantity under a powerful press. By this process the oil is thoroughly separated from the stearine; the latter being left in the cloths or sacks, while the former is pressed out and discharged into suitable receivers. About one-fourth part of milk is now added to the oil, when it is churned, worked and prepared for the market.

We have no further personal knowledge of the merits of this new "home product," and advise our readers to try it for themselves.

Nickeliferous Sand from Frazer River.

The sand obtained from the gold washings of Frazer river has very much the appearance of small particles of iron pyrites, being of a decidedly yellow color. Dr. Blake, noticing some of its peculiarities, has made an analysis of the sand the results of which he communicated to the California Academy of Sciences at its last meeting. Under the microscope it is found to consist of two distinct substances, one of which is evidently magnetic oxide of iron or the common black sand of our gold deposits; the other is of a yellow color in the form of small scales, without any well marked crystalline structure, and the edges of which have been rounded by abrasion. The whole of the sand is strongly magnetic, so that with the exception of a few scales of gold, it contains nothing that is not taken up by the magnet. An analysis of the sand shows that it contains nothing but the oxides of nickel and iron: 0.9153 grm. of the sand yielded 0.330 sesquioxide of iron and 0.6035 oxide of nickel, which would give, supposing the iron to be in the state of magnetic oxide, 0.275 of oxide of iron, and if we suppose an analogous oxide of nickel to exist we should have 0.647 of the magnetic oxide of nickel: thus making 0.9220 instead of 0.9153, the excess of 0.007 being undoubtedly due to the nickel from the difficulty of freeing it completely from the potash with which it is precipitated.

Although Dr. Blake can find no mention of such a compound of nickel either in Watson's Dictionary of Chemistry or in Dana's Mineralogy, yet he has no doubt that the form in which the nickel exists in this sand is as an oxide, with the composition $Ni^3 O^4$, analogous to the magnetic oxide of iron $Fe^3 O^4$, thus establishing another relation between the compounds of nickel and iron. From the very large proportion of it in the sand, fully 75 per cent., it is strange that its presence has not been before noticed.

The Japa placer mines in Lower California are still attracting considerable attention in the "lower country." Many people have left Julian City and San Diego for the new mines. Reports from there show that the mines are rich, but the usual drawback in that part of the country—want of water—will retard progress. A correspondent of the San Diego *Union* who has lately returned from the diggings says the men there make from $1 to $4 per day with pans and $5 to $7 with rockers. The dust in this case must be pretty rich taking into consideration the fact that it is carried three miles to water. Perhaps with proper dams and sluices to utilize the rains, the diggings might prove lucrative.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Nov. 19, 1873.

NAME OF COMPANY.	IN MINE. FEET	IN MINE. SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co						
Alpha Consolidated	300	6000	50	29	27	
Alta	3600					
		20000	4	3½		¾
American Flat	1900	18000	1⅞	1⅜		1½
Arizona & Utah						
	65	24000				
Bacon Mill & Mining Co.		54000	¾	⅝		⅛
Baltimore Consolidated	1040	104000	85½	73		12½
Belcher	224	22400	9½	8½		1
Best & Belcher	20	5000				
Bowers		15000	1½			¼
Buckeye	2500	25000	20	15	5¼	
Bullion	5000	20000	16½	14⅝		1½
Caledonia Silver M. Co	150	10800	13½	12½		
Central	100	20000	9	9		1
Central No. Two	2800	28000	55½	44	8½	
Chollar-Potosi	130	24960	8¾	7		⅜
Confidence Silver M. Co	34½	20000				
Cons. Gold Hill Quartz	1160	108000	49	46		5½
Consolidated Virginia	1600	24000				
Cook & Geyer	600	100000	102	86		
Crown Point G. & S. M. Co	2000	24000	1¾	1½		
Daney	1200	24000				
Dardanelles	70	25000	5¾	4		⅝
Eclipse	75	50000	4⅞	3⅞		¾
Empire Mill & M. Co	400	8000	18	11½	5	
Exchequer			3¼	3		⅛
Fairmount	3000	12000				
Flowery						
Franklin		25000	1½	¼		⅛
Globe	1200	48000	13¾	11⅝		1½
Gould & Curry S. M. Co	400	16000	41	28	8	
Hale & Norcross	184	100000	6⅞	4⅞		1½
Imperial						
Indus	2000	30000				
Insurance						
Jacob Little	2000	30000	3⅞	3		⅝
Julia Gold and S. M. Co	3000	21000	1¾	5		
Justice	95	30000	13	10¾		1½
Kentuck	1200	24000	3	2⅝		⅜
Knickerhooker						
Lady Bryan	3600	36000				
McMeans	1650	50000	1½	1½		
Mint Gold & S. M. Co			1⅞			¼
Nevada	2600	40000	2¾	1¾		
New York Consolidated	600	10000				
Occidental	1400	16800	93	69	16	
Ophir Silver Mining Co	1200	37400	26½	19		½
Overman Silver M. Co	1200	24000				
Phil. Sheridan	2000	30000				
Piotou		24000	65c	65c		10c
Rock Island	800	16000	60	53	3½	
Savage	160	6400	67½	61	2½	
Segregated Belcher		1000				
Segregated Caledonia		24000				
Senator Silver M. Co		20000	17	14½		1
Sierra Nevada		54000	10	8		½
Silver Hill			29c	40c		
South Comstock	1600	22800	5½	2½		½
South Overman		24000	3	2⅝		
Succor Mill and M. Co		50				
Sutro	2200	33000	¾	⅝		⅛
Trench	803	20000	2¾	2¼		¾
Tyler		20000	10¾	4	5¾	
Union Consolidated	1400	28000	1¼	⅞		¾
Utah	1200	24000	65½	59		1
Woodville G. & S. M. Co						
Yellow Jacket						
NEVADA.						
Adams Hill		50000				
Alps Silver Mining Co	600	30000	⅞	¾		⅛
Amador Tunnel & M. Co						
American Flag M. & M		30000	6¾	4⅞		1¾
Arkansas	300	30000				
Belmont			27	22	2	
Bowery		30000	½	½		
Chapman Mill & M. Co		30000	15c	15c		60c
Charter Oak S. M. Co	1000	30000	½	½		
Chief of the Hill		30000	1⅞			
Chief East Extension		36000	20c	10c		2½c
Columbus M. & M. Co	10000	50000				
Condor		25000	29c	19c		10c
El Dorado South			7	5		
Eureka Consolidated		50000	9½	9		½
Excelsior		12000				
Harper Silver Mining Co		30000				
Hayes			2⅜	2¼		⅛
Hermes	1000	30000	3¼	3		¼
Home Ticket						
Huhn & Hunt S. M. Co	3600	30000	2	1⅜		⅛
Ingomar Silver M. Co	1000	40000	40c	20c		35c
Ivanhoe		30000				
Jackson		50000				
Juniata Consolidated	5000	50000				
K. K. Consolidated						
Kentucky Gold & S. Co	1000	30000	4	2½		¾
Kinston	1000	30000		1⅛		
Lehigh	1000	30000				
Lillian Hall	1000	15000				
Louise	2400	30000	40c	¾		
McMahon	1000	30000	15c	15c		
Marion		30000				
Meadow Valley	24023	60000	15¼	14		¾
Mooking-Bird	1200	30000				
Monitor-Belmont				4⅜		
Murphy	2000	60000				
Newark Silver M. Co	800	32000	4¼	3½		¼
Pacific Tunnel & M. Co						
Page & Panaca S. M. Co	2400	40000	1½	1		⅛
Peavine	1000	20000	30c	30c		
Phœnix		50000	69c	10c		½
Piocbe Silver Mining Co	1000	20000	5¼	5		¼
Piocbe West Extension		35000				
Pioche-Phœnix		40000				
Portland						
Raymond & Ely	5000	30000	60	57		2
Rye Patch			8	6¾		½
Silver Peak		30000	1¾	1⅞		⅛
SilverWest Consolidated						
Standard Mill and M. Co						
Star Consolidated	18000	50000				
Starlight	5900	25000				
Sterling		30000				
Spring Mount		30000				
Spring Mountain Tunnel		20000				
Ward Beecher						
Washington and Creole	200	30000	7⅛	4⅜	2⅞	
Watson			5½	5	½	
Yellowstone						
CALIFORNIA.						
Alpine	1200	12000				
Bellevue	8000	20000				
Calaveras Gold M. Co	3200	20000				
Cederberg Gold M. Co		24000	6	6		
Consolidated Amador			38½	38		1
Cottonwood Creek		20000				½
Dunderberg M. & M. Co						
El Dorado Ind. Quartz M						
Eureka Gold Mining Co	1680	20000	20	19		1
Gillis		24000				
Independent Gold M. Co	1800	25000	4½	2⅜		½
Keystone Quartz		10000				
Mt. Jefferson	1500	25000				
Oakville Quartz M Co						
St. Lawrence M. & M. Co		20000	6	4½		1
St. Patrick	1550	30000	6⅜	5½		
Teonmseh	3000	30000				
Yule Gravel	400	10000				
IDAHO.						
Empire		25000	4	4		½
Golden Chariot	750	30000	17½	14⅜		2½
Ida Elmore	1200	10000	5	4½	1⅜	
Mahogany G. & S. M. Co	720	10000	7¼	6¾		⅜
Minnesota Gold & Silver	1070	20000				
Red Jacket						
South Chariot	660	20000	8	6	2	
War Eagle	1000	10000				
WHITE PINE.						
General Lee	1000	20000				
Mammoth Silver M. Co	1800	36000	15c	15c		
Noonday	1000	20000				
Orig. Hidden Treasure	800	21333	3¾	3¾		
Silver Wave						
Ward Beecher		24000				
UTAH.						
Deseret Consolidated	2400	30000				
Wellington		60000				
OREGON.						
Virtue	2300	20000				

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thursday from Advertisements in the Mining and Scientific Press and other S. F. Journals.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive to that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business
Arizona & Utah M. Co	Washoe.	7	50	Nov 11	Doo 15	Jan 3	J. Maguire,	419 California st
Alpha Cons M. Co	Gold Hill, Nev.	5	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California st
American Flag M. & M. Co.	Elv Dist.	3	1 00	Sept 30	Nov 4	Nov 27	G. K Spinney,	325 Caltornia st
Belmont M. Co	Nevada	2	1 50	Oct 14	Nov 15	Doo 5	O. H. Bogart.	411½ California st
Bowers Cons. M. Co.	Ely District.	4	1 00	Nov 5	Doo 16	Jan 6	C. E. Elliott.	419 California st
Baltimore Cons. M. Co.	Gold Hill.	4	1 00	Nov 18	Dec 23	Jan 14	D. T. Bayley,	401 California st
Cederberg 1st, Southerly Ex.	Cal.	5	10	Oct 9	Nov 13	Doo 1	G. N. Webster,	420 Montgomery st.
Caledonia S. M. Co.	Washoe.	6	3 00	Nov 13	Dec 18	Jan 8	R. Wegener.	414 California st
Caroline M. Co.	Ely District.	3	30	Nov 11	Doo 22	Jan 15	C. E. Elliott.	419 California st
Daney G. S. M. Co.	Washoe	7	50	Oct 9	Nov 14	Doo 15	G. R. Spinney,	320 California st
Dardanelles M. Co.	Cal		1 00	Nov 4	Doo 8	Doo29	J. L. King.	434 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Oct 13	Nov 18	Doo 13	Wm Willis,	419 California st
Emera'd Hill M. Co.	Utah		25	Oct 2	Nov 11	Doo 3	E. Madge.	Merchants' Ex
Empire M. & M. Co.	Idaho	5	1 00	Oct 4	Nov 8	Doo 2	W. Willis.	419 California st
Equitable Tunnel & M. Co.	Utah	4	10	Oct 7	Nov 10	Doo	C. S. Healy,	Merchants' Ex.
Gould & Curry S. M. Co.	Washoe.	20	1 50	Nov 14	Doo 15	Jan 7	A. K. Dearborn,	Merchant's Ex.
Globe M. Co.	Gold Hill	4	50	Oct 14	Nov 17	Doo 8	Joseph Maguire,	419 California st
Hale & Norcross S. M. Co.	Washoe	41	5 00	Oct 3	Nov 5	Nov 26	J. F. Lightner,	438 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Doo 15	Wm. Willis,	419 California st
Independent G. M. Co.	Cal	4	50	Sept 29	Nov 3	Nov 24	G. T. Graves.	240 Montg'y st
Julia G. & S. M. Co.	Washoe	15	1 00	Oct 13	Nov 17	Doo 6	A. Noel.	419 California st
Knickerhocker M. Co.	Am. Flat.	7	1 50	Nov 16	Doo 13	Jan 2	H. Boyle,	Stevenson's Bldg
Lady Esten Tunnel M. Co.	Utah	5	10	Oct 7	Nov 10	Doo 1	C. S. Healy,	Merchants' Ex
Mammoth S. M. Co.	White Pine		10 cts	Oct 22	Doo 1	Doo 22	J. L. King	434 California st
New York Cons. M. Co.	Gold Hill		25	Oct 13	Nov 17	Doo 8	H. C. Kilbe.	419 California st
Ohio Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Doo 8	W. Aug. Knapp,	116 Leidesdorff st
Ophir S. M. Co.	Washoe	27	5 00	Oct 8	Nov 11	Doo 2	Jos. Marks.	Merchants' Ex.
Ophir Copper S. & M. Co.	Cal.		10	Nov 12	Doo 13	Jan 5	C. H. Bogart,	411½ California st
Pioton S. M. Co.	Washoe.	4	25	Oct 28	Doo 1	Doo 18	S Phillips,	408 California st.
Phœnix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Doo 10	J. Maguire,	419 California st
Pioche S. M. Co.	Ely District.	5	1 00	Oct 30	Doo 10	Jan 6	C. E. Elliott	419 California st.
Red Jacket M. Co.	Idaho	1	1 00	Oct 3	Nov 6	Doo 1	Wm Willis,	419 California st
Rye Patch Cons. M. Co.			1 00	Nov 7	Doo 16	Jan 5	D. F. Verdenal.	409 California st
Silver Hill M. Co.	Washoe.	2	2 00	Nov 14	Doo 16	Jan 5	W. E. Dean,	419 Caltarnia st
Silver Cloud G. & S. M. Co.	Cal.	5	3 00	Scp 30	Nov 6	Doo 3	A. A. Erquest, cor.	Minna & N Mon.
Sierra Nevada S. M. Co.	Washoe.	37	2 50	Nov 14	Doo 22	Jan 12	R. Wegener,	414 California st
Trench Gold Hill M. Co.	Nevada	1	1 00	Oct 17	Nov 21	Doo 11	J. Marks	Merchants' Ex
Union Consolidated	Washoe.		50	Oct 20	Nov 20	Doo 8	J. McBuffington	Merchants' Ex.
Virtue G. M. Co.	Oregon	3	75	Oct 4	Nov 12	Doo 15	C. F. Balcom	425 Montgomery st
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Doo 15	T. B Wingard.	318 California st
Washington & Creole M. Co.	Ely Dist	1	00	Oct 15	Nov 17	Doo 9	F. D. Cleary	Merchants' Ex
War Eagle M. Co.	Idaho.	3	60	Nov 18	Doo 24	Jan 15	L. Kaplan,	Merchant's Ex
Wyoming G. M. Co.	Nevada Co., Cal		25	Sept 13	Nov 13	Doo 8	W. J. Gunn.	410 Montg'y st

Other Companies (not on the Lists of the Boards.)

Alpha Cons. M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California s
Auburn G. M. Co.	Placer Co.	6	50	Nov 17	Doo 23	Jan 13	R. Wegener,	414 Californir st
Bunker Hill Q. M. Co.	Amador Co.	12	10 00	Nov 12	Doo 20	Jan 12	W. L. Palmer,	19 Fir st
Buena Vista Petroleum Co.	Kern Co	17	1 00	Sept 20	Nov 10	Nov 25	L Aguayo,	430 Jackson st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6	6	Oct 6	Doo 5	Jan 6	A. Noel,	419 California st,
Black Mountain Coal M. Co.	Cal.		2½	Oct 8	Doo 1	Doo 29	W. H. Parshley,	602 Montgomery st,
Commercial Coal M. Co.	Santa Cruz Co		25	Oct 8	Nov 17	Doo 15	S. B. Hanson,	402 Montg'y st
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Cunel & Tiger S. M. Co.	Arizona.		20	Oct 25	Nov 26	Doo 20	C. J. Eaton,	Express Building
Eclipse Winters & Plato Cons. M. Co		1	50 cts	Oct 17	Nov 20	Doo 10	J. Marks	Merchants' Ex
Eureka M. & S. Co.	Eureka, Nev.	3	25	Nov 11	Doo 13	Jan 2	T. P. Beach,	217 Sansome street
Granite Tunnel M. Co.	Cal.		5	Oct 8	Nov 15	Doo 6	W. G. Holmes,	cor. Wash. & Battery
Great Blue Gravel R. M. Co.	Cal.		10	Nov 20	Doo 22	Jan 12	W. H. Watson,	302 Montgomery st
Gold. Mountain M. Co.	Amador Co Cal.		25	Oct 31	Doo 13	Jan 5	W. Aug. Knapp,	116 Liedesdorff st
Homestead Farm Ass.	S. F.		7 00	Oct 6	Nov 6	Nov 25	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Cal	1	15	Sept 29	Nov 14	Doo 15	W. H. Knight,	Montg'y st
Ingomar S. M. Co.	Ely District.	6	25	Nov 6	Doo 5	Jan 8	C. S. Neal,	419 California st
Ida & Rhoda Lewis C. M. Co.	Arizona.		10	Oct 27	Nov 29	Doo 4	C. J. Eaton,	Express Building.
Independence Con. M. Co.	Grass Valley		10	Nov 3	Doo 9	Doo 29	J. J. Herrmann,	418 Kearny st.
Knickerhocker M. Co.	American Flat.	7	1 50	Nov 10	Doo 13	Jan 2	Henry Boyle,	Stevenson's Building
Leo M. Co.	Washoe		10	Oct 6	Nov 10	Doo 4	C. J. Eaton,	Express Build'g
Lady Franklin M. Co.			50	Oct 14	Nov 22	Doo 15	J. S. Luty,	507 Montg'y st
Lemon M. & M. Co.	Eureka District		50	Sept 27	Nov 3	Nov 24	I. T. Milliken,	608 Merchant st
Lane & Kurtz Arithoo M. Co.	BritishCol		1 00	Oct 3	Nov 5	Nov 28	B. B. Minor,	411½ California st
North Bloomfield Gravel M. Co.		29	1 00	Oct 17	Nov 24	Doo 15	T. Dorby	320 Sansome st
Nicholson Pavement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 23	W. Firderer,	513 Montg'y st
North Fork M. Co.	Plumas Co. Cal.	1	1 00	Nov 7	Doo 11	Jan 3	A Martin,	Sacramento City
Pride of the Mountain M. Co.	Nevada		10	Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Pacific Asbestos Co.	Placer Co. Cal.		5	Nov 17	Doo 22	Jan 12	H. B. Congdon,	306 Montgomery st
Revenue Cons S. M. Co.	Arizona	1	25	Oct 11	Nov 12	Doo 10	R. H. Harney,	113 Leidesdorff st
Rising Star M. Co.	Nevada Co. Cal.	6	10	Oct 27	Nov 29	Doo 22	J. M. Buffington,	Merchants' Ex.
Silver Wave M. Co.	White Pine		40	Sept 20	Oct 30	Nov 25	J. W. Clark,	418 California st
Southern Pacific Cons. G. M. Co.	Cal		10	Sept 11	Nov 25	Nov 18	C. A. Eaton,	12 Express Build g
South Chariot M. Co.	Idaho.	8	1 00	Nov 14	Doo 1?	Jan 14	Frank Swift,	418 California st
State of Maine M. & M. Co.	Cal	4	5	Oct 1	Nov 4	Nov 24	H. B. Congdon,	406 Montg'y st
Thompson Coal M. Co.	Cal.		2½	Oct 8	Doo 1	Doo 29	W. H. Parshley,	602 Montgomery st.
Umpire Tunnel and M. Co.	Utah T	2	6	Oct 21	Nov 24	Doo 15	P. A. Eakins,	230 Kearny st
Wellington M. & S. Co.	Utah	2	25	Sept. 22	Nov. 3	Doo. 1	R. Wegener,	414 California st
Washington M. Co.	Mariposa Co. Cal.		1 00	Oct 30	Doo 8	Doo 31	T. B. Wingard,	318 California st
Woodville G. & S. M. Co.	Gold Hill Nev.	4	1 00	Nov 12	Doo 16	Jan 5	A. Noel,	419 California st
Wonder G. M. Co.	Cal.	1	10	Nov 5	Doo 15	Jan 5	H. C. Howard.	332 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Condor S. M. Co.	Ely District.	Geo. T. Grimes,	240 Montgomery st	Special.	Doo 15
Heckerdorn G. & S. M. Co.		Louis Torme,	734 Montgomery st	Special.	Nov 28
Independence Con. M. Co.	G. Valley	F. J. Herrmann,	418 Kearny st	Annual.	Doo 8
Kentuck M. Co.	Washoe.	Frank Swift,	419 California st.	Annual.	Nov 26
Piute C. M. C.		A. F. Benjamin,	430 California st	Annual.	Nov 28
Patten M. Co.		Hill Beachy.	6 Liedesdorf street.	Special.	Nov 26
St. Lawrence M. & M. Co.	Cal.	R. B. Noyes,	411½ California street	Special.	Nov 25

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Cliver.	315 California st.	30	Oct 17
Black Diamond Coal Co.	California.	P. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe.	419 California st.	4 00	Nov 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot.	419 California St.	3 00	Nov 10
Cederberg G. M. Co.	California	D. M. Bokeo.	420 Montgomery St.	50	Feb. 6
Con. Amador M. Co.	Cal.	P. B. Latham.	402 Montgomery St	1 00	Nov 10
Derby M. Co.		F. Cunningham	304 Montg'y st	50	Oct 22
Diana M. Co.		N. C. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Nov 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Wills.	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Coburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

THURSDAY EVE. Nov. 20, 1873.

The stock market has not been particularly active this week, though news from the mines continues good. Aeeessmente are quite plentiful however, just now, as money is wanted for supplies, prospecting, etc., during the winter months. The dividends for the month do not foot np over $750,000 from companies listed on the boarde. The assessments delinquent this month are as follows:

Name.	Per Share.	Amount.
American Flag	$1 00	$40,000
Belmont	1 50	45,000
Daney	50	12,000
El Dorado South	1 50	60,000
Empire	1 00	25,000
Globe	50	10,000
Hale & Norcross	5 00	80,000
Ida Elmore	3 00	30,000
Independent	50	12,500
Julia	1 00	30,000
N. Y. Consolidated	25	9,000
Ophir	5 00	84,000
Phoenix	50	25,000
Red Jacket	1 00	20,000
Union Consolidated	50	10,000
Virtue	75	15,000
Washington & Creole	1 00	30,000
Wellington	25	12,000

Dividends for the year as compared with assessments have been as follows:

	Assessments. No.	Assessments. Amount.	Dividends. No.	Dividends. Amount.
January	24	$550,060	7	$573,181
February	30	586,000	7	849,000
March	36	581,950	5	811,000
April	18	388,860	4	1,090,000
May	20	615,900	3	1,872,000
June	22	430,500	8	2,232,000
July	35	742,700	7	1,389,500
August	21	580,850	7	1,270,500
September	24	323,033	8	1,052,500
October	24	678,500	5	698,500
November	18	550,000	4	751,000
Totals	274	$5,029,443	66	$12,589,181

The comparison shows a gain of $6,560,000 in favor of the stockholders.

Tho Consolidated Virginia shipped on the 18th, $67,936. Daily yield 140 tons of ore.

The Eureka mine, Graee Valley, turned out 1,150 ounces of gold amalgam last week.

The ehipments from the Raymond & Ely aggregate $67,800 thus far in November.

A QUICKSILVEB mine wae discovered a few daye eince, about six milee north of Windsor, upon the ranch of W. J. McClindon.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

I. X. L.—Alpine *Miner*, Nov. 15: Thie mine ie again yielding ore for the mill. We are not so well aseured of its qnality ae of that from the Fremont, but from paet yields do not douht it is of good qualiiy.

SILVER GLANCE.—Work in the Silver Glance shaft progreesee slowly. The hoisting works are in operation.

THE M. & N. W. Co.—The M. & N. W. Co.'e dam, near their mill on the Oarson river, hae heen undergoing thorough repairs, and may now be considered complete, as all thnt remains to do is to fill in below the apron with rocke, and to do some work on the east pier. Experte pronounce the structnre safe, and mnch improved in every way.

RICH ORE.—A sight of the ore being taken from the Fremont mine in Silver Monntain is good for sore eyes. Car samples will run high into the hnndreds, if they do not reach a thousand dollars per ton. It ie helieved by old reeidente of the oounty that the lode upon which are located the Bnckeye No. 2—*i. e.* Exchequer Co.'s mine—the Fremont, Saugatuck and Lady Franklin Companies will, when once fully developed, prove a second Comstock.

AMADOR COUNTY.

AMADOR CANAL.—Amador *Ledger*, Nov. 15: Work on the canal ie progreeing rapidly, a large force af men heing engoged npon it. The energetic manner with which the work is puehed ahead upon the canal will eecure the completion of this great enterpriee at an early day. Farmere, gardeners and frnit growers, can safely calculate on an abundant eupply of watsr from the canal for irrigation during the coming snmmer, and for mining and mechanical purposes, there will be a never ending supply from the eame source

OUR MINEE.—Work on the Valpsraieo mine at Fiddletown, is progressing rapidly, the main shaft being down over 100 feet. At the present depth the walls are well defined, with a fair ledge to work upon, and the moet encouraging prospect that the mine will eoon be developed into a permanent paying one.

THE PHILLIPS.—A continuation of the Vslpsraiso on the north, at the depth of 100 feet, the workmen have reached a well defined ledge of excellent rock, which increases in width as work progressee. The vein on which the Valparaieo and Philipe, are located, has born gold from the eurface, and when a proper depth is reached both minee will prove to be valuable.

THE VOLCANO TUNNEL.—Work ie being rapidly prosecnted, on the tnnnel, and every thing seems favorable to a successful iseue. The rock through which the tunnel ie being driven, is not hard, and as long ae ite present character continnes, progress toward the interior haein will be rapid.

ALPINE.—Very favorable reports reach us from the Alpine. The ledge has increseed to 11 ft. in thickness and of an excellent quality. All the indications in and abont the mine, as the work progresses, give assurance that the Alpine when fully developed, will rank ae a firet claee mine of the county.

THE BUNKEE HILL.—Near Amador city, holds its own and more in favorahle indications. Indeed thie mine from its situation in the grest quartz helt of the conuty, and developments already made, may he set down ae one of the permanent leads of the conuty, and about which there need he no failure.

THE PHOENIX MINE AT PLYMOUTH.—We are informed, looke remarkably well, with an immense amount of pay rock developed. In the 700-ft level the ledge hae reached 40 ft. in width and the entire maee looking very fine, and in the 600-ft. level, the rock exhibite free gold throughout. This mine is not only a very valuable one hnt has pay rock developed sufficient to keep the extensive mille connected with the mine, constantly employed for years.

FROM THE STATE OF MAINE.—Encouraging accounts come to ns. The pay rock is on the increaee, and indications very favorable. Work in developing the mine ie being vigorously prosecuted, and within a reasonable time, we shall hear a good report from the old Granite State.

KENNEDY.—Thie mine continues to yield rich rock, with a large amount of very valuable ore developed, rendering the Kennedy one of the really valuable mines of the conuty.

CALAVERAS COUNTY.

GARLAND'E NEW MILL.—Is just completed. t is without exception the most substantial and best constrncted mill in the county, reflecting credit upon Mr. Breeze who hss superintended its eretion. The hatteriee contain 18 stsmpe, and the mortar blocks that receive them rest upon a eolid foundation. Everything about the mill—machinery and all—is entirely new. The motive power is to he furnished by a 35-horse powor engine, and in fact all the machinery and appliances are of the most approved constrnotion. It is expected that the hsttery will be pnt in motion the first of next week, and if it worke as well ae it looks, it will be a model mill in every respect.

GOOD HOPE MINE.—The property of M. C Garland, proprietor of the mill. Work ie being pressed forward with favorable reeults The ehaft is sunk 266 ft. and levele are being run, hoth eaet and west, from which a fai quality of ore ie ohtained. There are abon

70 tons of rock now in the dump, which will he hauled and crushed as soon as the mill is in readiness. The ledge averages about 3 ft. in thickness. The mine is supplied with first class hnisting works, the engine being of 35-horse power.

San Bruno.—The tunnel rnn to open the mine below the old works is just breaking through into the ledge. The tnnnel is something over 400 ft. in length, through hard bedrock, and will strike the vein 130 ft. below whers the ledge has been worked. Should the ore prove as rich in the lower as it did in the upper tnnnel—and there is every indication that it will—the mine will be one of the most extensivo and valnable in the district. A large quantity of fair grade ore remains in the nppor tunnel, and a contract for taking the rock out and milling it has heen let. The San Bruno is not to exceed half a mile from Garland's mill to which the qnartz ie to he hauled.

The work of ruuning a tunnel to tap the ledge of the Dolly Varden mine is nearly completed, only about 50 ft. remaining to be run. The tunnel will ont the vein at the depth of 150 ft., placing the mine in a condition to he worked advantageously. Splendid rock was taken from the shafts sunk on the ledge, the quartz paying handsomely for working from the surface down. The Dolly Varden mine is owned by Mr. Garland.

Monte Cristo.—A shaft 125 ft. deep is sunk on the mine from which first-rate rock is being taken. The ledge makes as good a showing as any in the district, and now that milling facilities are availahle will give a good account of itself.

Wolvorine mine is located on Wet Gulch, one of the widest cañons imaginable. It is at least 2,000 ft. from the mill to the bottom of the gulch, the descent heing at an angle of about 45° At the time we visited the mine no wnrk was being performed ou acconnt of the accident to the machinery which we detailed last week. It was expected, however, that damages wonld be repaired and the pumps set at work taking out the water that has accumulated since the accident, last (Friday) night. The Wolverine is supplied with a ten-stamp battery, hoisting works and Cornish-pump, all run hy a 35-horse power engine. The shaft is snnk to the depth of 345 ft., aud the work of sinking 200 ft. deeper is now in progress. Levels have been run, north and sonth, at the depths of 200 and 300 ft., respectively, and a considerable qnantity of good ore taken ont and milled. Pay chimneys have been found hoth sides of the shaft, and the latter is going down through first-class ore. When the depth of 500 feet is reached and the stopes opened out, we have the fullest confidence that the Wolverine will never cease paying dividends. The ledge is a wide one, averaging nearly or quite fonr ft.

Sanderson Mine.—At present the Sanderson is making a better showing and attracting more attention than any other miue in the county. Rock of the most unprecedented richness is being obtained from the north level at a depth of 200 ft. Free gold is diffused all through the ore, good judges estimating that it will mill $400 per ton. The level has heen run 42 ft. in this character of rock, and still the chimney is not ent through. There is money enough in sight to pay three dollars for overy one the mine has cost, and yet prospecting the ledge has scarcely commenced. The vein averages about two ft. and a half in width, the quartz being of a dark hlne color, carrying iron and galena snlphnrets in addition to the free gold. The shaft is to he snnk 300 feet deeper as soon as practica'ole, it heing the intention of the Snperintendent, Mr. F. Homer, to make use of compressed air in sinkiug. The Sanderson is furnished with steam hoisting works and a Cornish pump, hut has no mill. It is the intentiou to pnt up a hattery when the contemplated sinking is completed.

EL DORADO COUNTY.

Mining Enterprise. — *Mountain Democrat*, Nov. 15: Messrs. Maffey & Murray have erected a fine five-stamp mill on their claim—formerly known ae the Buckner claim—ahont 1½ miles sontheast fram Nashville, in this county. They have twelve hundred feet of veiu matter, which averages about twenty feet in width, composed of decomposed porphyry and quartz seams, which yields in many placee as high as $3 to the pan from the pulverized matter along the seams, while unselected and unassorted samples of the average vein matter have uniformly assayed $140 and npward per tou. Mr. Murray was in this city last Thursday, for the purpose of procuring die castings at Morcy's Foundry, which will complete the equipment of the mill, and they expect to start up to test the machinery next Monday, and to commence crushing shortly thereafter. Quite a nnmher of other companies are preparing to commence operations in the same vicinity, of which we are promised further advices soon.

INYO COUNTY.

Rebuilt.—Inyo *Independent*, Nov. 8: Mr. Beaudry has been engaged for some time past in tearing out the old works of his furnace, deepening the foundation some four ft. and replacing the works anew. The new furnace is considerahly larger than the old one, but we cannot say how much its capacity is enpposed to he iucreased thereby. The change hae involved a large amount of labor and expense.

Bullion.—From A. K. Briggs, late from Olauche, we learn that on an average about six large teams load daily at Cartago with hullion, but with the constant accesions from the furnaces the piles are not sensibly dimiuished. Some 3,000 bars are stacked up there ahead of the teams, besides still greater amounts remaining at the furnaces.

KERN COUNTY.

Good Rock.—Havilah *Miner*, Nov. 8: Mr. Yoknm of Long Tom is now working npon some excellent rock.

The Bacohus Mill made a clean np Wednesday.

H. Meyers and his partners have got dnwn forty ft. on the Prospector lead, on the Grizzly mountain. They say the lead is spreading as they progress, and that it continues to prosper well.

NAPA COUNTY.

Yellow Jacket.—Calistoga *Tribune*, "Mr. William A. Stuart, proprietor of the Yellow Jacket mine, a day or two ago showed us some wonderfully rich specimens of ore from that mine—rich in native qnicksilver—some of them containing globnles of native metal as large as buckshot, and not inferior to anything yet found at the Rattlesnake, or any nther mine." The Yellow Jacket is little developed as yet, but the indicatioos are that it will turn out one of the richest mines in California, or in the world.

NEVADA COUNTY.

Magenta.—Grass Valley *Union*, Nov. 13: This mine shows a new capability in sending out gold. Yesterday the ledge was broken in the stopes at a point 75 ft. distant from where good specimen rock has been taken for the last two weeks, and the ledge broken is very rich in free gold. It has also heavy and rich snlphnrets and a lively appearance of the qnartz. The chances are that the Magenta is on the point of showing a most wonderful richness. There is gold in all the rock so far taken out of the mine.

The Bradley mine, leased and worked by McFate & Co., threw out a chunk of rock worth $600, the other day. The mine is located at Willow Valley, above Nevada City.

SIERRA COUNTY.

New Claim.—Mountain *Messenger*, Nov. 8: Work will soon be commenced on a gravel claim about four miles below Eureka the cañon ck. side of the ridge. It is thonght that there is a large deposit of gravel under the ridge.

Prospecting.—Work on the prospect tunnel going in east of Eureka, near Meredith's old sawmill, is being pushed forward rapidly. Arrangements aro heing made to continue work dnring the winter.

Oak Ranch.—The prospecting tunnel under Oak Ranch on which work was commenced ahout ten weeks ago, is now in two hundred and eighty ft. going forward as fast as two shafts can push it. The owners are sanguine of finding diggings.

SAN BERNARDINO COUNTY.

Palm.—The San Bernardino *Guardian* states the following regarding the mines in Palm District: Work in the miues of Messrs. Frank & Co., situated in the palm district, is heing vigorously pushed shead, and, we are informed, with great success. The company is now at work on tho "Blue Jay" mine, having snnk three shafts on it in three diffcrent places, the ore showiug exceedingly well, and we are positively assured that it really exceeds their most sanguine expectations. They are now running two arastras and are taking ont ahont $40 per day. We are told they have in sight sufficient ore for a forty-stamp mill. Parties from there represeut to us the "Blue Jay" as the finest ledge yet discovered in San Bernardino county. They say it is as fine a sight as they ever witnessed to go to the dump and see the gold in every piece of ore picked up The other ledges owned by the company in Palm District are all turning out well,

SISKIYOU COUNTY.

Items.—Yreka *Union*, Nov. 15: The Dutch Boye down below "Andy's" are fitting up their diggings for winter. W. R. Boyd, having eome time ago disposed of his interest in the firm of Benl.ett & Co. to his partners, is husy fitting up Fort Bar to he ready for extensive operations when the water comes. J. E. Horn has pnrchased the Stony Bar claim, and is busy "fixing up" for winter. George McNeal also is making preparations to "draw on the bank," as soon as there is sufficient water. The Shumway Brothers up the North Fork have just put up a derrick and repaired their flumes and ditch, and made all the necessary preparations to make things livcly in that direction next winter. On the South Fork, Bennett & Miller have their dam finished in a substantial manner, and the water from it running down as far as the lower end of Butcher Flat, and expect to soon have it as far as the "Forks." R. Glasgow, a veteran prospector, with a large stock of hope and an ample supply of perseverance, hae located on Stone's Bar, and commenced to build himeelf a "local habitation." We have of late had a small local excitement here, caused hy the discovery of coarse gold in a small tributary of the South Fork, ahont five miles above here, generally known as "Niggerville Creek." The discoverers—T. Adams and a Frenchman known ae Chicken—gave it the dignified cognomen of the "Chicken Roost."

TRINITY COUNTY.

Pile Driver.—Trinity *Journal*, Nov. 15: The Weaver Creek Milling, Mining and Fluming Company are now at work driving piles with a pile driver, helow their flume. It is the intention of the company to drive piles for a distance of twelve hundred feet, and then hoard them up, in order to corral the water and keep it from spreading. Being thus kept together it ie expected the water will carry the tailiuge a much greater distance and thereby obviate the necessity of adding so many hoxes at the lower end of the flume.

Canon City.—Max Lang informs us that during the late visit to the above place he fonnd things lively. Also that J. Depinett & Co. have found excellent prospects and intend fitting their claim np in good shape. They have ordered 1,000 feet of iron pipe.

Indian Creek.—A. T. Corbns tells us that miners in that section are ready for winter and now wait for winter with which to commence active operations.

TUOLUMNE COUNTY.

The old Buchanan Mine.—*Union Democrat*, Nov. 15: What we learn from this mine is highly enconraging. A gentleman who was through it this week, informs ns the vein is 8 or 9 feet wide, and while he was there some 10 or 15 tons were broken down at one hlast and pieces broken off from every part of it showed free gold. Tullock since he commenced work has said it was the best vein in the county, tho way he is progressing will soon prove that he was right all the time. Our informant expresses the belief that it is one of the richest and most valnable mines in the county. The mill will soon be in order for crushing, new hatteries have been put in and overy preparation made for working to its full capacity.

Table Mountain Blue Gravel Mine.—Tuolnmne *Independent*, Nov. 15: Richer gravel has been found in the south end of this mine than was at first snpposed. Things look flattering in the extreme. In less than 60 days there will he employed on the Tahlo Mountain Blue Gravel and the Alpha, at least 100 men.

Nevada.

ELY DISTRICT.

The Washington and Creole. — Pioche *Record*, Nov. 16: Since onr last report, what we consider very important developments have heen made in this mine. Three winzes have heeu sunk on the ledge, 200 ft. apart, to a depth of 100 ft., in each of which is found ore assaying, as per certificates of 15 assays which we have inspected, $435 per ton in gold and silver, the percentage in gold being unusnally high, and one certificate showing $1,054.03 in gold per ton. An additional force of 100 men has heen recently engaged, and as soon as room can he made, stoping and drifting from the hottom of the winzes will he commenced to further the value of this deposit. The milling of this ore will he commenced on or about the 23d of this month. They are hoisting now from 15 to 20 tons of ore per day.

Raymond ann Ely.—At present are working 75 men on a shift; having heen obliged to discharge a number of men on acconnt of a break in the machinery, which will be repaired hy to-morrow (Monday), and the usual force of men will be put to work. This company is extracting 60 to 75 tons of ore per day, and still sinkiug for the 1,000-ft. level, and are within 15 ft. of it.

Chief of the Hill.—A progress of 14 ft. has heen made in a drift from the 210-ft. level; also in a drift ou the 360-ft. level a progress of 8 ft. has been made in the drift from the Burke Tnnnel level. Working 20 men. All prospecting.

Pioche.—Mr. Nelson iuforms us that work on the new huilding is being pushed forward rapidly. They are still working in the old shaft, and are taking out some ore. They sre erecting a whim over the old shaft.

Mazeppa.—The Washington and Creole company, having purchased this mine, we are informed hy the Superintendeut that work will be commenced on it on or hefore tho first of next month.

Peavine.—Drifting is going on in this mine; a good ledge, 1 ft. in width, is in sight.

Bowery.—Sinking is going on as usual; have cut through a seam, and everything looks very eucouraging.

Portland.—This company has commenced sinking for the 400-ft. level, and is running a drift from the 300-ft. level.

Amador.—Still sinking the shaft. Its present depth is 412 ft. Working full force of men.

Huhn and Hunt.—Drifting and sinking is still going on.

Alps.—The drift runs south at the 300-ft. level, and is progressing favorahly.

WASHOE DISTRICT.

Sierra Nevada.—Gold Hill *News*, Nov. 15: After years of snrface working and prospecting the company have resolved to place this mine in point of works, machinery and mining operations, with the first-class mines of the Comstock; and in doing eo there will be scarcely a doubt that when deeper levels are opened it will assume a position second to none on the ledge in the production of ore and hullion. The company own 3600 feet on the Comstock ledge, besides several minor locations on Cedar Hill hack of the main ledge. A site has been selected 1000 feet north and 1100 feet east of the old works, near the center of the claim, for the erection of new hoisting works and sinking a new shaft. It ie the intention to immediately commence sinking the shaft. Temporary hoisting works with a donkey engine to do the hoisting will he erected for the winter. With these it ie expected that the shaft can be snnk to the depth of 500 or 600 feet. As soon as spring opens, permanent works, with the heaviest and hest improved machinery it is possible to get, will be erected. It is the intention to sink the shaft 1,000 feet before commencing to drift. Taking the present inclination of the ledge as a guide, the new shaft will pass through the ledge and strike the west wall at a depth of 2200 feet. The prospecting drifts in the old Sacramento ground are showing much hetter, and it is expected that enough ore will soon be developed to again start the old Sacramento mill. Daily yield 60 tons, from the old upper levels.

Consolidated Virginia.—Daily yield 140 tons of ore. The decrease in the amount of ore extracted is not caused hy any change in the ore producing sections, hut by inability to get the ore milled as fast as extracted, the dumps all being full. The railroad company are erecting the trestle work and pushing the building of the branch road for taking away the ore direct from the dump as fast as possihle. Sinking the shaft is making exeellent progress. Air compressors for running small hoisting engines have heen sent east for and will arrive in a very short time. As soon as they can be erected, small hoisting engines will he placed at the mouth of both the north and south winzes on the 1200-foot level, and these winzes pushed ahead to the 1500-foot level to conuect with another drift which has just been started on that level from the Gonld & Curry, thus prospecting and ventilating the lower levels of the mine hy the time the main shaft has reached that depth, which will probahly take three or four months to do.

Woonville.—The new shaft is down 80 feet, at which depth the flow of water became so bothersome that work has been snspended until the erection of the building and hoisting machinery can he completed. Sinking the incline in the old works is making good progress, following the line of the ledge and still in good ore. The ore stopes in the north drift on the 300-ft. level are yielding the usual amount of milling ore.

Hale & Norcross.—The main incline is down 188 feet below the 1,700-ft. level. The sinking is making good progress. The heat on the 1,700-ft. level is intense, notwithstanding which the work ie pushed steadily ahead. The usual amount of ore is being extracted from the old upper levels.

Silver Hill.—A heavy flow of water stopped all work in the shaft for the first three days of the week, hut was soon exhausted hy the pnmp; and sinking is again heing vigorously prosecuted.

Nevada.—The extraction of oro from the large hody exteudiug from the south drift toward the snrface has been commenced. Sufficient milling tests have heen made to give the assurance that the company has aluost an incalculable amount of ore near the surface easily mined and can be takon out through the tnnnel, and which will pay a good fair profit for working.

Baltimore Consolidated.—The shaft is now down 50 ft. below the third station, the gronnd working fiuely and the sinking making rapid progress. The ore hody at the first station has shown considerable improvement during the past week.

Chollar-Potosi.—Daily yield 140 tons of ore, assaying $40 per tou. The ore breasts and stopes are all yielding finely. The prospecting drift at the third station showe a decided improvement, and promises a fine development of ore.

Calenonia.—All work in the shaft is snspended for the present for the purpose of pntting in new and improved hoisting reels. The company have sufficient ore extracted to keep the Sapphire mill running until extracting ore can be again resumed.

Sutro.—Drift in 75 ft. Superintendent Sheridan has increased his working force, so as to he ahle to run night and day. The work of drifting is being pushed forward at the rate of 5 ft. every 24 hours. Ledge matter enconntered all along. Cross-cutting will he commenced in few days.

Mint.—Sinking the shaft is making rapid progress, the rock in the bottom working finely. The machinery is all in fine working condition, and there seems no good reason why some good ore developments should not be made when a sufficient depth is attained.

Occidental.—Operations in this mine are exclusively directed toward the exploration of the ore vein in the portion already drained of water. The main adit is now repaired and in excellent condition through its entire length.

New York Consolidated.—The shaft is down 400 ft., the rock in the hottom heing quite soft, with a mixture of clay and qnartz. The sinking is making excellent progress.

Imperial.—Prospecting the lower levels continnes. Sinking the main incline is making the usual good progress.

Julia.—The water in the shaft has been drained to within 25 ft. of the 1,000-ft. level, and is steadily decreasing. The main southwest drift is being rapidly pushed ahead, the entire face of the drift in solid clay, which is supposed to he the east wall of the ledge.

Arizona, Utah ann Globe.—The face of the main west drift at the 400-ft. level is, one-half of it, in fine looking quartz, with spots of ore of a very promising character. The south drift at the hottom of the incline is looking much more promising, and the development of a body of pay ore seems much more favorable.

Alpha.—A drift north has been started from the 1,700-ft. level of the Imperial, which will prospect the mine several hnndred feet deeper than it has ever been worked heretofore.

Ophir.—Prospecting the lower level continues, with much more favorable indications of paying ore on the 1,700-ft. level.

Succor.—Sinking the new shaft east of the hill is making excellent progress. The ledge in the east drift, from the small shaft in the cañon, is widening out, and steadily improving in quality.

Daney.—The shaft is down 240 ft., the rock

[Continued on Page 336.]

The Panamint Mines.

A correspondent of the Inyo *Independent*, who has just returned from Panamint says:

Leaving Little Lake we struck off dne east, passing over sand and lava most of the way. About 20 miles from Little Lake yon strike the first water; twelve miles farther you come to another spring—excellent water—in a cañon; passing down this cañou you come to Panamint Valley; crossing the valley you come to what is known as "Postoffice Spring," at the base of Panamint mountain. Leaving the camping place you bear a little north of east; 3½ miles brings you to the mouth of Surprise Cañon. Upon entering this cañon you are struck with the rough, unfinished work of a volcano of the unknown ages; passing up the cañon you arrive at the newly laid out city known and recorded as Pantamint City. The cañon is not over three hundred yards wide where the town site is laid out, bnt is about two miles in length.

But little work has been done on any of the mines or lodes, bnt what have been worked show a large body of good ore.

The Little Chief

Has some work done on it, and shows a body of ore some four feet in width. The assays made go from $196 to $806. This mine is honded for $10,000; is owned at present by Tipton & Co. The next ledge we come to is the

North Chief;

No work done of any account, but it shows a good body of mineral. This ledge is owned by your humble eervant, which accounts for no work being done. In crossing over the hill we passed over quite a number of small ledges; nearly all show good indications. The next ledge we come to is the

Marble Lode,

And it has a huge ledge. It will average twelve feet in width, and can be traced, I think, three miles. The northern portion shows the greatest amonnt of mineral. Among the locators are Bob Stewart and Kennedy. The former bonded his interest in this ledge and the "Wonder" lode for $35,000. The north end of this ledge is owned by Kennedy & Co., and is knowon as the "Wyoming." The next lode of note we visited was the

Wonder of the World,

A big name, but it deserves it. It rnns nearly parallel with the famous Marble Lode, at a distance, I shonld judge, on a bee line, of about two miles. This ledge shows more mineral than any in the camp or distriot. I believe I can safely say, withont stretching my conscience a great deal, that there is enongh ore in sight to keep ten forty-stamp mills running two years.

The smallest lode I visited showed mineral.

There are some locations made some six or eight miles north, which show good ore, and the owners say they can make a stake if they can keep on the top of the "bed rock" until they develop their mines sufficiently to bring them into note. There are quite a number of

Lead Lodes,

Sufficient for smelting, should their ores be snoh that cannot be redneed by mill process. The district has abundance of wood for fuel and sufficient water for all purposes.

The altitnde of the town site I believe Mr. Kraus, the surveyor, said was about 7,000 feet; geographical location: Township 23 S, Range 44 East.

A wagon road can be made from Desert Springs to the month of the cañon for about $1,000, and up the cañon to the town for some $12,000.

I think in a year or two Panamint will be all tbe talk on Montgomery street, among the stook brokers of San Francisco.

Interruption of River Mining.—During the month of Jnly last, the Stanislaus River Mining Company, of which Thomas Derby is President, reinaugurated mining operations in the bed of the river named, which has not been worked at any place for many years past. The point selected for operations was at Central Ferry, seven miles from Jamestown, in Tnolnmne county, where the company believed the bed had never been prospected. They here constructed a dam 109 feet in length, and a flume, through which the stream was turned, 1,050 feet in length. Pnmps were then erected, worked by water-wheels placed in the flume, and the preparations were completed, so that the company commenced working the river bed below the dam dnring October. The upper gravel proved nnexpectedly rich in the anriferous, and the wealth of the diggings improved wonderfnlly below the surface. After about two weeks' operations, however, an nnfortunate accident snddenly put a damper on the glowing prospects of the company for the time, and delayed their expected acquisition of rich deposits snpposed to exist at the bed rock. On the night of Thursday last, one of the water-wheels attached to the pumps gave way, driving the water back in the flume and flooding the diggings. On inspecting the extent of the break, it was deemed injndicious to attempt a resumption of work again this year, and it was decided to snspend operations until the return of low water season next year. The company expended about $12,000 in their preparations, and had already secured some retnrn when their enterprise was enterrupted in the manner described, with every promise of eoon realizing very largely on their investment.—*Bulletin.*

The Swauk River Mines.

In addition to what we published last week on the Swank River Mines, we obtain the following information from the Walla Walla *Statesman:* For many years it has been known that gold in large quantities existed in what is known as the Yakima country, but just precisely where none were able to ascertain. The belief was strengthened by the fact that on several occasions Indians belonging to the Yakima Reservation had sold to the traders at the Dallee considerable quantities of coarse gold. On being questioned, the Indians invariably refused to disclose where they had obtained the precious metal. Confident that gold was to be fonnd in paying quantities, several prospecting parties were organized. They all found the color, but none were successful in finding sufficient to warrant them in remaining. These reports reaching the ears of several men residing near Yakima City, and confident of the existence of gold in that locality, organized themselves into a prospecting party, and about the first of August last started out, fully prepared to thoroughly explore a large extent of country. After an examination they concluded to commence operations on a small creek which empties into the Weenatchie. At the expiration of teu days a "clean up" was made, disclosing that they had only realized about seventy-five cents a day to a man. Tbis meager showing discouraged the party, and they at once determined to return home. On the 20th of September, after traveling several days they camped on the bank of the Swauk, a stream about the size of Mill Creek. While some were preparing the evening meal others were examining the stream, with the vague hope that possibly they might be fortunate enough to "strike it." Raking aronnd among the loose dirt near the water's edge one of the men discovered a piece of gold worth sbout six bits.

Encouraged by this favorable indication, the men commenced crevicing the bed rock which in places was exposed. Their exertious were soon rewarded by the sight of a $12 nugget. During the afternoon, and before supper, the party had secured in the ueighborhood of $40. The journey homeward was now indefinitely postponed. The next day they prospected up the creek for a distanco of a quarter of a mile. The result of the day's work was $164, nearly $25 to the man, there beiug seven in the party. The stream was then explored for a distance of six miles, and the farther up they went the richer the prospects. The drift from the hills on eitber side of the creek averages seveuty-five cents to the pan. Wherever the bed of the creek is exposed, gold in large qnantities is to he found. In some places the water is quite deep, and to remedy this the conrse of the creek will bave to be turned, which can be accomplished withont difficulty. The gold is coarse, the largest piece found so far weighing $18, and very much resembles the Kootenai dust. Three hundred and fifty claims have been taken up and recorded. The diggings sre two hundred miles from Walla Walla, and sixty five from Yakima City. Along the creek there is a heavy growth of timber, and, therefore, tbere will be no lack of lnmber for miniug purposes. It is thought the miuers will be able to work through the winter, as the weather in that locality is mild. For the main facts we are indebted to Mr. Goodwin, who reached here on Monday, direct from the diggings.

Steam on the Canals.

A trial of competing aspirants for the $100,000 reward offered by the State for a satisfactory solntion of the problem of canal navigation, came off last week between Syracuse and Utica on the Erie Canal. Five boats contested, viz., the Baxter, Port Byron, Central City, C. C. Pope, and the William Newman. The Baxter got the start of the other boats by 5½ hours. It is a flat-bottomed boat that with 200 tons cargo draws 5 feet 8¼ inches and is propelled by means of a pair of Baxter engines of 25 horse-power, weighing five tons, which drive two three-bladed screws in the stern, 4¼ feet diameter and 4 feet pitch, revolving with nniform movements toward each other. The Pope is propelled by a three-foot screw set in sliding gearing, and has in addition a steam windlass operated by a donkey engine, which much facilitates psssing through locks. The Newman draws six feet with 214 tons, and has a four-blsded screw of five feet diameter and seven feet pitoh. The Central City is a paddle-wheel boat.

The Baxter consnmed 830 pounds of hard coal, and her rnnning time between Syracuse and Utioa was 18 hours and 3 minutes. Average speed, one mile in 19 19-56 minutes, or a fraction over three miles per honr. The Port Byron consumed 4,450 pounds of coal; the Central City, 7,280 ponnds; the Newman, 4,500 pounds; the Pope, 4,354 pounds. When the records were compared at Utica, after the test, insinuations were made that the quantity of coal reported burned by the Baxter was misrepreeented. The boats, according to a new set of figures, were reported to have consumed coal as follows: Baxter, 835 pounds; Port Byron, 4,450 pounds; Central City, 7,280 pounds; Newman 4,500 pounds; Pope 2,520 pounds.

Commissioners Geddes and Chapman, together with Engineer Greene, determined to proceed with the Baxter to St. Johnsville, 34 miles, and personally take notes of the trip. The Baxter left Utica at 6:50 P. M., Thursday, and at 10 Friday morning wae at St. Johnsville. Her average speed was a small fraction over three miles per hour, and her consnmption of coal 617 pounds. Thus the correctness of her record between Syracnse and Utica was established.

The owners of the Baxter express their belief that with some further alterations she can be made to comply with all the conditions imposed by the Legislature, and this trial is considered to have demonstrated her superiority. —*N. Y. Tribune, Oct.* 23.

The Diamond Tunnel.

This tunnel has been driven up to Oct. 15th, 275 feet, representing an average rate of progress since the commencement of the work in January of this year, of about thirty feet per month. The section of the bore is seven by eight feet, and the rock passed through has consisted largely of very tough material, in places extremely so, so that the advancement made has been remarkably rapid, in consideration of the fact that no cutting machinery has been employed except the ordinary hand drill. As the work went on, a wooden tramway, sheathed with iron, was lsid along the west side, leaving ample room for a second track as soon as it will be found necessary. The mouth of the tunnel is timbered solidly, nine feet wide in the clear, and all the necessary outhouses erected for the steady and rapid pushing of the work.

The tunnel bears north 20° west, directly into the nest of veins in Cherokee Gnlch that have produced so heavily during the past two years, and are generally considered as among the most valuable that have been opened in the district. The most important of these are the Baxter, Morse, Antelope, Hikes, Laura Dale, Dives, Eagle Bird, Pelican, Corry City, Silver Plume and Pay Rock. These mines have, since their discovery, produced about one million and a half dollars, two-tbirds of which represents the yield of the last two years, during wbich time several of them have been energetically and continuously worked. The most noted of the number is the Pelicau, from which nearly $700,000 has been taken siuce tbe spring of 1871. The deepest workings upon this vein are now 400 feet below the surface, at which point ore has been found in larger and more continuous seams than near the snrface, and at the same time the prospect for meeting with good mineral at still deeper points is very encouraging. The Dives, another of the most prominent veins of the belt, has produced in the neighborhood of $100,000, and is at present yielding as good ore as has ever come out of the miue.

The course of the Diamond Tnnnel will carry it a little west of the center of this belt, and at a distance of not more than 1,200 feet from its mouth, it will intersect every one in the above list at a depth varying from 200 to 1,000 feet. The Pelicau, according to survey, will be opened 640 feet from the surface; the Dives 450 feet; the east Eagle Bird 350 feet; and the Corry City 1,000 feet. The latter is a gigantic fissure upon which comparatively little work has been done.

When the mineral deposits of Sherman and Republican Mountains are opened at these deptbs by the tunnel, there is every reason to expect that very large bodies of ore will rapidly return the money expended in reaching them. The enterprise is one of the prominent ones of Griffith District, not only on account of the extensive belt of lodes that will be tapped, but by reason of the saving in mining expenses that will be realized by working the veius from below instead of above. So long as the preeent high prices for the treatment of onr ores continue, the reduction in the cost of breaking and transporting a ton, where no hoisting or drainage is required, will add a large percentsge to the available amount of mineral that can be profitably produced by the mines.—*Colorado Mining Review.*

Coin in Circulation.—According to the annual report of the Director of the Mint, the whole amount of gold coined in the conntry is estimated at $135,000,000, and the amount of silver coin at $5,000,000. This in circulation principally in California, Oregon, Nevada, Idaho, Arizona and Texas. As the report closes with the year ending June 30th, no acconnt could be taken of the increase of coin since that dste. Five millions of silver is rather a small snm for displacing forty millions of fractional currency. It is possible that there has been an increase of gold and silver coin since the end of Jnne, of teu millions, bringing the specie resources np to $150,000,000. This is the best showing that can be made in contrast with the great volume of paper cnrrency.—*Bulletin.*

In the gulf of California a vast field of national riches has been discovered. Formerly Carmen Island alone was famons for its salt, but now other Islands are known with equally rich deposits. The Island of Santa Rosa contains an enormous field of phosphate of lime, of which a few cargoes were shipped to San Francisco, and which has now become the property of a German company. Also another guano island has been found, and rich copper mines all along the western coast. If the report speaks true the island of Tiburones is the richest of all, but the wild Indians do not permit any white settlement.

The Bessemer saloon steamer, which it is expected will secure passengers from the oscillation which produces sea-sickuess, is rapidly approaching completion in England.

Mining Interests at Robinson.

A recent trip to Mineral City places us in possession of many points of interest connected with the prosperity of that camp. Although the first trial of the Watson Company's mill resulted in a partial failure as far as working the ores from the Hayes Company's mine, still, by the determined energy displayed by Superintendent D. T. Elmore, assisted by Thomas Cahill, of the Hayes Company, a success is now guaranteed beyond a doubt. As soon as possible the mill will be started on ores now being hanled, and make a loug and successful run. The various mines now being worked throughout the district are all looking well and give promise of great richuess. Particularly is this the case with the mines of the Ward Ellis incorporation, which have, dnring the last week, developed large bodies of ore for a distance of some 750 feet on the vein. The outcrop on this valuable ledge is certainly the most remarkable since the early days of the Hidden Treasure in this district. Mr. Ward, the Superintendent of the Ward Ellis, courteonsly escorted us over his property, and exhibited to us some seventy or eighty tons of first-class milling rock, assaying as high as $250 per ton. Several large bouldere lying loose on the surface have been broken up and prove to be considerable in value, assayiug as high as $220 per ton. There are many hundred tons in sight on the mines of this company, which will be extracted at once and sent to the Watson mill for reduction, all being free milling ore with no trace of base in its composition. The mill of the Watson Company is one of the best in the State, being roomy and well arranged in all its departments. Care has been taken to leave room sufficient to allow more stamps to be placed in position should the demands of the country be sufficient to warrant the same. We are informed by Superintendent Elmore that the mill will be set in motion as soon as arrangements can be made to do so, which will be in a few days. Rumors are rife that the Canton Mining Company intend erecting a mill on their property during the sesson, with which to reduce their ores. The mines of the latter company are extensivo and show large amounts of ore, but have heretofore been found too refractory for smelting purposes. Naturally the csmp looks and is dull at present, bnt, in our mind, it is only a question of very short time, when the hopes of interested parties will be realized, and a flonrishing town stand where now are but a few houses. Great credit must be accorded the enterprising parties who have labored so hard to bring forward the really meritorious interests of Robinson District, and all will agree in hoping that the many disappointments which have been encountered, may soon be overcome, and a rich reward accrue to them. In future issues we inteud giving more extended descriptions of the numerous interests embraced in this promising camp.—*White Pine News.*

Quicksilver in Colusa County.

The *Independent*, of October 30th, has this local intelligence:

Onr correspondent from Snlphnr Springs furnishes ns with something new concerning the quicksilver mines in tbat part of the conntry. The Buckeye claim is still rnnniug with unparalleled success. The new retorts are now finished, and in a few days will be ready for reducing ore. The Abbott mine is still running, but in consequence of their retorts being out of repair are not redncing auy ore. Chapin & Co's mine, heretofore spoken of by our correspondent, is now being thoroughly developed. Tbe Empire mine, nnder the control of Van Winkle and Pardue, superintended by Captain Riddle, is progressing rather unfavorably in consequence of the lack of competent miners. Miners are mnch needed here at present. He also informs us that James Dalton and Tarton Smith have tsken up an extension on the Empire mine which shows a very good prospect. This party intend to work the same as soon as practicable.

Jackson, of the freight office, informs ns that an average of ten flasks of quicksilver a week, of uinety pounds each, are shipped below. Yesterday, nine flasks were received from the Buckeye. When the machinery shall have arrived and work fairly begun in onr mines, we expect to chronicle much larger shipments from this point. These mines will do much toward the development and settling up of our foot-hille, and we would not be surprised at any time to hear of copper being fonnd in paying quantities. Silver, too, is known to exist in well defined ledges.

Peruvian Mines.—From Peru comes the news that an important company has been formed to work the submerged mines of Cerro de Pasco. In 1840 these deposits prodnced 307,213 marks of silver, in 1872 only 201,067 marks; the striking difference is owing to the existing impossibility of reaching the veins, they being covered in places with water many feet in depth. The company will perforate tunnels leadiug ont from the bottom of tbe shafts, and the prize will be rich in the extreme. A few years since powerful engines were brought from England to pump out this accumulated water, but from unforseen difficulties only a partial success was obtained. The most expert mineralogists state as their opinion that the mines are inexhanstible.

Useful Information.

Keep Ammonia in the House.

No housekeeper should be without a bottle of spirits of ammenis, for besides its medical valus, it is invalnable for household purpuses. It is nearly as ueefnl as soap, and its cheapness brings it withiu tbe reach of all. Put a teaspoonful of ammonia to a qnart of warm soap suds, dip iu a flannel cloth, nud wipe off ths dust and fly specks and see for yonrself how mucb labor it will save. No scrubbing will be needfnl. It will clesuse and brighten silver wonderfully; to a pint of snds mix a teaspoonful of the spirits, dip in your silver spoons, forks, etc., rnb with a brush, and polish with cbamois skius.

For washing mirrors aud windows it is very desirable; put a few drops of ammonia on a piece of paper and it will readily take off every spot ur finger mark nn the glass. It will take ont grease spots from every fabric; pnt on the ammonia nearly clear, lay blotting paper over the place and press a hot flat iron un it for a few moments. A few drops of water will clean laces and whiten them as well; also mnslins. Tben it is a most rsfreshing agent at the toilet table; a few drops in a basin of water will make a better bath than pure water, and if the skin ia oily it will remove all glossiness and disagreeable odors. Added to a foot bath it entirely absorbs all noxious smell so aften arising from tbe feet in warm weather, and nothing is better for cleaning the hair from dandrnff and dnst. For cleaning hair and nail brushes it is eqnally good.

Put a teaspoonful of ammonia into one pint of water, and shake the brushes through the water. When they look white rinse them in water and put them in the sunshine, or iu a warm place to dry. The dirtiest brushes will come out of this bath white and clean. For medicinal purposes ammonia is always nnrivaled. For the headache it is a desirable stimulant, and frequent inhaling of its pungent odors will often entirely remove catarrhal cold. Thero is no better remedy for heartburu and dyspepsia, and the aromatic spirits of ammonia is especially prepared for these troubles. Ten drops of it in a wine-glass of water are often a great relief. The spirits of ammonia can be taken in the same way but it is not as palatable.

In addition to all these uses, the effect of ammouia on vegetation is beneficial. 4f you desire roses, geraninms, fuchias, etc., to become more flourishing, you can try it upon them by adding five ur six drops to every pint of warm water that you give them, but don't repeat the dose oftener than once in fivo or six days least you stimnlate them to highly. So be sure and keep a large bottle of it in the house and have a glass stopper for it, as it is very evanescent and also injurious to corks.—*Ex.*

A Convenient Way to Measure Land.

It is frequently desirable to measure a given plot of ground or a portion of a field, and a simple method, such as the following, for which we are indebted to an exchange, will be of use to many of onr readers. Surveyors are not always at a convenient distance to attend to such little jobs; and even when they do reside in the immediate vicinity, one does not always care to incur the expense inoident to snch a small job. If the lines are already established, the plot can be measured with sufficient accuracy for all practical pnrposes by means of a neat rod-pole, made as follows: Procure a stick of pine, white-wood, basswood, or almost any other timber, one and a hsif inches square and sixteen and a half feet long. Dress each end tapering from the middle, so that the pole will be one and a half inches square at the middle and about half an inch sqnare at each end. Snch a pole will be light and quite stiff. Now, graduate one side with the marks represeuting feet and inches, and gradusts another side to indicate a surveyor's links. A pole one rod in length must be equal to twenty-five links. To divide one side correctly, let a mechanic's compass be adjusted, so that the points will divide the distance into twenty-five equal spaces or links. A line can be measured with such a pole nearly as accurately as with a surveyor's chain.

Now, then, if a person does not understand how to mnltiply chains and links, let him compute the measurement by square feet. In one acre there are 43,500 square feet. Any intelligent school boy can measure the length and the breadth of a square plot, multiply one by the other, and divide the product by 43,500, which will give the number of acres, and the numbsr of square rods representing the fraction of an acre. If it is desirable to measure a triangular plot, two sides of which lie at right angles, measure these two sides, multiply the distance in feet one by the other, and divide that product by two, which will indicate the number of sqnare feet, hy 43,500, and the qnotient will represent the number of acres.

Purification of Lubricating Oil that has been used.—The following details of a practical method for regenerating lubricating oils are given in an Austrian paper: A wooden tub, holding 63 quarts, has a faucet inserted close to the bottom, and another about four inches farther up the side. In tbis apparatus is placed seven quarts of boiling water, in which are then dissolved 4½ ounces chromate of potash, 3½ounces carbonate of soda, 3¼ onnces chlorids of calcium, and 9 ounces common salt. When all these are in solntion, 45 qnarts of the oil to be purified are let in and well stirred for five or ten minntes, after which it is lsft to rest for a week in a warm place, at the expiration of wbich time the clear pnre oil can bs drawn off through the upper stop-cock without distnrbing the impurities and cleansing fluid at the bottom.

Good Health.

Sleep.

We wondered in uur yonthful days how some men could subsist with so little sleep. We knew bakere who rose every morning at 4 A. M., uotwithstanding they went to bed at 11 P. M., and had thus only five hours' sleep nut of twenty-four. Later we uoticed that many men slept only six houre, and that thie amount of sleep was fully sufficicut for plowmen or brioklayers, or other men who had no exhaustion hut that produced by manual labor, and that the sooner he took it after his labor was over the better it was for him. But we found also that for men whose lahor is meutal, tbe stress of the work is on the brain and nervons system, and tbat for him who is tired in the evening with a day of mental application, neither early to bed or early to rise is wholesome. He needs letting dowu to the level of repose. The longer the interval between the activo use of tbe brain and his retirement to bed, the better his chance of sleep and refreshment. To him an honr's sleep after midnight is probably as good as two hours before it, and even tben his sleep will not so completely and qniokly restore him as it will his neighbor who is physically tired. He must not only go to bed later, but lie longer. His best sleep probably lies in the earlier morning hours, when all the nervous excitement has passed away, and he is in absolute rest. The fact is, that as life becomes concentrated and its pursnits more eager, short sleep and early rising become impossible. We take more sleep thau our ancestors—we take more because we want more; and men whose occupation is mainly brain-work should be careful to secure a sufficient time of rest, longer in proportion as their labor is more intense, and also longer when they grow older, as the natural wants of the system will indicate.—*Manufacturer and Builder.*

New Mode of Anministering Con-Liver Oil. Nnmerous attempts have been made to render cod-liver oil less disagresable, eitber by gelatinizing or solidifying it, but only with partial success. The system of capsules ssems to answer best; but the great objection is the number of these which must be swallowed. Now it would seem that Messrs. Carre and Lemoine have coutrived to incorporate the oil with bread. Each pound of bread contains a little more than two ounces of the oil, or five tablespoonfuls, and three ounces of milk. Small loaves are also made which contain only two tablespoonfuls, and which, together, weigh only five onnces. These loaves are beautifully white, look extremely wsll, and have hardly any taste. Both children and adults eat them very willingly. In M. Bouchut's ward, at the Children's Hospital in Paris, thirty-four small loaves are brought every morning, and are looked forward to with mnch anxiety by the children for breakfast. They have been largely used among private patients, and no one complains of any disagreeable taste. Five or six tablespoonfuls of oil may tbus be given per diem, incorporated with the bread taken with the usual food.—*Lancet.*

The Danger of Sedatives.—The *Popular Science Monthly* gives this warning on the importaut mattsr of using sedatives for the little ones: One of the great dangers attending the use of the various ssdatives employed in the nursery is that they tend to prodnce the opium-habit. These quack medicines owe their soothiug and quieting effects to the action of opium, and the infant is by them given a morbid appetite for narcotic stimulants. The offering for sale of such nostrums shonld be prohibited, as tending to the physical and moral deterioration of the race. In India mothers give to their infants sngar-pills containing opium, and the result is a languid, sensual race of hopeless debauchees. In the United States the poisonous dose is administered nnder another name; but the consequences will probably be the same.

Potatoes Prosoriben. — Several German writers npon rsces prediot that nations, far from improving, will deteriorate both in physical and mental characteristics, if potatoes become a principal article of diet. The celebrated Carl Voigt says that "the nonrishing potato does not restore the wasted tissues, but makes our proletariats physically and mentally weak." The Holland physiologist, Mulder, gives the same judgement when he declares that the excessive use of potatoes among the poorsr olasses, and coffee and tea by the higher ranks, is the canse of the indolence of nations. Leidenfrost maintains that the revolutions of the last three centuries have been cansed by the changed nourishment; the lowest workmen, in former times, ate more flesh than now, when the cheap potato forms his principal subsistence, but gives him no mnscular or nervous strength.

The Propagation of Cholera by Fruit and Water.

French *savants* are hegiuniug to look upon the theory of the propagation of cholera by invisibls germs convsyed in the air, or wster, as an established faot. M. Ch. Tellier, a French *savant*, in taking this theory as demonstrsted, makss soms suggsstions which sre worthy uf considsration. He places no great reliance upon tbe effect of antiseptics upon the air itself, their action being, to say the least, doubtfnl. Moreover, he considers the notion of the germs nnavoidably taken in respiration as comparatively innocuons, because those taken in the lungs do not reach the intestines, and becanse such as ure thus swallowed, heing taken as it were in small quantity at a time, the vitality of the system is able to resist tbeir action. in like manner as it uvercomes the action of poison taken in insignificant doses. But it is by introduction of the germs into the alimentary canal, where they find couditions altogether favorable for their rapid mnltiplication and development, that the disease is most frequently and most fatally commnnicated. Fruits are spoken of as being ospecially calculated, some by their downy covering, as the apricot or the peach, otbers by the gummy or glutinous coating whioh most of them posssss, to arrest and retain the germs carried by the air. It resnlts that one partaking of fruit freely, and without precaution, may take a considerable qnantity of the infeotious germs directly into the intestinal canal, where they are most likely to produee mischief.

M. Tellier recommends that, during the prevalence of epidemic cholera, the people be instructed to confine themselves to cooked fruits, or, if they will not deny themselves the use of raw fruits, to eat them only after carefnl washing, or, better still, the removal of the skin.

Temperature ann Labor.—The normal heat of the body being taken at 98°, fever heat commences at 100°, and the extreme limit of fever heat may be taken at 112°. Dr. Thudicnm has concluded from experiments on his own body at high temperatnres, that at a heat of 140°, no work whatever conld be carrisd on, and that at a temperature of from 130° to 140° only a very small amount of labor, and that at short periods was practicable; and, further, that human labor, daily and during ordinary periods, is limited by 100° of temperature as a fixed point, and then the air must be dry, for in moist air he did not think men could endure ordinary labor at a temperature exceeding 90°. Dr. Ssnderson has added useful testimony in detail leading to similar conclusions, observing that gymnastic exercises can be prscticed by men in high temperatures to a csrtain point, but that immediatsly the temperatnre of the body rises to 102° or 103° Fah., then all capscity for further exertion ceasss. A case in Cornwall has been instanced of the excavation of mining galleries where the air was heated by a hot spring to a temperature said to amount to 117°. Dr. Sanderson visited the mine and found the temperature to be 114½° Fah., and the total duration of each of the men's work who were then engaged was less than three hours in the twenty-four. Dr. Sanderson fixes the limit of temperature consistent with continuous healthy labor during five hours at a time at 90° Fah., bnt that even at this temperatnre the loss of working power would be very considerable.

Disinfectant.—One drachm of dry iodine, placed in a suitable open vessel in a sick-room, is said to be among the best artioles nsed for this purpose. The nsnal objection of its disagreeable odor is of minor consequence when health and life are at stake. The vapors of the iodine will discolor the ceiling or plastered walls for a time, but the color will gradnally disappear. Iodoform, used in the same way, is quite as good; and is less offensive to the sense of smell; besides, it does not discolor the walls; bnt it is more expensive than the other.

The attention of the medioal world abroad has been aroused by the new treatment of cancer, introduced in London by a Hungarian physician named Grob. He contends that cancer is not a local but a general disease; that it arises from the presence of a poison in the system; and that the knife will never cure the disesse, but only postpones its fatal effects. His remedy consists in setting np another disease—fever—nnder the infinence of which the blood poison, which canses the cancsr, is thrown off. It is said that he has made some most marvelous oures.

Beef-Tea.—Take one pound of lean fresh beef cut thin, pnt it in a jar or wide-monthed bottle, add a little salt, place it in a kettle of boiling water, to remain one hour; then strain it, and there will be a gill of pure nourishing liquid. Begin with a teaspoonfnl, and increase as the stomach will bear. This has been retained on the stomaoh when nothing else could be, and has raised the patient when other means have failed.

Mineral waters containing comparatively large amonnts of alkaline silicates have been found to be very efficacious in curing local affections of the skin. The observation was first made by Dr. Hugnes at Sail-les-Chateau Moraud, the mineral constituents of the waters of which are about four-fifths silicatss.

Domestic Economy.

Housekeeping Hints.—Never pnt a particle of soap about yonr silver if you would have it rstain its original luster. When it wants polishing, take a piece of soft leatber and whiting and rub hard. The proprister of one of the oldest silver establishments in the city of Philadslphia says that "housekespsre rnin their silver by washing it in soap suds, as it makes it look liks pewter!"

Stave lnster, when mixed with turpentine and applied in the nsual manner, is blacker, more glossy, and more durable than when mixed with any other liquid. The turpentine prevents rnst, and when put on an old rusty stove, will make it look as well as now.

To extract ink from cotton, silk and woolen goods, satnrate the spots with spirits of turpentine, and let it remain several hours; then rub it between the hands. It will crumble away without injnring either the color or texture of the article.

Economical Use of Nutmegs.—If a person begins to grate a nutmeg at the stalk end, it will prove hollow throughout; whereas the same nutmeg, grated at the other end, would have proved sound and solid to the last. This circnmstance may thus be accounted for: The centèr of a nntmeg consists of a number of fibers issning from the stalk and its continnation through the center of the fruit, the other ends of which fibers, though closely surrounded and pressed by the fruit, do not adhere to it. When the stalk is grated away, these fibers, having lost their hold, grsdnally drop out in snccession, and the hollow continues throngh the whole nnt. By beginning at the contrary end, the fibers above mentioned are grated off at their core end, with the surrounding fruit, and do not drop out and cause a hole.

Pickled Cauliflowers.—Take good white heads, break them into small pieces and boil for ten minutes in strong salt and water. Skim out the pieces, which should be so tender that a splint of broom corn can be run through the stems. Lay them on a towel to drain off the water, and when thoroughly cold pnt them into a pickle jar, with a few whole cloves, allspice, pepper, and sticks of cinnamon tied up in a oloth. Boil and skim thoronghly; then put it directly over the cauliflowers. If a few beets are sliced up in the vinegar while boiling, they will color the cauliflower stalks a bright coral red, and make them more attractive to the eye. —*Country Gentleman.*

A Nice Omelet.—Beat two eggs, yolks and whites together, in a bowl until very light. In a cup put one tablespoonful of corn starch; add slowly a half teaspoonful of milk (new milk is best); when well stirred and smooth, pour this over the eggs, and beat them all well together for a few minutes; a little chopped parsley can be addsd if wished. Cook as other omelets. In making any kiud of omelet, salt and pepper should not be added until sent to table; and to have them perfectly light and tender, the ingredients must be well and quickly beaten with the fork.

Cream Pie.—For the inside, one egg, one-half cup of sugar, one-fourth cup of flour; beat well, stir into one-half pint of boiling milk and let it just come to a boil again; stir it while on the stove, then set away to cool; make the crust the same as for other pies and line a plate, spread some lard or butter on the top, and then put on another crust and bake; when done and nearly cold, take off the top crust and put the cream into the lower one; then put the top one over the cream. A little essence of lemon may be stirred into the cream just before it is pnt into the crust.

To Bleach Cotton.—A very good way to bleach cotton cloth is to soak it in buttermilk for a few days. Another way is to make a good suds, put from one to two tablespoonfuls of tnrpentine into it, before pntting the clothes in. Wash as nsual, wringing the clothes from the boil, and drying without rinsing. By using one tablespoonfnl of turpentine in the first suds on washing days, it will save half the labor of rubbing, and the clothes will never become yellow, but will remain a pure white.

Boiled Bread Pudding.—Crumb yonr stale bread in a pndding pail and oover with sweet milk, and set by the stove to warm and soften. Then to every quart of the mixture add two well-beaten eggs, a cup of sugar, and a handfnl of raisins or sweet dried fruit of any kind. Do not have your pail fnll, as it needs some room to rise. Pnt the cover on tightly, set it in boiling water and do not allow it to stop boiling till done. If you try that once yon will never make a baked pudding again. Serve with cream.

Soap.—A young lady who makes all the family soap gives the following recipe for a good cheap article: "Add to ten quarts of water six ponnds of quicklime (shell lime is best,) and six pounds of common washing soda. Put all together, and boil for half an hour, and let it stand all night to clear. Draw off the lye, and add to it one pound of common rosin, and seven pounds of fat (auy fat will do). Boil thns for half an honr, tben let it stand till oool, and cut it into bars."

MINING AND SCIENTIFIC PRESS

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, Nov. 22, 1873.

Lagal Tender Rates.—S. F., Thurs., Nov. 20.—buying 91½; selling 92.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Napa Insane Asylnm; Coal Mining; Oleomargarine; Nickeliferous Sands from Frazer River, 321. Important Decision—Infringement Case: Spontaneons Combnstion of Hydro-Carbon Vapors; A Promising Quicksilver Mine; Abaron, 328. Alta City, Utah; California Academy of Sciences, 329.

ILLUSTRATIONS.—Napa Insane Asylnm, 321. Alta City, Little Cottonwood, with Grizzly Flat and Emma Hill in the Distance, 329.

CORRESPONDENCE.—San Jnan Mines, 322.

SCIENTIFIC PROGRESS.—Is the Earth Solid? Telegraphing Maps and Plans; Iron Ships Saved from Rust; Preservation of Sheet Iron; Building Stone and Fire; The Dead Preserved like Wax; Wine and Fermented Fruit Juices, 323.

MECHANICAL PROGRESS.—Enamelled Brick; A New Kind of Wall; American Machinery at Paris; The Gatling Gnn; Another New Motor, 323.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments: Meetings and Dividends; Review of Stock Market for the Week, 324.

MINING SUMMARY from various counties in California, Nevada, Idaho and Colorado, 325.

USEFUL INFORMATION.—Keep Ammonia in the House; A convenient Way to Measure Land; Purification of Lubricating Oil that has been Used, 327.

GOOD HEALTH.—Sleep; New Mode of Administering Cod-Liver Oil; The Danger of Sedatives; Potatoes Proscribed; The Propagation of Cholera by Fruit and Water; Temperature and Labor; Disinfectant; Beef-Tea, 327.

DOMESTIC ECONOMY.—Honsekeeping Hints; Economical Use of Nntmegs; Pickled Cauliflowers; A Nice Omelet; Cream Pie; To Bleach Cotton; Boiled Bread Pudding; Soap, 327.

MISCELLANEOUS.—Rich Gold Mine Discovered at Cuchlpujru; Coinage at the Carson Mint; The New Mines; Specimen Assays; The Mineral Wealth of Montana; Tailings Mill at Shermantown; Oroville, 322; The Panamint Mines; The Swauk River Mines; Steam on the Canals; The Diamond Tunnel; Coin in Circnlation; Mining Interests at Rohinson; Quicksilver in Colusa County; Peruvian Mines, 326. Railroads in Central America; The Dayton Mine; Mines in the U. S. of Colombia; Legitimate Mining; Mining; The Man-of-War of the Future; Ohicago Wants a Mint; Vegetable Parchment; Crampton's Coal-Dust Furnace, 330.

SURVEYING MINING CLAIMS.—Information hsa reached the General Land Office that deputies, on surveying mining clsime, are in the habit of following the directioue of parties in intereet instesd of adhering to the lines estsblished in the original location of such olsims, and thus in effect makiug private instead of official eurveye. Commissioner Drummond, therefore, has issued a circular, addreesed to Surveyor-Generale throughout the couutry, emphatically diecountenancing this practice. After giving miuute direotions as to the proper method of aecertaining the boundaries of original locatioue, the Commiecioner etatee that a failure to make a record of location iu accordance with the law and regulations in force at the date of the location, will defeat the claim, aud if it ie uot made with such definiteness aa to operate as notice to all pereons seeking to acquire rights to mining lande, it will he void, for uncertainty.

New Incorporations.

The following companies have filed certificates of incorporation in the Oounty Clerk's Office, San Francisco:

NORTHERLY FIVE CENT HILL GRAVEL M. Co.—Nov. 19. Location: El Dorado conuty. Capital stook, $2,500,000 Directo.s—F. G. Bilty, V. P. Yelmini, W. A. Cornwall, O. Marchant and W. Maywald.

RED MOUNTAIN CONSOLIDATED COPPER, QUICKSILVER AND TUNNEL M. Co.—Nov. 18. Object: To mine for copper, quicksilver, and other minerals, and to run a tunnel within the limits of the claim for the working of ledges. Trustees—George L. Bradley, T. G. Oockrill, F. L. Kreider, J. L. Armstrong and Samuel E. Oakley. Capital stock, $1,500,000, in shares of $100 each.

Meetings and Elections.

RED MOUNTAIN OONS. M. Co.—Officers:—George L. Bradley, President; J. L. Armstrong, Vice President; Frank L. Kinder, Secretary and Treasurer.

NATOMA WATER AND M. Co.—Nov. 19. Trustees—H. G. Livermore (President), John Bennett, Horatio P. Livermore (Secretary and Treasurer), William Jarvis, Oharles E. Livermore, John H. Redington and Henry T. Knight. By resolution of the stock holders the office of the Company was removed to San Francisco. The office of the Superintendent, and of the works generally, will remain at Folsom, heing conducted under direction from the San Francisco office.

Spontaneous Combustion of Hydro-Carbon Vapors.

During the years 1870, 1871 and s portion of 1872, at the Wood-Preserving Works iu this city, severel inetancee of spontaneons combustion occurred, accompanied by explosioue of hydro-carbon vspore. Mr. I. C. Woods, Manager of the worke, at the lset meeting of the California Academy of Sciences, gave the particulars of some of these accidents and a statement as to the remedy successfully applied. The hydro-csrbon vapors used for the preeervstion of wood are obtsiued by the distillstion of coal-tar. A brick pit is attached to each two stills, to hold the hot-pitch product as it runs from them. Thie pit has an opening iu the side for access aud a ventilating chimuey through which the vspors from the pitch psss off iuto the atmosphere. The opening for access to the pit is closed by an iron door. The tsr used is msde at the gae worke in thie city. The stills used have s cspacity of from 1,200 to 1,800 gallone.

In the progress of the work, the still ooutsining the cosl-tar is ruu nntil the thermometer on the top, uear the man-hole, indicstes a heat of 420° Fah., when they oesse firing. The still and contents are theu allowed to stand and cool until the thermometer indicstee a heat of from 200° to 212° Fah. At this heat the liqnid pitch is allowed to run from the etill into the pitch-pit; as it cools it becomes solid. From the time the thermometer iu the still indicstes a heat of 420° Fsh. until after the time of letting out the pitch, the corks remain open in the vapor pipe connecting the still with the wood-preserving tank.

Until April, 1872, this lettiug out of the hot pitch wae attended with danger of fire, because of the tendeuoy of its vapors to spontsneoue combustion. If runniug the still daily, such accidents wonld oocur three or four times a yesr. The vapors from the pitch in the pit ss they passed out of the ventilsting chimney, were yellow, being the vapors of the naphthslin oils contained in the coal-tar. The oombustiou would take plece after the pitch had been running freely from the stills for some minutes. It was alwaye accompsnied by an explocion, loud enough to be hesrd scross the street, and strong enough to force away the woodeu braces placed against the iron door. Piecee of timberiug iu the pitch would take fire snd burn until extinguished.

From the time the fire ie extingnished under the etills to the time of letting out the pitch, there ie alwaye an interval of fourteen hours. The furnsce of the still is alwaye closed with an iron door and clayed up. There is a strong draft np the chimney of the still. The top of the ventilating chimney of the pitch-pit is as high ae that of the fire-chimney of the etill; and there is slways a etroug draft np this chimney through the crack between the irou door and the hrick work of the pitch-pit. A pereon standing at the iron door would uot emell auy of the vapor of the pitch. The distance from the outlet of the pitch-pipe of the still to the furuace-door of the still is not less than twenty-two feet. At the time of the laet explocion, the furnace of the etill had beeu carefully examined before the pitch was let out; uo remains of fire were found there, nor was there any other fire in the hnilding. The hour wae 10 A. M., Sunday, the works not in operatiou.

This property of heated hydro-carbon vapore to spontaneously ignite after absorhing a certain quantity of atmospheric air, is not geuerally known. The remedy devised hy Mr. Wooda is aimple and complete. It consists in the introduction of a amall quantity of water into the pitch-pit while the pitoh ie running from the still. The hot pitch vaporizee the water, the yellow vapor from the chimney ia changed to white vapor, and the desired eafety ie obtained. Too mnch water must not be put into the pit at oue time, or the pitch will boil over: uot a dangeroue hut a troublesome result.

Mr. Woods had noticed that the hydro-carbon vapore would eat away in holes the seat and valvea of compositiou globe valves; and whenever thia took place, steam waa liable to leak into the wood-preaerving tank during the process of vaporizing the wood. He noticed that whenever the steam did eo leak, that the influence of the hydro-carhon on the wood was destroyed. Thie led him to try with success the experiment of the effect of ateam on the vapors of the pitch. Since April 28th, 1872, when the remedy deecribed waa first applied, not a single explosion hae occurred at the worke. The water ia applied through a half-inch iron pipe, connected with the city maina and regulated hy a cock. Mr. Woode haa reason to helieve that the vapora from a combination of coal-tar and petroleum, are more liahle to epontaneous combustion thau the vapors from coal-tar alone.

A Promising Quicksilver Mine.

The Great Western qnicksilver mine, in Lake couuty, is more than a *promising* mine, since it is turning out from 60 to 70 flasks per week. The product for this mouth will be abont 250 flasks. The furnsce used is one of Riotte & Luckhsrdt's, with modifications by G. W. Spencer. Thie furnace begau running early in September, and the product up to the 1et of thie month was 300 fissks. The furuace hss a capacity of from ten to twelve tons per 24 houre. It is provided with double sets of condeneere, of eufficient capacity to run another furuace of equal size. Coutinuoue runs are insured by hsving this double set of condensere, as oue cools while the other is iu operation. There are now shont 65 men at work at the mine.

The ore worked is uot sorted and averages three per oent. of metal. The ooet of treatment of these ores ie estimated at from $1.25 to $1.50 per tou. The oompany propose erecting two more furnsces iu the epring, materials for which are uow being takeu up to the mine. The miue is about 16 miles from Calistoga, in Lske oounty, at au altitnde above sea level of 2,200 feet. The mineral bearing matter has a width of from 30 to 50 feet, aud consiets of a serpentine and talcose formation, aseociated with chloride aud ehales, the whole mass impregnated with cinnsbar and containing ores of varions grsdes, from one per cent. to pure cinnabar. The mine hss been opened along the whole length of the location—3,000 feet—hy tunnele and drifts, and shows richer as depth ie attained.

The workings through the varioue tunnele have proved its continuity and richnees for more than 1,000 feet. The ore body hss been tapped hy eight tunnels, fonr of which are mere prospecting tunnels, thongh they can he nsed in extracting eurface ores. The entire mass or hody is permeated with veius of cinnahar of different width, but showing the remarkable festure of a uniform aud continuone widening in depth. The enpply of ore in thie miue is said to be ahundsnt, and in view of the facte that timher is procured from the company'e land for $2,50 per cord, labor ie cheap, the mine is in a convenient locatiou, and the deposit ie large, the mine is exceptionslly a good one, and it will not be long before it will stsnd on an equsl footing with the New Almsden and Redington. If we had a few more minee of thie character, worked as energetically as this one, and the ownere would be satisfied with reaeonable profits, the price of quicksilver would come down. As the owners naturally look out for No. 1, however, if they can get $1.10 for quicksilver, they will not sell for 85 cents, and all we or any one else can esy, will not make them. The only remedy would be in haviug minee enough at work to provoke competition; hut even then the owners would combine to keep up the price. It is said that the demand for the Pacific coast alone exceeds 100,000 pounde per month, exclnsive of the demand for export to Mexico, Sonth America and China. If mine owuere cau get $1.10 per pound, who can blame them for not selling for 75 or 80 cente, although it really does do great harm to the mining, or rather milling, intereste of the coast.

MINERS' STRIKE.—The Denver *News* gives the psrticulers of a miners' strike at Central lsst week. It seems that several of the mine owners of Ceutral informed their employés that nntil further notice their wages, $3 per day, wonld be reduced ou Monday, the old hande to receive $2.70, and all uew hands engaged subsequent to Monday to receive ouly $2.50. On Monday two hundred miners engaged in a strike. On Tuesday morning the atrikers appeared at the mines, and hy threats intimidated the meu who were intending to continue at work, and eo caueed a suspenaion of operationa. After dinuer, the atrikers aseemhled and formed a procesaion. Their objective point was Nevada, where the miners had not yet taken any definite stepe in the matter of the etrike. This was done in the hope of enlisting these men in their cauee, hut they failed to make any converte. Several of the Central strikers made speechea in the atreets of Nevada, but their words had no effect, and they ac on afterwarde returned to their own town. As the strikere threatened to take poesession ot tbe mines on the following day, guarda were stationed at several of the minea to prevent disturhances. No actual collisiona have as yet taken place. The *News* aaya that nearly all the men on the strike were Cornishmen, but amongst them are a few Irishmau.

DASTARDLY.—A professed attorney eende au advertisemeut to all newspapere as followe:

Abaolnte divorcea obtained from courts of different Statea for desertion, &c. No publicity required. No charge until divorce granted.

We hope no publishers on this coast will aid him in hie awindling operations and get awindled themeelvee also.

Important Decision—Infringement Case.

For a period of more than four yesrs a suit has been in progreee in tho U. S. Court, for the Southern District of Ohio, in which the firm of Leffell, Myers & Co., were plaintiffe, and Barnett & Co., defendante, the suit being brought to restrain the defeudante from infringing ou the patents of Jamee Leffell by the manufacture of what is called the "Thomss Leffell wheel." This suit has sttracted much attention, being one of the most severely contested, prolonged and complicated in the annals of pstent litigation. The defendante made a desperato attempt to break down the Leffell patents, and to this end exhansted overy possible reeource, employing the most eminent legal taleut iu the conntry, and expending in the coutest large eums of money.

The result of this attack upou the Leffell patente hss been that they were declared valid in every particular and the defendant's wheel and cbee pronounced an iufringement thereon in sll their parte. A perpetual injunction hse been issued, forhiddiug the continued infringement of the Leffell patents by the defendants' and the csse has beeu referred to a msster for assessmeut of damages to be recovered hy the firm of Leffell & Co., from the defendants.

This decisiou will give the qnietus to a number of other casee of infringemente upon the Leffell & Myere' wheel in different parts of the country. The Leffell & Myere' wheel is well known npon the Pacifio Coast. We are always plessed to see the rightful inventor and peteutee protected from the invaeiou of patent pirates who uuder the cloak of right try to eteal the rights of others.

"Abaron:" Is Hydrogen a Compound?

[Written for the PRESS.]

We regret to observe, that the transparent "*canard*," said to have been perpetrated by a Parie correspondeut of the *Turf, Field and Farm*, is finding its way into eome of our weekly journale which are devoted to the diffusion of eoientific knowledge. The story ie that Leharre, a chemist of Lyons, after a eeries of experiments, euceeded in reeolving hydrogen gss into two gaees. One of these he calle "Abaron." Ite levity ie so great that when collected in a hollow conper globe about 18 inches in diameter and the 1-12 of an inch thick, it carried the globe rapidly to the dome of the Parie Academy huilding! It hae about 9 times the elevating power of pure hydrogen, and about 25 timee that of ordinary illuminating gse; it can be prepared on a large scale at ahout donhle the coet of pure hydrogen. To account for tbe fact of thie great discovery not having fouud its way into the Scientifio Journals, we are told that Leberre'e paper was resd hefore Paris Academy of Science, June 30th, in eecret sessiou!

It ie astoniehing that the abeurdity of these statements is not apparent to every intelligent mind. None of them will bear the slightest examination. Take the cese of the copper globe: A simple calculation ehowe, that a globe of snch dimeneions and thicknees would contain more than 84 solid inches of copper; thie would weigh nearly 189,573 graius. Under etandard conditions of preesure and temperature, a ouhic inch of air weighs 0.327 of a grain; hence the weight of the air displaced by the globe would be nearly 999 graina. This latter, therefore, would the the elevating power of ench a globe when filled with a gas whose weight is nothing. In other words, the weight of the copper is nearly 190 times the greatest possihle elevating power.

Again, we are informed the elevating power of "aharon" ie about 9 timee that of pure hydrogen. It ie easy to show that thie is impoeeihle. It is known that nnder standard conditione of pressure and temperature, a *cubic foot* of air weighe about 565 graine; and a cubic foot of pure hydrogen weigha about 40 grains. Hence a balloon of one cuhic foot capacity, filled with pure hydrogen (aasuming the envelop to have no weight), would have an elevating power of 525 grains; and the same balloon, filled with a gas having infinite levity, or having no weight, would have an elevating power of only 565 graina! If the writer meana that the deneity of "abaron" ie only one-ninth of the density of pure hydrogen, then the eleveting power of such a balloon, filled with "new gae," would he about 560⅓ grains, iustead of nine times that of hydrogen, or 9x525=4,725 graine! ZETA.

We are glad that a correapondent has taken the trouble to analyze this question. Our own time is too much occupied to enter into figures on every subject which presents itself. But if "Zeta" will again read our comment, he will aee that the elur upon one of the "weekly scientific jonrnals" wae nncalled for. However, the Editor of the departmeut (aleo a "Zeta," hy the way,) is thankful for all auch commnnications.

It ie rnmored that in the conrse of his expedition to Central Africa, Sir Samnel Baker discovered gold depoeits of great richness.

Alta City, Little Cottonwood, Utah.

Mining towns, as a general thing, have the same characteristics, as far ae the nature of the buildings and the habits of the people are concerned. The only apparent differencos hetween one and another, are in matters of sizo, appearance of surrounding conntry, etc. A walk through the principal streets of some of the miuing towns on this coast, would, however, bo one of iuterest to those who have never seeu one, as they are entirely differeut from villages iu the midst of farming communities. We give on this page an illustration, showing Alta City, Little Cottonwood Cañon, Utah, a place built up within the past two years; we are indebted for the cut and description to the Utah *Mining Gazette*.

Alta is situated in the Little Cottonwood Mining District, Salt Lake county, Utah Territory. It is abont 27 miles in a southeasterly direction from Salt Lake City. For somo fifteen miles of travel from that city, it is ahont on a level with it, and you then begin to ascend for the next twelve miles, upward of 4,000 feet, through a narrow cañon, running east from Salt Lake valley, over a very rough road. Alta is a young town, built up within the last two years from four or five honses; until in Augnst this year it nnmbered 180 honses, of various sizee and etyles, from the rude elab shanty to the two story hotel, of good and handsome finish. It is snrronnded by vast monntains, rich with the precions metals, and on which hundreds of claims have been discovered, About 2,100 mining claime have heen recorded in the booke of the district, and yet new ones are being recorded every day.

The monntaine around have received names from the various mines of note, worked in them. On the eouth is the Wellington Hill, the town site running 525 feet np that hill; further west is the Peruvian or Lexington Hill; across the creek or Little Cottonwood river, and north ie the Snow Slide Hill; east of that is the Frederick Hill. East of the Frederick and north of Alta ie the Emma Hill, running further east into the Davenport Hill, which liee northeast of Alta, and above Grizzly Flat. East of Alta ie the Granite, or Patsey Marley Hill. Alta itself is 8,475 feet above the level of the eea, the altitude being taken by an aneroid in Wm. Gill Mille' etore, which ie about the center of the town; while the monntains euddenly rise to the following elevations: The Emma Hill, 10,000 feet; the Davenport, 10,500 feet, and the Bald Mountain, being sonth and west of the town, 11,000 feet. The town site runs up nearly to the offeee of the Emma mine.

On the Emma Hill, north of the city, are situated the celebrated Emma, Savage, Montezuma, North Star, Monitor and Magnet, Illinoie Tnnnel, Vallejo or South Star, Flagstaff, Last Chance and other mines of value and notoriety, which are pouriug forth their treasuree daily, to enrich the world. Indeed, the whole hill, with the Davenport Hill, would eeem to be one vast mase of ore, covered with a shallow orust, only needing a smelter proportionatoly large, to belch out more wealth than the world has ever seen. On the Wellington Hill few developments have been made except on that celebrated mine. On the Pernvian Hill is situated the Oxford and Geneva, which, although comparatively recently discovered, ie rich and valuable. This hill is, without doubt, rich with the precious ores, but has not been prospected or developed eo much as other hills. There are, however, several valuable claims there, that some day eoon will enrich their owners. The first discovery of any note iu this region is said to be the North Star, known familiarly ae the Bruner, located in 1866. At that timo the district was known as the Mountain Lake, organized as euch in 1866, and continned eo nntil August 15th, 1868, when it wae called the Little Cottonwood Mining District. Why the change was made is not so well known, except that rival claimants wanted to get the records in their own hands. At one time there were books in the hande of each recorder, and discoverers hardly knew where to record. Each recorder stated that his books were the proper ones, for the other would be removed. As Darwiu would say, the fittest prevailed. We know of partiee who lost their claims by not recording with either.

The first bnilding put np where Alta now stands, was the steam saw-mill, and the boarding-house attached, erected in 1868, by Bishop Samuel A. Woolley and Nathan Davis, of Salt Lake City. The next was a little log-cabin, which Mr. Snyder built for Mr. Nagler, in the fall of 1869, before the latter had been in the cañon, and for which he was paid the snm of $35. There were several cabins ou the side of the Emma Hill, at the mining claims. The next cabin was built by the "Miller boys," that is, those who had discovered the Miller mine, of American Fork, who enclosed and claimed a parcel of gronud. Mr. G. W. Case theu built his cabin, and claimed a pieco of laud; and he likewise erected a blacksmith's shop for Mr. Nagler, a few yards from his cabin. Nagler's cabin, which is totally demolished, stood near the center of Walker street, between Mr. Mills' store and Messrs. Street & Ralph's store.

Messrs. Shaw and Masters were the first to put np a proper building in Alta. It was used as a saloon. Mr. Mills, of Gilroy Cal. erected the first store and largest building in the place. Tho telegraph office was brought np from Central, a small place of a few houses, half a mile west of Alta. Central was afterwards pulled dowu to build up Alta, as the site of the latter was much more eligible for a town than Central, which was built on a the side of a steep hill, Alta being on a partial flat as the cut ehows. Alta now hae several storee, plenty of saloons, two or three hotele, several restaurants, lodging houses, etc.; and all the uenal claeeee of business carried on in a mining town are well represented.

The town is laid out in 116 oblong square blocke, generally 300 feet by 175; hae ten etreete running east and west, and eleven rnnning north and sonth. This laying out of the blocks was by the survey of Mr. Nagler and his friends, before referred to. He by their influeuce obtained a patent from the Patent Office at Washington for the lower eite thue laid ont eome time in the early part of this year. When it was first understood that he applied for a patent, the few citizens then in Alta eent a protest and remonetrance to Washington in 1871, and the matter eeemed almoet forgotten on the part of the citizens, who enpposed it could not be obtained, it being mineral land, and other parties having eettled down, and claimed parcels of gronnd ae well as he. On the citizene, who had greatly increased since 1871, learning that Mr. Nagler had not forgotteu the matter, if they had, but had actually by some meane obtained the patent, they were greatly incensed, and called meetings to protest against it, and to oppose or fight the patent. The citizens charged that tho patent obtained by misrepresenting it to be agricultural land, and did not state it was mineral land, and they ventured to charge Messrs. Walker Bros., who had assisted Mr. Nagler to obtain it and purchased it from him, and then formed a company to demand payment from the possessore for a government title, with obtaiuing the patent fraudulently and oppressing the squatters. Deputations were the sent to patent company to enqnire what the prices of the lots which they had made valuable were to be, and to learn the nature of the patent. They were willing to pay a small or reasonable sum to obtain a title to their lots, but if too high a price were charged they would fight the matter. Lawyers were consulted and funds promised, but the citizens became traitors to themselves and some of them purchased the title from the patentees. Very little, if anything, is said now about the matter, and most are inclined to purchase the title. They did not hang together, for want of leaders and honest meu to plead their cause.

In the year 1871 the first snow storms appeared on the 28th day of September, and increased until from twelve to fifteen feet on the level covered the whole District, and iu some places as deep as forty feet. About the last storm for that winter was on the 30th day of June, 1872, with a fall of upwards of two feet of snow. In 1872 the winter snow storms commenced on the 24th day of October, and the last snow storm, of a very few inches, ou the 30th of June, 1873. The summer season is very short, embracing only about four months, at the most, clear of snow. This is a great drawback to the prosperity of the camp, and drives away huudreds from it. Snowslidee are very frequent dnring the winter, and they have been disastrous every eeason; several teamsters and miners have been killed thereby.

The climate is cool and pleasant in Alta during the summer months, while it is unpleasantly warm in the valleye.

Alta will be unquestionably a permanent mining town. It ie impossible for it to fail now, as thero are around it for milee mining claime which will attract men of capital, and in the development of these claims thonsands will become wealthy, and Alta increase in importance and stability.

ALTA CITY, LITTLE COTTONWOOD, WITH GRIZZLY FLAT AND EMMA HILL IN THE DISTANCE.

More Quicksilver.—Two new qnicksilver deposits have been found in San Luis Obispo county, making eight now known in the county. New dovelopments are also being made in Monterey county as well as in Sonoma. The Cerro Bonita mines in Monterey, give excellent promises. The Hollister *Enterprise* says that there are upwards of sixty men employed in and about the mines, and a large quantity of cinnabar is being daily extracted therefrom. The oompany have about completed the construction of first-clase furnaces, which will greatly facilitate the process of reduction, and increase the yield proportionately. Some six or eight teame are constantly employed in transporting goods, machinery, quicksilver, etc., to and from the town of Hollister.

Academy of Sciences.

The regular semi-monthly meeting of the Californiia Academy of Sciences, was held on Monday evening last, President Davidson in the chair. The following new members were elected: L. L. Robinson, life; S. W. Williams, LL. D., of Pekin, China; Rev. W. P. Martin, Professor of the Imperial College, Pekin, China, corresponding members; T. H. Blythe, Hon. Newton Booth, M. W. Belshaw, Dr. G. H. Murdock, Colonel William Harney, William Murray, Joseph Perkins, W. H. Moore, resident members.

Donations to the Museum.

From J. N. Simpsou, a moose-skiu coat, finely made and richly ornamented with beads and ribbons; a pair of dressed seal-skin boots; and a roughly wrought bar of pure copper, all procnred from the Indians on the rivers of Northern Alaska.

From H. Hemphill, Fiddler Crab, from Lower California.

From R. E. C. Stearns, specimens of beet sugar, from the Sacramento beet sugar manufactory.

From James S. Lawson, United States Coast Survey, Olympia, W. T., a piece of vegetable wax procured from the hnlk of a Japanese junk, wrecked many years since on the south coast of the Columbia river. It had precisely the odor and appearance of unrefined beeswax.

From Commander George E. Belknap, United States steamer Tuscarora, a piece of piano wire used for six months in deep sea sonndings. Thie fine wire had been used in sonnding to depths of 2,500 fathome, but exhibite no signe of impaired strength, nor even a trace of rust. When not in nse it is kept in a eolution of carbonate of soda and sometimes in oil.

From Mrs. Captain Shelly, an ornamental string of the eea-urchin (*Echina*) shells.

From Captain Fisher, of the whaling bark Alaska, specimens of coal from Cook's Inlet. A fine quality, existing in veins from eix to eight feet in thioknees.

From William Fisher, of the Pnget Sound Telegraph Company, head of a strange fish canght at Neeah Bay, W.T. Professor Davidson stated that the fish wae an inhabitant of the deep sea, and specimens were very rarely taken.

From Captain Oliver Eldridge, an excellent impression of a fossil fish, from Sydney Station, on the Union Pacific railroad.

From S. A. L. Brannan, scorpion and nest with young, numbering about 100, procured at Panama.

Pre-Historic Records.

Professor Davidson presented photographs of strange, but beautifnl hieroglyphics, cut on wood, found on Easter Island. Thoy were received from Thomae Croft, of Papeeti, Tahiti, and were accompanied by an interesting letter from that gentleman, giving tho speculations made concerning their history. From vague traditions among the natives they are supposed to represent the written language of a pre-historic civilization. In eome past age a powerful nation is supposed to have had ite eeat on the Eaet India Islande, and to have traded with and colonized the Islande of the South Pacific. The stone idols found on Eaeter Island exhibit a refined form of art, and other relics found there go to prove that the preeent population has greatly degenerated from a previous occnpation. Professor Davidson expressed his regret that the means were not available for an exploration of Easter Island under the auspices of the Academy, as euch a search would doubtless yield valuable relics of a pre-historio civilization.

In connection with the matter of remaine, etc., Mr. McCheeney called the attention of the Academy to a conepicuons Indian mound existing near Oakland, about two and a half milee from the Broadway station, and about 300 feet from the water'e edge. It was circular in form, about 175 feet in diameter, with eidee sloping from 45 to 50 degrees, built of ehells and other debris, and wae now covered with ehrubbery. The upper eurface was somewhat hollowed.

Mr. Dameron had examined a mound near Alameda Point. He fonnd shelle and bones. The Indians used it probably as a

[Continued on Page 332.]

Railroads in Central America.

The *Official Gazette*, published at San José, Costa Rica, gives the following interesting details of the progress of the great railroad enterprise in that country.

First Division—From Simon to Pamare.

Eleven miles laid with rails ready for use, and twelve miles more prepared to receive them. The bridge of Main is finished, and the others are in way of construction—1,100 laborers at work.

Second Division—From Pamare to Angostura.

The engineers have finished the survey, and the gradiug has commenced.

Third Division—From Cartago to Angostura.

Five camps have been established on this line since February 15th, and though the rocky soil offered many difficulties, the whole track of thirteen miles to Tajardo has been graded and the rails partly laid, which will be ready as soon as the rolling stock will arrive. The buildings are constructed, the water-tank has received its water already by the new aqueduct, and a steam engine is sawing the firewood, of which 2,000 cart-loads are already prepared. Also, the telegraph line from Cartago to Tajardo has been completed since several months. Two new camps have been established, and the total number of laborers at work amounte to 1,560 men, besides 60 cartmen, who have to find their own lodgings.

Attached to this establishment are 28 ox teams, 120 mules and a number of horses, besides 26 carts. This division consists of 8 engineers, 6 clerks, 4 chiefs, 10 contractors, 100 foreign and 50 native mechanics, 360 Chinamen, and the balance native laborers. The weekly consumption of these workmen is 50 oxen, and the bakery uses from 500 to 600 pounds of flour daily. A hospital has been erected at Cartago, which received many sick people from the neighboring country, while on this road the health has generally been very good. Though not less than 1,400 people have monthly applied at the hospital, our workmen have contributed but a small proportion to this number. The only people who died at the hospital were either Chinamen or a few foreigners who arrived already in bad health.

The calculation of the engineers gives the removal of 96,237 cubic yards of earth and 49,965 cubic yards of rock, at a cost of $49,062.71½; besides the wages of laborers and the expense of carting, erecting the camps, telegraphing, etc., amounted to $38,093.71½; the hospital department took $6,881.90, and the bills for provisions were paid in the capital, the amount of which did not come to the knowledge of the engineer, who wrote the report.

The whole line to Angostura will not exceed the cost of $1,600,000.

Fourth Division—From Alajuela to Cartago.

The rails are laid from Alajuela to Quebrada del Fierro, and within fifteen days the locomotives can reach Cartago, because the bridge is nearly finished. From 250 to 300 men are working on this division. The materiale and machinery existing on this line are sufficient not only for the line to Simon, but also to Punta Arenas, where the seventh locomotive has arrived already.

History of the Work.

The railroad was commenced on the 8th of October, 1871, at Alajuela, reaching Simon on the 15th of November, which was then a complete wilderness. The difficulties were very great, and the works were commenced at the same time in the deserts of the Atlantic coast and at Alajuela, at an elevation of 3,200 feet above the Pacific, where all the materials had to be brought in carts from Punta Arenas, sixty miles. Almost everything had to be carried across the Isthmus of Panama, which expense amounted to $10, and even $23 per rail. The first locomotive arrived at Alajuela on the 9th of February, 1873, and on the 5th of March the first train had reached the bridge of Ciruelas in presence of 9,000 spectators.

On the 6th of August, 1872, Heredior was reached, (seven miles) and on the 30th of December, the train got to San José, (fourteen miles); the thirteen and a half miles thence to Cartago are nearly finished.

These 26¾ miles form the fourth division, with six iron bridges and two viaducts, making on the whole line 166 bridges nearly all finished. The work required 3,000 yards of masonry, and 1,200,000 yards of terrepleins.

The second division from Cartago to Angostura is of 26 miles, with 1,700 cubic yards of masonry and 1,500,000 cubic yards of terrepleins. One thousand men are now grading the 15 miles east of Cartago.

On the Atlantic division the first spike was driven in May, and in spite of the greatest hardships, the first locomotive made its trip on that line in July, 1872.

Future Prospects.

Since then from 14 to 16 miles of rails have been laid, and 35 miles have been graded to Pacuare, which forms the third division.

On the second division from Pacuare to Angostura, 28 miles, but little has been done yet, but the whole will be finished within the three years of the contract. With the £1,045,000 received from the Government up to date, all the material has been paid for except the iron wharf and bridges, and about one-half of the whole line is finished. If the line had not been commenced on the two points at the same time, a million of dollars might have been saved.

The whole line from ocean to ocean to the nearest point will be 160 miles, and the question only remains which will be the terminus on the Pacific, for which five different surveys have been made, viz: to Heradura, Puerto Pital, the mouth of the Rio Grands, Tinives, Caldera and Punta Arenas. The latter will most likely be the point, though the line would extend fifteen miles further.

The dimensions of the principal bridges are: Main, 250 feet; Matina, 350 feet; Madre de Dios, 160 feet; Landire, 150 feet, etc. The balance due to Mr. Meiggs, for the whole enterprise, is £553,765.19.11.

In his message to Congress on the 1st of October, President Thomas Guardia makes honorable mention of the above line, which must undoubtedly give new life to the trade of Costa Rica.

The Dayton Mine.

Yesterday morning, in company with the very efficient and gentlemanly Superintendent, N. C. Hall, we visited this mine, situated on the eastern slope of the mountain, on the west side of Gold Cañon, about half a mile below Silver City, in Lyon county. The main

Hoisting Works Building.

Is situated about 200 feet from the south end of the location; is 30x50 feet in size, with a carpenter shop 30x26 feet, and blacksmith shop 36x26 adjoining; the whole being built of the best material and in the most substantial manner possible. The hoisting is done by a neat, compact little engine of 30-horse power.

The Shaft

Has two compartments, and was sunk in solid blasting rock from the surface down; is well timbered, and is one of the best in the State. Stepping on the cage we glided in a moment smoothly and noiselessly to the

Third Station,

Or 400-foot level. Following the main west tunnel, 145 feet from the shaft, brought us to the ledge, where turn tables have been put in and a drift run in on the ore vein south some 50 feet, the entire distance being in milling ore. The ledge is very solid, requiring continual blasting. A drift has been run north on the ledge a distance of 85 feet, all the way in good ore. The ledge at this point is so very solid so that no timbering whatever will be necessary until the ore is entirely stoped out. Ascending to the

Second Station

And proceeding along the main west drift 195 feet, we again reached the ledge, which at this point is 25 feet in width of solid ore. From where the ledge was struck, a drift has been run south 112 feet, the entire distance in good ore, and a drift north 60 feet along the line of the ledge, also in fine ore, spots of which are very rich in gold.

At That Point

The direction of the drift was changed to a more westerly course until the west clay wall of the ledge was reached, along which the drift was run in a northerly course 60 feet, when it encountered a body of ore exceedingly rich in gold, 10 to 12 feet in width and which has been prospected a distance of 50 feet in length, to a point directly under a winze which is being sunk from the first level above, for the double purpose of prospecting the ledge and ventilating the lower level.

The Winze.

Is down 105 feet, following the line of the ledge, the bottom in good milling ore. A raise to connect with the winze has been started from the north drift at the second station and is up 40 feet, also in good ore, leaving only about 50 feet to run to complete the connection between the levels. Much of the rich body of ore developed in the north drift at the second station gives average assays of from $300 to $500 per ton; and choice samples run up to the tens of thousands. A sample of the fine ore taken and horned out in our presence, showed a prospect of fine gold that would bring a glitter of joy to the eyes of an old Californian.

The Company

Have about 1,000 tons of ore on their dump ready for reduction, some of which is so rich in gold that it has been necessary to employ a watchman to prevent the carrying of portions of it away. In the face of all the different drifts on the several levels blasting and digging out the ore is being prosecuted without the least fear of its giving out, and the prospects of the development of a good paying mine are excellent beyond a doubt.—*Gold Hill News.*

Mines in the U. S of Colombia.—*Los Principios de Cali*, in speaking of the Indian gold mines, says: "There have just arrived there nine Darien Indians, bringing with them gold to be made into trinkets, etc. It is to be regretted, adds this paper, that the Government of Cauca does not endeavor to find out the mines whence these Indians obtain the gold, and found a town in that region."

There are many fine ports in the Gulf inhabited only by the Indians, where a town would become the center of a large commerce. All such plans, however, are forgotten in gaining elections. It is hoped Senor Trujillo, the new President of the State, will do something towards realizing this idea.

Various miners in Antioquia have penetrated as far as "Farallonsito," the culminating point of the western Cordilleras, in the district of Quibdo, and have discovered some rich gold mines which are being worked.

Legitimate Mining.

A correspondent of the Reno *Crescent* says: Mining is a legitimate, honorable, useful and commendable business, and should command and receive the encouragement due to what now is, and of necessity must for many years continue to be the chief industry of the Pacific States. It is not only important in itself but vitalizes and stimulates every other business of the country, as agriculture, manufactures, commerce and arts. Yet practically the merchant, farmer, manufacturer and capitalist are opposed to mining, and seem to consider it detrimental to the growth, wealth and prosperity of a commonwealth! This is perhaps the natural result of the way mining affairs have been, and are now managed. Since the partial exhanstion of surface mining, the business has to a great extent fallen into the hands of sharpers and speculators, who make their money by victimizing the unwary, instead of depending upon the actual products and legitimate profits of mining. This tends to bring into discredit the name and business of mining. To create distrust and suspicion of all mining enterprises. To drive out of the business all labor and capital seeking only honest and legitimate profits; thus injuriug the country by bringing into disrepute one of its most honorable and profitable industries. Now to counteract this evil tendency and promote the industry of the country, the business of mining should receive the same attention, encouragement and fostering care as farming, stock-raising and the mechanic arts. But such is not the case. The people of California—whose sole wealth—whose very existence in the State—is the result of mining—have been holding fairs at most of the principal towns, making a vast display of agricultural and mechanical products of the State, but ignoring entirely that great industry upon which all their wealth and prosperity is founded. Of course the people of California are all learned, wise and virtuous—refined and cultivated. Her wealthy men are noted for their scholarly attainments, and a highly cultivated and refined taste in art, in literature, in everything to adorn and beautify an advanced civilization. The State is literally filled with the most profound statesmen that ever moulded the destiny of a great people. Her poets and orators are far superior to any other of either ancient or modern times. The people are honest and patriotic beyond all precedent. But with all their virtues and acquirements, is it not barely possible that they have failed to study a very old but useful science called political economy? That is a question that would bother a sage-brush philosopher.

Mining.

If the newspapers in the mining districts can be believed, the business of mining is generally in a very flourishing state. In the State of Nevada the record of big strikes and grand developments is so common as to be almost tiresome. In most of the mines on the Comstock lode everything is looking well, and some of the mines are yielding splendid ore. In eastern Nevada the mines are promising well or are engaged in fulfilling good promises heretofore made. Belmont and El Dorado South, in Nye county, are showing, according to reports, extraordinary richness. Cherry Creek will soon have an excitement of its own. In Pioche they are talking about large quantities of gold having been discovered in the Newark mine, while it is said that the Raymond & Ely mine has found another rich body of ore. White Pine promises to revive because of discoveries made in the Fay & Mobile mine, on White Pine mountain; splendid assays having been made of the ore in that mine. Robinson is claiming attention because of recent remarkable discoveries of gold, and so goes the whole of Nevada State. In California the quartz mining business seems to be in a flourishing way, and from all quarters come good accounts of paying mines. The gravel mines, of course, are safe for large returns as soon as there is water sufficient to work them. The mines of the Pacific Coast seem to be making a grand effort to furnish the precious metals, out of which coin can be made for the day of the return to specie payments all over the land. The good reports, from the mines generally, we believe to be true. We know that in Grass Valley district the mines are doing well and are promising to greatly improve.—*Grass Valley Union.*

The Man-of-War of the Future.—Lieutenant-Colonel Strange, of the English Service, describes his idea of a ship of the future:—"She shall be built solely with a view to great speed and the most perfect sea-going qualities, whether under canvas or under steam, and to render her capable of turning handily she should have twin-screw propellers. She should be not an inch larger than is necessary for these purposes and for carrying one large turreted gun mounted, with two or three spare ones in the hold in case of accident. To secure these qualities in the highest perfection she must be encumbered with either no armor at all, or, possibly, a little on her bows only. My notion is that these small ships should never act singly; we could afford to have little squadrons of them." Mr. Bessemer's anti rolling system applied to this vessel. Colonel Strange thinks a great ironclad would have no chance with it. The new ship would scarcely miss a shot; the big ship, with an angle of roll subtended 230 feet, would make a very poor score on her diminutive and active assailants. Has can hardly overrate powers of vessels like these—able to sail to their destination at high speed, thus saving their coals for fighting; dealing the blows of the heaviest ordnance with almost the precision of a light field piece; so quick in their movements and so small in their size as to be a very difficult mark for even the stationary artillery of land fortifications; vessels which, acting in concert in numbers, would represent enormous aggregate attacking force, which could only be silenced bit by bit; the loss of each one, though trifling in itself, being probably as difficult to bring about as the destruction of a much larger antagonist of the ordinary description.

Chicago Wants a Mint.

Chicago has lately discovered that it is the natural location for minting the product of our territorial mines; and, moreover, that it would be very profitable to it to do so. Therefore it will ask for the establishment of a branch of the United States Mint. The *Inter-Ocean* expresses the wishes of the city in a long article, from which we quote:

It is for the interest of the General Government to establish an mint in Chicago, and it is due to the vast mining interest of the West, both to the miners and smelters of silver ore. This city now has in operation four large silver-smelting works, while no other city in the Union has more than one, with one exception. It is already recognized as the national center for this business, which is growing rapidly. If a mint should be located where the silver and gold is produced, there is no argument that can be urged against the immediate establishment of such an institution in Chicago.

In view of the pressing demand not only of the West, but of the entire country, Senator Logan, of this State, will, at the next session of Congress, introduce a bill of the establishment of a United States mint in the city of Chicago. That such a measure is essential to the welfare and prosperity of the mining interests of the Territories cannot be doubted by any one who sees the amount of gold and silver that almost daily passes through this city from the Territories to the Mint at Philadelphia, as well as the immense amount that is shipped directly to Europe, either in ore or in bullion. It is not easy to estimate the local importance such an institution would give the city. Chicago would of necessity become the great gold and silver depository of the Government, the specie center of the nation, and would reap the benefits necessarily connected with such a position. It would also link the vast commercial interests of ten Territories with this city, and nothing would be more natural than that miners and others should buy their goods, machinery and supplies at the point where they sold their ore or received the coin produced from their bullion. It would also bring to the city a large number of the most skilled laborers and artisans that are always attached to assay and other offices connected with an institution of such magnitude and importance.

Vegetable Parchment.—A foreign scientific paper says: The common method of preparing this exceedingly useful material requires much care and experience on the part of the operator, and only gives satisfactory results when the strength of the sulphuric acid and length of the process are accurately appointed to the substances and texture of the unsized paper to be dipped. Mr. Colin Campbell has made a modification of this process, which promises many advantages. Before treating the paper with sulphuric acid, he dips it in a strong solution of alum and dries it thoroughly. When paper thus prepared is passed through concentrated sulphuric acid, it is converted into parchment paper just as before, but the presence of the alum prevents the action of the acid from being so rapid as before, and therefore renders the whole operation much more manageable. Paper which has been printed on can also be converted into vegetable parchment, if treated in this way. The author also proposes to make parchment paper in endless lengths by connecting the alum and sulphuric acid bath with the paper machine.

Crampton's Coal-Dust Furnace.—The recent trials of Crampton's new furnace at Woolwich—a furnace wherein coal dust is successfully burnt—is a notable example of the utilization of old facts. The principle of the invention is to blow a mixture of finely powdered coal and air into a fire, whereby a powerful combustion is effected. The lecture-room analogue of this is an experiment of Faraday's in which he shook up a jar of dry oxygen with charcoal dust, and while the particles of carbon were still in suspension, applied a light, when the whole jar became a source of intense light and heat, owing to the rapid combustion which ensued. Thus the plaything of one age becomes the tool of the next, and isolated scientific facts are the germs of gigantic industries. —*Iron.*

There exists a very beautiful ideal of what home should be; but, somehow, men and women have fallen into the habit of showing to the world their best side; of exerting themselves to be amiable and agreeable to people who care the least for them; while to those to whom their interest, honor and happiness are of vital concern, they display all their most unholy and disagreeable traits.

Death Valley.

A correspondent of the Sacramento *Union*, writing from the Panamint District, Inyo county, has the following in reference to a locality to which attaches such a fearful reputation.

The terrors of Death Valley have been greatly magnified, and the pictures painted of it by many correspondents have been in unjustly formidable colors. Many believed, and doubtless still believe, that there are places in Death Valley from which great quantities of poisonous gases arise, impregnating the atmosphere for great spaces with a virus sufficiently deadly in its character to strike with almost instantaneous death every living thing which comes within the circle of its influence. All this, however, is untrue, and the story—which was and may now, perchance, be accepted for truth—is without foundation. A man can ride through and over the entire valley with perfect safety, and can find water in nearly all of the cañons which debouch into the valley from its western boundary. The Panamint Mountains which inclose Death Valley on the west, are mantled with pinion pine and cedar, and further up—a little more than half way, perhaps—the mantle becomes heavier and its character changes from pinion pine and cedar to white pine and mountain mahogany. The mountains on the west of the valley, as far as the eye can reach, are quite generously timbered.

To N. C. Chunn I am indebted for much information. He informs me that Death Valley proper is about sixty miles in length, with an average width of about eight or nine miles. King, who has prospected extensively through this county indorses Chunn's statements, and I also, with the aid of a large and powerful glass, and standing at an altitude of nearly 12,000 feet when I took my observation, am strongly inclined to think that my friends are about right in their estimates. From Telescope Peak the country on the east side of Death Valley presents a singularly picturesque appearance, and it would puzzle Prof. Whitney himself to account for the strange blending and indiscriminate mixture of so many different colors and formations which nature there exhibits. The eastern side of the valley is apparently entirely destitute of timber, and but few verdant spots greets the eye. I noticed, through the medium of the glass, near the foot of the hills, and about opposite Telescope Peak, a cluster of mesquite trees, valued and precious signs, which, no matter where seen, ever give strength to the famished and thirsty mountaineer, and with renewed energy and additional strength he pushes onward, assured that water, that priceless boon, is near at hand. The Panamint Indians frequently cross Death Valley near this point, and they tell me that they can find plenty of water on the other side. About four miles south of Telescope and about half way down from the summit, towards Death Valley, are a number of strong springs of excellent water flowing from the mountain side. Death Valley, as seen from the apex of Telescope, displays a great diversity of features and variety of colors. The most prominent feature in the scene is borax, acres and acres of which dot the valley as far as the eye can reach southward, sparkling and glittering under the rays of the sun, and looking as white and immaculate as a shirt done up by the What Cheer Laundry in San Francisco. Looking forward, from Telescope Peak, the broad valley of Panamint, Mount Whitney, the undulating range of the Sierras, Walkers Pass, and many other points of interest and scenic beauty, figure conspicuously in the picture. Death Valley at some points is, I believe, considerably lower than the level of the sea.

COAL IN LINCOLN.—Colonel Wilson has for a long time been experimenting by boring for coal on the level plain on which the town of Lincoln is situated, in the western part of Placer county. A recent telegram from Lincoln explains the success of his labors. It says:

The lignite coal miners at this place have now commenced work in earnest, and are erecting costly hoisting works. The machinery is all on the ground, and also the lumber to erect a building twenty-four by sixty feet. That there is a bed of lignite coal here in large quantities is a demonstrated fact, which has been proven by boring in six different places, the holes being bored from one to three hundred feet apart, and the coal being found in each from eight to fifteen feet thick. The coal is superior to anything before discovered in this State outside of the Mount Diablo mine, which it resembles very much. It will take about two weeks to get the mine and machinery in working order.

EXTENSIVE PLACER DIGGINGS are reported as discovered upon the Gunnison, in western Colorado. This river heads in the Uucompaghre and Saguache Mountains, and flowing a little north of west, empties into the Grand but a few miles east of the western border of the Territory. The county is one very likely to be found rich in precious metals, and especially in alluvial gold. Besides the location of placers, several gold and silver-bearing veins have been discovered.—*Col. Mining Review.*

FOUR large iron steamers, sister ships, are building in Hull, England, for the mail and passenger service between Bremen and New York. They will be all large ships, the tonnage of each being 2,700 tons, builders' measurement.

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BUY BARBER'S BIT BRACE.

[Continued from page 329.]

camping place. Pestles, mortars and old flints wsrs also found.

Ths Presidsnt stated that this is ths condition of nsarly all thss monnds, but in many, sksistons are found iu a sitting posturs.

D. J. Staplss, who came hsrs in 1849, and locatsd on ths Tuolumne river, said he had spoksn to the Indians thsrs ahout thess rsmains fonnd in the mounds. On one occasion afts thsss Indians had disd he saw thsm burisd in a mound. They wsre huried hensath the dspression on top of ths mound. This occurred within ths past twsnty-five years, and at a time when ths Indians were living on top of these mounds. The modern Indians of this coast, who wsre a notoriously indolsnt race, prsferrsd to depoeit thsir dead in ths mounde srsctsd hy thsir predscessors, as a matter of convsnience and from ths ease with which sxcavations could he mads in ths loose shslle. A numher of mounds whioh hs had examined on the uppsr Sacramento and Amsrican rivers, appsarsd to havs hssn partially thrown up with earth, and the member was of ths opinion that ths Indians designed them to raise their hrush huts ahovs the encroachmsnts of the spriug floods. Ths Prssident said that up north the Indians seldom hury their dead nsar their homes. Thsy sometimss put thsm in trses, sometimes in canoss and somstimss in ths ground. In Sitka, howsvsr, the graves are all vsry near ths homee of ths living.

Mr. Ellie callsd attention to a large mouud ou ths southsrn part of this city. He said perhaps the Indians, heing indolent, had buried thsir dsad whsre it was easisst to dig. As to ths hollows in ths csntsr, they perhaps thrsw up dust aronnd the edges to protect themselves from ths wind.

Mr. Dameron said that in early days in the Sacramsnto Vallsy thsy burned their dead. Psrhaps the mounds wsre built to kssp thsm from the floods.

Dr. Dall, of the United States Coast Survsy, who, had recsntly retnrnsd from an sxpidition to the Alsutiau Islands, gave an intsrssting dsscription of his explorations of a cavs at Unalaska, used as a hnrial place hy ths prshistoric inhahitants. The cave had hssn partially sxamined hy him last year, and his discovsries reported to the Acadsmy, hut on his return hs was surprised to find that his search had hssn quits eupsrficial. Bsnsath a laysr of ths slowly accumulating dust of centuries, in which he had prsviously found cnrions implements, he come npon a sarcophagus constructed of ths honss of ths sperm whals, and coutaining thrse skeletons in an sxcsllsnt stats of prsservation. That thsss wsrs rsmains of inhabitauts of ths islands at a remote psriod, svsry indioation wsnt to prove. Ths locations of numerous villages wsrs marked hy mors luxuriant growths of vegstation, and closer sxamination discovsrsd the ruins of their dwslings, and large deposits of ths hones of fish, which had formed their principal article of food. By sxcavating in thsss places, it was dstsrmined how ths inhabitants had progressed from ths rudest condition of savags lifs, whsn they subsistsd mainly upon shsll fish, readily procured hy ths smploymsnt of littls mors than mers animal instinct, nntil they acqnired soms degrss of skill, enahling them to capturs fish, and fiually mastsr ths grsat sperm whals. It was thsir method to attack ths whale with lancss pointsd with a peculiar kind of stone, supposed to be fatal in its effects npon ths huge animal, and after he was slain they awaited ths action of ths wavss to brlng him ashors. Dr. Dall declared that ths dsstiny of the Alsutian psople was downward, and their history had been that of a steady dscline for ths last century, and which had besn acceleratsd hy ths Amsrican occupation. Hs dsplored in indignant terms ths nsglsct of the Governmsnt, or the Alaska Commercial Company, to provids ths psople with educational facilitiss, to ths absenos of which their decline is attrihutahle.

Miscellaneous.

Mr. I. C. Woods then rsad an important papsr on ths subject of spontaneons combustion which is fully rsfsrrsd to in anothsr column. Dr. Blake's papsr on ths nickeliferous sand of Frazsr River is also givsn in this issus.

Professor Davidson rsad a letter from Professor Spsncsr E. Baird, requesting to bs furnishsd regularly with rsports of ths processdings of the Acadsmy of gensral intsrest. It is ths purposs of that distinguishsd scisntist to pnblish in ths Nsw York *Tribune* or Harpsr's *Weekly* a complete rscord of the progrsss of American scienos. Ths Prssidsnt rsmarksd that ths requsst was really a compliment to ths Acadsmy, and should rscsivs prompt consideration.

A commnuication was rscsivsd from Colonel R. S. Williamscn, Unitsd States Corps of Engineers, presenting to ths Acadsmy a complsts sst of the Unitsd States Railroad Rsports, in slevsn volumes.

Ths Prssidsnt announced that all ths details of the acceptancs of ths gift from Jamss Lick had hesn consnmmated, and ths rssolutions of ths Acadsmy had besn sngrossed and prssssnted to the gensrons donor.

The President also announced that at ths nsxt mssting of ths Academy he should present his opinions and conolnsions on ths questions governing the location of an a stronomical ob servatory.

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LITTLE LAKE, Mendocino Co., Cal., Nov. 3, 1873.—MESSRS. DEWEY & Co.—Sirs: We acknowlsdge ths receipt of our patsnt papers, hy the Express of to-day. We also return our thanks to you for ths strict attsntion and ahility shown in our hehalf. Yours truly,
GEORGE L. FITCH, HENRY M. JONES.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements

Bunker Hill Quartz Mining Company—Location of works, Amador, Amador County, California. Office, No. 13 First street, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment (No. 12) of Ten Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 13 First street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 20th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WALES L. PALMER, Secretary.
Office, No. 13 First street, San Francisco, Cal. no15

Black Mountain Coal Mining Company—Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. no1

Buena Vista Petroleum Company.—Location of principal place of business, San Francisco, California. Location of works, Bueua Vista, Kern County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 26th day of September, 1873, the soveral amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Stephen Bond	248	150	$150 00
Stephen Bond	243	70	70 00
John Hamhloton		30	30 00
Wm S Kavanangh		20	20 00
J C Lovejoy	203	5	5 00
J C Lovejoy	247	20	5 00
John Pfeifls	229	5	5 00
Chas Sleeper	105	1	1 00
Chas Sleeper	106	1	1 00
Chas Sleeper	107	1	1 00
Chas Sleeper	108	1	1 00
Chas Sleeper	109	1	1 00
Chas Sleeper	110	1	1 00
Chas Sleeper	111	1	1 00
Chas Sleeper	112	1	1 00
Chas Sleeper	113	1	1 00
Chas Sleeper	114	1	1 00
Chas Sleeper	115	1	1 00
Chas Sleeper	116	1	1 00
Chas Sleeper	117	1	1 00
Chas Sleeper	118	1	1 00
Chas Sleeper	119	1	1 00
Chas Sleeper	120	1	1 00
Chas Sleeper	121	1	1 00
Chas Sleeper	122	1	1 00
Chas Sleeper	125	1	1 00
Chas Sleeper	126	1	1 00
Chas Sleeper	127	1	1 00
Chas Sleeper	128	1	1 00
Chas Sleeper	129	1	1 00
Chas Sleeper	130	1	1 00
Chas Sleeper	131	1	1 00
Chas Sleeper	132	1	1 00
Chas Sleeper	133	1	1 00
Chas Sleeper	134	1	1 00
Chas Sleeper	135	1	1 00
Chas Sleeper	136	1	1 00
Chas Sleeper	137	1	1 00
Chas Sleeper	138	1	1 00
Chas Sleeper	139	1	1 00
Chas Sleeper	140	1	1 00
Chas Sleeper	141	1	1 00
Chas Sleeper	142	1	1 00
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Chas Sleeper	179	1	1 00
Chas Sleeper	180	1	1 00
Chas Sleeper	181	1	1 00
Chas Sleeper	182	1	1 00
Chas Sleeper	183	1	1 00
Chas Sleeper	184	1	1 00
Chas Sleeper	185	5	5 00
Chas Sleeper	186	5	6 00
Chas Sleeper	187	6	5 00
Chas Sleeper	188	5	5 00
Chas Sleeper	183	5	5 00
Chas Sleeper	130	5	6 00
Chas Sleeper	131	5	6 00
Chas Sleeper	132	5	5 00
Chas Sleeper	133	5	5 00
Chas Sleeper	194	6	5 00
Chas Sleeper	135	6	5 00
Chas Sleeper	196	5	5 00
Chas Sleeper	137	10	10 00
Chas Sleeper	198	10	10 00
J Castagnetto	1	10	10 00
J Castagnetto	210	10	10 00
Frank Chevillot	28	20	20 00
H G Crane	40	1	1 00
H G Crane	41	1	1 00
H G Crane	42	1	1 00
H G Crans	43	1	1 00
H G Crane	44	1	1 00
H G Crane	45	1	1 00
H G Crane	46	1	1 00
H G Crane	47	1	1 00
H G Crane	48	1	1 00
H G Crane	43	1	1 00
H G Crane	50	1	1 00
H G Crane	51	1	1 00
H G Crane	52	1	1 00
H G Crane	53	1	1 00
H G Crane	54	1	1 00
H G Crans	55	1	1 00
H G Crans	56	1	1 00
H G Crans	57	1	1 00
H G Crane	58	1	1 00
H G Crane	59	1	1 00
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H G Crane	61	1	1 00
H G Crane	62	1	1 00
H G Crane	63	1	1 00
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H G Crane	65	1	1 00
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H G Crane	75	1	1 00
H G Crone	76	1	1 00
H G Crane	77	1	1 00
H G Crane	78	1	1 00
H G Crane	79	1	1 00
H G Crane	80	1	1 00
H G Crane	81	1	1 00
H G Crane	82	1	1 00
H G Crane	83		00
H G Crane	84	1	1 00
H G Crane	85		00
H G Crane	86	1	1 00
H G Crane	87	1	1 00
H G Crane	88	1	1 00
H G Crane	89	1	1 00
J J Cook	29	5	5 00
Scalmanlni & Frapolli	204	5	5 00
Scalmanini & Frapolli	205	5	5 00
Youse & Wilcox (not issued)		175	175 00
E O Darling	215	10	10 00
E O Darling	225	10	10 00
Geo Petit	218	1	1 00
Jns Dolan	221	10	10 00
Hugh Hannah	223	20	20 00
W B Floyd	234	20	20 00
Edwin Moore	235	80	80 00
N G Woodward	236	90	90 00
Alexander Deering	238	5	5 00
James Hamhleton (not issued)		30	30 00
C E Farnsworth	246	50	50 00
C E Farnsworth	255	30	30 00
Geo Roherts	39	20	20 00
J A Henry	27	20	20 00

And in accordance with law, and an order of the Board of Directors, made on the 25th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 430 Jackson street, San Francisco, California, on Tuesday, the 25th day of November, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

L. AGUAYO, Secretary.
Office, 430 Jackson street, San Francisco, Cal. no16

POSTPONEMENT.—BUENA VISTA PETROLEUM COMPANY.—The above sale is hereby postponed until Wednesday, Decemher 10, 1873, at the same hour and place. By order of the Board of Directors.

L. AGUAYO, Secretary.

Cupel and Tiger Silver Mining Company—Principal place of business, San Francisco, California. Location of works, Walapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 25th day of October, 1873, an assessment of Twenty Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Wednesday, the 26th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Saturday, the 20th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. C. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, Cal. San Francisco, October 25, 1873.

Cornet Consolidated Mining and Milling Company.—ANNUAL MEETING.—The annual meeting of stockholders in the above Company will be held at the office, No. 116 Leidesdorff street, San Francisco, at the hour of 3 P. M., on Wednesday, Decemher 10, 1873, for the purpose of electing officers for the ensuing year.

W. AUGS. KNAPP, Secretary.
Office, 116 Leidesdorff street, San Francisco, Cal. 2t

Equitable Tunnel and Mining Company—Location of principal place of business, No. 36 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the 7th day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baker, Samuel D	5	200	$20 00
Brown, J W W	13	20	2 00
Burns, B J	274	25	2 50
Burns, B J	275	25	2 50
Carroll, James	133	40	4 00
Chapman, Mrs. Charlotte	730	150	15 00
Cohen, Jacob	464	50	5 00
Collins, Charles J	159	300	30 00
Collins, Charles J	363	20	2 00
Collins, Charles J	409	444	44 40
Collins, Charles J	434	236	23 60
Collins, Charles J	794	250	25 00
Cooper, H F	155	50	5 00
Daly, James	732	6	50
Delfs, Henry	113	10	1 00
Dinan, J B	325	50	6 00
Esten, John	176	10	1 00
Esten, John	177	10	1 00
Esten, John	178	10	1 00
Esten, John	179	10	1 00
Esten, John	180	10	1 00
Esten, John	181	10	1 00
Esten, John	182	10	1 00
Esten, John	183	10	1 00
Esten, John	184	10	1 00
Esten, John	278	10	1 00
Esten, John	283	10	1 00
Esten, John	443	100	10 00
Esten, John	444	50	6 00
Esten, John	445	50	5 00
Esten, John	447	50	5 00
Esten, John	448	50	5 00
Esten, John	449	50	6 00
Esten, John	450	50	5 00
Esten, John	451	50	6 00
Esten, John	491	10	1 00
Esten, John	492	10	1 00
Esten, John	433	10	1 00
Esten, John	494	10	1 00
Esten, John	495	10	1 00
Hayes, Henry G	613	20	2 00
Hayes, Henry G	731	25	2 50
Higgins, J F	48	50	6 00
Higgins, J F	731	1000	100 00
Higgins, J S	407	1833	183 30
Higgins, J S	488	10	1 00
Higgins, J S	490	20	2 00
Higgins, J S	601	317	31 70
Higgins, J S	676	234	23 40
Higgins, J S	737	83	8 30
Hix, Jennie	160	50	6 00
Hoffman, Mrs. G R	10	100	10 00
Hodge, A	403	10	1 00
Howland, F P	506	25	2 50
Jackson, Andrew	765	50	6 00
Jackson, Andrew	765	6	50
Kester, S B	31	100	10 00
Kester, S B	32	100	10 00
Kester, S B	33	100	10 00
Kester, S B	34	50	5 00
Kester, S B	35	50	5 00
Kester, S B	787	300	30 00
Mackley, J E	145	10	1 00
Marks, A	744	50	5 00
Marks, Bertha	122	25	2 50
Marks, Sol. L. Trustee	777	200	20 00
Michaelis, Henry	9	100	10 00
Modrey, Marcus	136	10	1 00
Newell, W. T	127	25	2 50
Parks, John C	343	10	1 00
Santiff, Nicholas	163	50	5 00
Savory, Edward	45	100	10 00
Savory, Edward	51	100	10 00
Sniffen, Elijah	19	50	5 00
Sniffen, Elijah	20	25	2 50
Sniffen, Elijah	21	25	2 50
Sniffen, Elijah	22	20	2 00
Sparrow, Wm. S	217	5	50
Spratt, Geo. S	54	25	2 50
Spratt, Geo. S	55	25	2 50
Spratt, Geo. S	56	25	2 50
Spratt, Geo. S	57	25	2 50
Spratt, Geo. S	58	25	2 50
Spratt, Geo. S	53	25	2 50
Spratt, Geo. S	60	25	2 50
Spratt, Geo. S	61	25	2 50
Spratt, Geo. S	74	50	5 00
Spratt, Geo. S	75	25	2 50
Spratt, Geo. S	75	25	2 50
Stege, John R	245	10	1 00
Trumbull, R. J	42	50	6 00
Ward, C	763	10	1 00
Werder, Max	120	25	2 50
Wheeler, Elizabeth	133	160	16 00
Wheaton, H. B	126	13	1 30
Wood, Mrs E. A	577	100	10 00

And in accordance with law, and an order of the Board of Directors, made on the seventh day of October, 1873, so many parcels of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, on Monday, the first day of Decemher, 1873, at the hour of 11 o'clock A. M., of such day, to pay delinquent assessment thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California.

Great Blue Gravel Range Mining Company—Location of Principal Place of Business, San Francisco, California. Location of Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of Novemhsr, 1873, an assessment of Ten cents (10c.) per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Rooms 5 aad 6, No. 302 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on Monday the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquant assessment, together with costs of advertising and expenses of sale. By order of the Directors.

WM. H. WATSON, Sec'y.
Office, Rooms 5 & 6, No. 302 Montgomery street.

Gold Mountain Mining Company—Principal place of business, San Francisco, California. Location of works, Lower Rancheria, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 31st day of October, 1873, an assessment of 25 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at No. 116 Leidesdorff street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the Fifth day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. AUG. KNAPP, Secretary.

Office, 116 Leidesdorff street, San Francisco, Cal. no8

Homiguera Mining Company—Location of principal place of business, City of San Francisco, California. Location of works, San Antonio District, Lower California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 29th day of July, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bayerque, Romain	24	100	300 00
Bayerque, Romain, Dec'd } C. Livermore and A. Borch } Executors.	38	17	51 00
Benchky & Co, L B	26	134	402 00
Benchky & Co, L B	36	24	72 00
Butterworth, S F	32	1400	4200 00
Butterworth, S F	37	245	735 00
Dauriac, Juan	20	103	327 00
Dauriac, Juan	39	19	67 00

Names.	No. Certificate.	No Shares.	Amount.
Flint, Edward P.	12	1632	4896 00
Flint, Edward P.	40	285	855 00
Flint, Edward P., Trustee.	29	1200	3600 00
Flint, Edward P., Trustee.	41	210	630 00
Flint, Edward P., Trustee.	48	4	12 00
Friedlander, J, Trustee.	23	1259	3777 00
Rankin, Ira P.	25	5	15 00
Rankin, Ira P.	42	220	660 00
Robinson, James P.	33	2000	6000 00
Robinson, James P.	43	350	1050 00
Robinson, L L.	27	1925	5775 00
Robinson, L L.	35	340	1020 00
Robinson, L L.	44	398	1194 00
Robinson, E N.	34	10	30 00
Russell & Erwin Manufacturing Co.	31	370	1110 00
Russell & Erwin Manufacturing Co.	45	64	192 00
Smith, Hamilton, Jr.	17	100	300 00
Smith, Hamilton, Jr.	46	17	51 00
Vermot, Felix.	21	54	162 00
Vermot, Felix.	47	0	27 00

And in accordance with law and two orders of the Board of Directors, made on the 29th day of July, 1873, and on the first day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of L. L. Robinson, the President of the Company, No. 608 Washington street, corner of Montgomery street, in the city and county of San Francisco, Cal., on Thursday, the 27th day of November, 1873, at the hour of one o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. PICHOIR, Secretary pro tem.

Office, No. 608 Washington street, San Francisco, Cal.

Lady Franklin Gold and Silver Mining

Company. Location of principal place of business, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 14th day of October, 1873, an assessment of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office, 507 Montgomery street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 22d day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the fifteenth day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary.

Office, No. 507 Montgomery street, San Francisco, California. oct8

Ida and Rhoda Lewis Consolidated Mining

Company. Principal place of business, San Francisco, California. Location of works, Walapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 24th day of October, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 29th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Wednesday, the 24th day of December, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, Cal. San Francisco, October 27, 1873.

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 5) levied on the seventh day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bennett R K.	15	100	$10 00
Collins Chas J.	392	500	50 00
Collins Chas J.	393	500	50 00
Collins Chas J.	413	1000	100 00
Cooper J B.	120	100	10 00
Eade George C.	329	100	10 00
Eada George C.	330	100	10 00
Eado George C.	331	100	10 00
Eade George C.	332	100	10 00
Eade George C.	333	100	10 00
Eade George C.	409	1000	100 00
Eade George C.	410	1000	100 00
Higgins J T, Trustee.	421	100	10 00
Higgins J T, Trustee.	422	45	4 50
Higgins Jas S, Trustee	318	667	66 70
Higgins Jas S, Trustee.	348	10	1 00
Higgins Jas S, Trustee.	353	10	1 00
Samuff Nicholas.	63	50	5 00
Thompson R E.	87	10	1 00
Wheeler Elizabeth.	1	100	10 00
Wheeler Elizabeth.	226	100	10 00

And in accordance with law, and an order of the Board of Directors, made on the seventh day of October, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the compsny, No. 35 New Merchants' Exchange, San Francisco, on Monday, the first day of December, 1873, at the hour of 11 o'clock, A. M., of snch day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. no15

Lemon Mill and Mining Company—Principal

place of business, City and County of San Francisco, State of California. Location of works, Eureka Mining District, Eureka County, State of Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 27th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E Van Santen, Trustee.	2	100	$50 00
E Van Santen, Trustee.	3	100	50 00
E Van Santen, Trustee.	4	100	50 00
E Van Santen, Trustee.	6	100	50 00
E Van Santen, Trustee.	7	100	50 00
E Van Santen, Trustee.	9	8	4 00
E Van Santen, Trustee.	58	100	50 00
E Van Santen, Trustee.	59	100	50 00
E Van Santen, Trustee.	72	102	51 00
E Van Santen, Trustee.	73	10	5 00
E Van Santen, Trustee.	119	364	182 00
E Van Santen, Trustee.	121	100	50 00
E Van Santen, Trustee.	215	190	95 00
E Van Santen, Trustee.	279	190	95 00
E Van Santen, Trustee.	280	1542	771 00
E Van Santen, Trustee.	327	80	40 00
Camilo Martin, Trustee.	172	200	100 00
Camilo Martin, Trustee.	173	100	50 00
Camilo Martin, Trustee.	307	632	315 00
Camilo Martin, Trustee.	308	640	323 00
E Hestres.	23	53	26 50
E G Lyons.	24	53	26 50
H Zeitska.	287	100	50 00
P Caeson.	29	40	20 00
P Casson.	30	40	20 00
P Casson.	125	20	10 00
P Cassou.	204	15	7 50
P Casson.	225	40	20 00
P Cassou.	226	10	5 00
Paul Rousset.	31	27	13 50
John Schott, Trustee.	37	50	25 00
H F Kappke.	43	27	13 50
John Hahn.	44	20	10 00
Erhard Weissig, Trustee.	50	50	25 00
Erhard Weissig, Trustee.	229	10	5 00
Erhard Weissig, Trustee.	230	38	19 00
Erhard Weissig, Trustee.	237	11	5 50
Erhard Weissig, Trustee.	238	6	3 00
Erhard Weissig, Trustee.	239	20	10 00
Erhard Weissig, Trustee.	240	10	5 00
Erhard Weissig, Trustee.	241	20	10 00
Erhard Weissig, Trustee.	242	62	31 00
Erhard Weissig, Trustee.	250	50	25 00
Erhard Weissig, Trustee.	255	25	12 50
Erhard Weissig, Trustee.	256	10	5 00
Erhard Weissig, Trustee.	258	3	1 50
Theo Le Roy.	52	26	13 00
L Ponton de Arce, Trustee.	54	50	25 00
N Duchek.	62	24	12 00
J M Brticeland.	330	200	100 00
J M brticeland.	331	250	125 00
T J Stock.	66	50	25 00
T J Stack.	67	50	25 00
T J Stack.	234	100	50 00
A E Lelievre.	76	200	100 00
L Scellier.	77	53	26 50
N Gaxiola.	81	53	20 50
N Gaxiola.	82	50	25 00
Jas Thos Boyd.	80	20	10 00
Jas Thos Boyd.	87	20	10 00
Jas Thos Boyd.	88	13	6 50
B Mendessolle.	326	10	5 00
Edwin Goodall.	97	25	12 50
W H Richardson.	101	100	50 00
H H Noble, Trustee.	110	53	20 50
H H Noble, Trustee.	274	50	25 00
John Fay, Trustee.	113	200	100 00
John Fay, Trustee.	114	200	100 00
John Fay, Trustee.	115	200	100 00
John Fay, Trustee.	116	200	100 00
John Fay, Trustee.	117	200	100 00
H H Schafer, Trustee.	205	50	25 00
H H Schafer, Trustee.	200	50	25 00
H H Schafer, Trustee.	207	50	25 00
H H Schafer, Trustee.	218	25	12 50
H H Schafer, Trustee.	219	25	12 50
H H Schafer, Trustee.	260	100	50 00
H H Schafer, Trustee.	270	50	25 00
H H Schafer, Trustee.	271	100	50 00
H H Schafer, Trustee.	272	100	50 00
H H Schafer, Trustee.	273	100	50 00
H H Schafer, Trustee.	328	25	12 50
H H Schafer, Trustee.	329	131	65 50
H H Schafer.	139	200	100 00
H H Schafer.	140	200	100 00
Henry Steinegger.	151	40	20 00
Carl Keller.	160	10	5 00
Andrew J McGovern.	163	50	25 00
Edouard Cunin.	170	182	91 00
Ed Richard.	178	210	105 00
Ed Richard.	179	160	80 00
E A Richardson, Trustee.	181	100	50 00
E A Richardson, Trustee.	182	100	50 00
E A Richardson, Trustee.	183	100	50 00
E A Richardson, Trustee.	184	100	50 00
E A Richardson, Trustee.	185	100	50 00
E. A. Richardson, Trustee.	203	400	200 00
John C. Benz.	190	12	6 00
J. C. Bollinger.	297	50	25 00
G. Almadn.	196	5	2 50
F. W. Lougee.	197	53	26 50
G. Beer.	203	54	27 00
Elizabeth School, Trustee.	210	20	10 00
Ellen J. Hyde, Trustee.	211	10	5 00
Ellen J. Hydo, Trustee.	213	10	5 00
Georgia School.	214	10	5 00
John W. Kohler.	227	50	25 00
John W. Kohler.	294	50	25 00
John W. Kohler.	295	100	50 00
B. Heringbl, Trustee.	228	25	12 50
B. Heringhl, Trustee.	235	25	12 50
B. Heringbl, Trustee.	280	56	28 00
B. Heringbl, Trustee.	289	41	20 50
B. Heringbl, Trustee.	290	22	11 10
G. M. Johnson.	231	30	15 00
D. W. Davies, Trustee.	245	10	5 00
D. W. Davies, Trustee.	247	10	5 00
D. W. Davies Trustee.	204	15	7 50
Clement Smith.	309	10	5 00
F. J. Thibault, Trustee.	Not issued	53	25 50

And in accordance with law, and an order of the Board of Directors, made on the 27th day of September, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public Auction at the office of the Company, No. 608 Merchant street, San Francisco, California, on Monday, the 24th day of November, 1873, at the hour of 12 o'clock M, of said day, to pay said Delinquent Assessment thereon, together with costs of advertising and expenses of tha sale.

I. T. MILLIKEN, Secretary.

Office, 608 Merchant street, San Francisco, Cal.

Ophir Copper, Silver and Gold Mining

Company—Location of worke, Ophir, Placer County, State of California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 4, Duncan's Building, 411½ California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 5th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

O. H. BOGART, Secretary.

Office, No. 411½ California street, San Francisco, California. no15

Ohio Consolidated Gold Mining Company.

Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ecker, Geo O.	13	100	$15 00
Ecker, Geo O.	14	100	15 00
Ecker, Geo O.	15	100	15 00
Ecker, Geo O.	17	100	15 00
Ecker, Geo O.	184	500	75 00
Ecker, Geo O.	185	500	75 00
Wayman, W G.	46	150	22 50
Knapp, W A, Trustee.	91	150	22 50
Knapp, W A, Trustee.	236	100	15 00
Knapp, W A, Trustee.	237	100	15 00
Krapp, W A, Trustee.	239	100	15 00
Knapp, W A, Trustee.	240	100	15 00
Bash, Henry.	81	100	15 00
Bash, Henry.	214	50	7 50
Doro, B, Trustee.	288	50	7 50
Doro, B, Trustee.	291	50	7 50
Searles, J W.	207	100	15 00
Wood, J H, Trustee.	225	100	15 00
Wood, J H, Trustee.	334	100	15 00
Wood, J H, Trustee.	350	100	15 00
Wood, J H, Trustee.	351	100	15 00
Knapp, W A, Trustee.	248	800	120 00
Knapp, W A, Trustee.	152	100	15 00
Knapp, W A, Trustee.	272	100	15 00
Knapp, W A, Trustee.	273	100	15 00
Knapp, W A, Trustee.	264	50	7 50
Knapp, W A, Trustee.	271	50	7 50
Knapp, W A, Trustee.	275	100	15 00
Knapp, W A, Trustee.	324	50	7 50
Knapp, W A, Trustee.	345	300	45 00
Knapp, W A, Trustee.	347	50	7 50
Knapp, W A, Trustee.	352	100	15 00
Knapp, W A, Trustee.	353	100	1 500
Knapp, W A, Trustee.	354	105	15 00
Wood, S H.	356	400	60 00
Knapp, W A, Trustee.	365	100	15 00
Knapp, W A, Trustee.	367	100	15 00
Knapp, W A, Trustee.	372	100	15 00
Knapp, W A, Trustee.	374	100	15 00
Fisher, E, Trustee.	379	100	15 00
Wood, J H.	380	100	15 00
Wood, J H.	381	100	15 00
Wood, J H.	382	100	15 00

And in accordance with law and an order of the Board of Directors, made on the 14th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the company, on the 5th day of December, 1873, at the hour of one o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Sec'y.

Office—116 Leidesdorff St., cor. of Halleck, San Francisco, Cal. no22

Pacific Asbestos Mining and Mannfacturing

Company—Principal place of business, San Francisco, Cal. Location of works, Placer County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 11th day of November, 1873, an assessment of Six Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment together with costs of advertising and expenses of sale. By order of the Board of Directors.

H. E. CONODON, Secretary.

Office, No. 306 Montgomery street, San Francisco, Cal.

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 27th day of October, 1873, an assessment (No. 5) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary. Any stock upon which this assessment shall remain unpaid on the 29th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 22d day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, Cal. nov1

Southern Pacific Consolidated Gold Mining

Company—Principal place of business, San Francisco, California. Location of works, Kern County California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 11th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Dan H Bibh.	17	100	$10 00
A O Thoms.	21	228	22 80
J N Risdon.	22	200	20 00
W F Golden.	24	457	45 70
E T Carrique.	25	100	10 00
K S Knowlting.	26	457	45 70
H W Byington.	27	228	22 80
Louis Pierson.	28	228	22 80
W W Moore.	35	100	10 00

And in accordance with law, and an order of the Board of Directors, made on the 11th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the company, room No. 12, Express Building, San Francisco, California, on Tuesday, the Twenty-fifth day of November, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. J. EATON, Secrstary.

Office, Room No. 12, Express Building, San Francisco, California. no8

Silver Wave Mining Company—Principal

place of business, San Francisco, Cal. Location of works, White Pine Mining District, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 11) levied on the 20th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Crocker, J H, Trustee.	475	20	$8 00
Crocker, J H, Trustee.	540	300	120 00
Gates, William, Trustee.	528	50	20 00
Kent, R T, Trustee.	534	50	20 00
Marcucci, D.	542	500	200 00
Richardson, E A, Trustee.	427	30	12 00
Richardson, E A, Trustee.	445	20	8 00
Richardson, E A, Trustee.	536	250	100 00
Stevens, T H, Trustee.	530	5	2 00
Stevens, T H, Trustee.	531	3	1 20
Thompson, M, Trustee.	538	50	20 00
Thompson, M, Trustee.	539	180	72 00

And in accordance with law, and an order of the Board of Directors, made on the 20th day of September, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction, at the office of the Company, on Tuesday, the 25th day of November, 1873, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

J. W. CLARK, Secretary.

Office, 418 California street, San Francisco, Cal. n8

San Francisco Co-operative Land and

Building Association.—Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described shares on account of monthly installments up to and including the month of September, 1873, as provided in the By-Laws of said association, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Shares.	Amount.
James Adams.	5	$30 00
Frank E Brown.	1	14 00
H G Bloomer.	3	42 00
Mrs Mary D Barnes.	5	25 00
Thos Boyce.	5	55 00
F G L Edwards.	2	4 00
Henry Egan.	2	14 00
Henry Horstman.	2	20 00
Carsten Joost.	5	55 00
Geo E Lane, Jr	10	90 00
F J Maynard.	10	30 00
Chris Mordaunt.	2	26 00
E C Newhoff.	3	18 00
F Ort man.	2	26 00
Cleveland Rockwell.	5	35 00
Thos S Russell.	2	12 00
Dr B J Smitb.	1	13 00
Miss O Smith.	1	13 00
Mrs Aug Smith.	1	13 00
S K Thornton.	10	120 00
D W White.	5	45 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of November, 1873, so many shares of each parcel above specified as may be necessary, will be sold at public auction, to the highest bidder for cash, at the auction salesroom of John Middleton & Son, No. 310 Montgomery street, San Francisco, Cal., on Tuesday, December 2d, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent installments, together with fines, costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office, 306 Mongomery street, San Francisco, Thompson Coal Mining Company, California, Nov. 16, 1873.

State of Maine Mill and Mining Com-

pany—Principal place of business, San Francisco, Cal. Location of works, Amador County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the First day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, James M, Trustee.	78	100	$5 00
Beach, H H.	3	1000	50 00
Beach, H H.	18	1000	50 00
Beach, Mrs Ella.	23	400	20 00
Burr, Platt, Trustee.	52	20	1 00
Burr, Platt, Trustee.	67	50	2 50
Congdon, H B.	37	100	5 00
Congdon, H B, Trustee.	40	500	25 00
Congdon, H B, Trustee.	62	100	5 00
Congdon, H B, Trustee.	63	100	5 00
Congdon, H B, Trustee.	64	100	5 00
Congdon, H B, Trustee.	65	100	5 00
Congdon, H B, Trustee.	66	100	5 00
Congdon, H B, Trustee.	67	100	5 00
Congdon, H B, Trustee.	68	100	5 00
Congdon, H B, Trustee.	69	100	5 00
Congdon, H B, Trustee.	70	100	5 00
Congdon, H B, Trustee.	71	100	5 00
Congdon, H B, Trustee.	81	100	5 00
Congdon, H B, Trustee.	82	100	5 00
Congdon, H B, Trustee.	87	3000	180 00
Faulkner, Wm, Trustee.	94	466	23 30
Faulkner, O P.	90	200	10 00
Higgins, V H.	4	1000	50 00
King, James, L.	99	2000	100 00
Irelsn, Wm.	80	100	5 00
Morse, A C, Trustee.	42	500	25 00
Morse, A C, Trustee.	43	500	25 00
Morris, Wm Mo.	93	1400	70 00
Tilley, Charles B.	1	1634	81 70
Tilley, W J.	01	1000	50 00
Tower, L N.	28	100	5 00

And in accordance with law, and an order of the Board of Directors, made on the First day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the auction sales rooms of John Middleton & Sons, No. 310 Montgomery street, San Francisco, Cal., on Monday, the 24th day of November, 1873, at the honr of 12 o'clock M. of said day, to pay said delinquent assessement thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON.

Office, 306 Montgomery street, San Franc

Thompson Coal Mining Company—Prin-

cipal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at bis office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of November, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 24th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, California. no1

Umpire Tunnel and Mining Company—

Principal place of business, No. 230 Kearny street, San Francisco, Cal. Location of works, Big Cottonwood Mining District, Salt Lake County, Utah Territory.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of October, 1873, an assessment (No. 2) of Six Cents per share was levied upon the capital stock of the corporation, payable immediately, in United States currency, to the Secretary, at the office of the company, No. 230 Kearny street, San Francisco, California, or to W. A. Beal, President.

Any stock upon which this assessment shall remain unpaid on the 24th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 15th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

Virginia Consolidated Mining Company.

Location of principal place of business, San Francisco, State of California. Location of works, Kearsarge Mining District, Inyo County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
R M Shuey.	7	1364	$68 20
R M Shuey.	53	151	7 55
George Hearst.	11	4090	204 50
George Hearst.	54	454	22 70
Edward Mohan.	53	224	11 20
Edward Mohan.	54	910	45 50
Edward Mohan.	55	455	22 75
Edward Mohan.	56	1365	68 25
Edward Mohan.	67	455	22 75
Edward Mohan.	72	378	18 90

And in accordance with law, and an order of the Board of Directors, made on the 13th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Doré & Co., No. 317 Montgomary street, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street (Room No. 13), San Francisco, Cal. n22

Washington Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Mariposa County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 30th day of October, 1873, an assessment of One Dollar per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 318 California street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 8th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 31st day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, Room No. 13, No. 318 California street, San Francisco, Cal. no8

Wyoming Gold Mining Company—Loca-

tion of works, Nevada County, California. Location of principal place of business, 410 Montgomery street, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 13th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
S Hass.	177	100	$25 00
J E Legge.	97	100	25 00
Mrs Martha Munn.	55	100	25 00

And in accordance with law, and an order of the Board of Directors, made on the 13th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal., on Monday, the 8th day of December, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. J. GUNN, Secretary.

Office, 410 Montgomery street, San Francisco, Cal.

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ESTABLISHED 1851.

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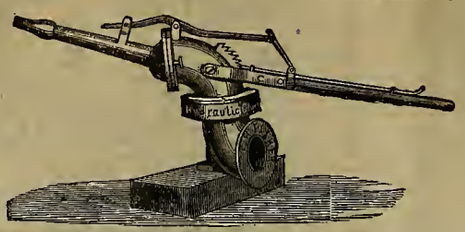

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

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I Guarantee Full Indemnity to all my Customers.

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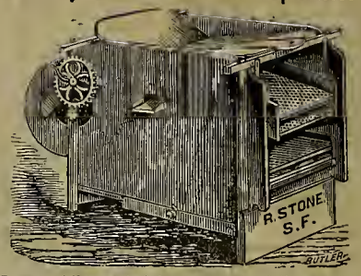

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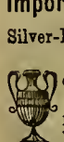

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16v20-3m JOHN F. LOHSE, Secretary.

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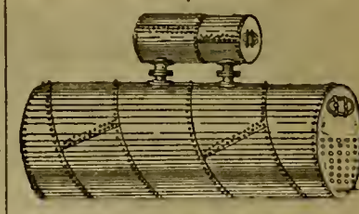

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[MINING SUMMARY.—Continued from Page 324.]

in the bottom working finely and the sinking making excellent progress. There is no wa ter to impede sinking.

SAVAGE.—Sinking the main incline is making good headway. Prospecting the lower levels continues without change.

EMPIRE.—Still driving the east cross-cut from the main south drift on the 1,700-ft. level.

YELLOW JACKET.—Still drifting and prospecting on the lower levels.

KNICKERBOCKER.—The erection of the new hoisting and pumping machinery is making rapid progress.

AMERICAN FLAT.—The main southwest drift at the third station is still driven ahead, showing considerable improvement in the ore during the week.

DAYTON.—The winze from the first station has made connection with the up-raise from the second, giving a good circulation of air, and proving the ore body continuous from one level to the other. The main north drift at the second station, is again being driven ahead, the face in fine ore. At the point where they turn westward, to cross the ledge 60 ft. north of the main west tunnel, was made, a drift has been started directly north, the face of which is in fine ore. The main south drift on this level is still in ore of an excellent quality. The course of the main north drift, at the third level, has been changed, 115 ft. from the main tunnel, to an almost westerly course, to cross-cut the ledge and reach the west clay wall.

UTAH.—The main west drift, at the first station, is in 94 ft., the ground working very favorably, and rapid progress being made. Guides have been extended the entire length of the shaft, and the cages are now ready for operation.

JUSTICE.—The ore body recently developed in the north drift at the 300-ft. level is about 8 ft. wide, of good milling ore, and has been traced a distance of 60 ft., gradually widening to the northward. This ore is being extracted for milling at the rate of 20 tons per day. Extracting ore from the Waller-Defeat shaft, as usual.

CROWN POINT.—Daily yield 400 tons of ore. The ore breasts and stopes on the different levels are yielding finely. The middle winze from the 1,300 to the 1,400-ft. levels is still pushed steadily ahead, the bottom in fine ore. The south winze on the same level, on the line of the Belcher is down 55 ft., also in rich ore. The main south drift on the 1,400-ft. level is still driven vigorously ahead without change of interest. The main south drift on the 1,500-ft. level has been suspended on account of the intense heat until that portion already run can be enlarged and made double so as to create a circulation of air. The mills on the river are all steadily running with increased facilities for crushing the ore.

BELCHER.—Daily yield 540 tons. The main incline is down 160 ft. below the 1,300-ft level. The east drift on the same level is in from the incline, 140 ft. The winze started from the 1,300-ft. level is down 165 ft. in splendid ore. The south drift on the 1,300-ft. level is in 462 ft., still in ore. The drift at the 850-ft level is in 140 ft.

OVERMAN.—The main west drift at the 1,200 ft. level is being pushed ahead toward the ledge as rapidly as possible, the rock in the face working finely. Cross-cutting and prospecting on the 1,000-ft. level is still prosecuted with vigor.

GOULD & CURRY.—No ore is at present extracted from this mine. The explorations on the lower levels are principally directed eastward. The cross drifts on the 1,500, 1,600 and 1,700-ft. levels are being driven ahead without intermission. There is no change to report in the appearance of the ground penetrated by these cross-cuts since our last report.

DARDANELLES.—This company are about to institute a new and effective movement toward the prospecting of the southern portion of their valuable ground, by sinking their new shaft.

Idaho.

SOUTH CHARIOT.—Owyhee *Avalanche*, Nov. 8: The northern portion of this mine undoubtedly has an extensive body of ore which two levels already have reached and for which the other levels will be pushed ahead. The developments now made and in progress in this mine will, we feel confident, open up a mine second to none in camp.

RED JACKET.—The main shaft is down 180 ft. from the surface, and is still being sunk at a rapid rate. Steam hoisting machinery is now being put up on the mine. The main shaft will continue to go down, and the several veins, in close proximity to the Jacket, will be prospected in depth.

IDA ELLMORE.—A large amount of "dead work" is being done in this mine at present. A recent crushing of 27½ tons of ore from the 10th level yielded $2,479.58, being a trifle over $90 per ton.

MAHOGANY.—The shaft is down to the 8th level, and as soon as a pump can be sunk, the cross-cut will be started to tap the ledge. The 8th level drift has been run 114 feet each way from the winze, which is 240 ft. south of the shaft. The 7th level stopes continue looking well, and are yielding plenty of ore.

GOLDEN CHARIOT.—The Minnesota has been merged into and consolidated with the Golden Chariot, under which name the entire concern is now known in the Stock Board.

THE Golden Chariot keeps the Ellmore mill busy crushing its ore, and, at the same time, is doing a large amount of prospecting. The sixth level is showing a splendid 2-ft. vein [throughout. The eighth level is also going ahead on an 18-inch vein of fine milling ore. In the ninth level there is also a splendid prospect, showing a vein of 20 inches in width, that will mill at least $90 to the ton.

Colorado.

SAN JUAN MINES.—The *Mining Review* says: A rush is taking place for the San Juan mines, occasioned by the splendid showing of specimens made at the Territorial Fair. It can only be considered as a most unfortunate excitement, as those who are inside the ring and have a knowledge of ores from that district can testify. Probably some great discoveries will be made this winter, but we may also expect to hear of many disappointments, and possibly much suffering from the hold prospectors who have started out for a new country in the beginning of winter.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., November 18th, 1873.

FOR WEEK ENDING NOV. 3D, 1873.*

ARTIFICIAL CROWN FOR TEETH.—John B. Beers, S. F., Cal.

GLOVE FASTENER.—Letitia Ferris, S. F., Cal.

COMPOUND FOR CLEANING METALS.—William Z. Moore, Vallejo, Cal.

BLOW-PIPE.—John E. McClure, S. F., Cal., and Danforth H. Ainsworth, Salinas City, Cal.

TRADE-MARK.

WHISKY.—Livingston & Co., S. F., Cal.

*This patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

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HENRY PHILIPS, General Manager.
JOHN G. BAKER, Secretary.
21v27-3m

VALUABLE

MILL AND MINING PROPERTY

For Sale.

Proposals for the purchase of the Mill, Furnaces and Mines of the Mendha Silver Mining Company, situated at Highland, (near the town of Pioche) Lincoln county, State of Nevada, either as a whole or separately, will be received by the undersigned, at their office, Room 21, 411½ California Street, San Francisco.

HENRY C. HYDE,
W. A. SCOTT, Jr.,
Assignees of the Mendha Silver Mining Co., Bankrupt.
Dated San Francisco, Nov. 14, 1873.

MAGAZINES.	P. An.
Harper's	$4 00
Atlantic	
Godey	
New York Ledger	
Blackwood	
Hours at Home	
Good Words	
Peterson's	3 00
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London Society	6 00
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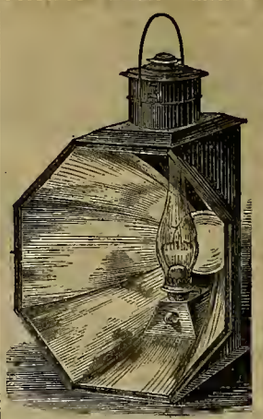

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21v27-eow-3m

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19v27-eow16p

NOTICE TO BUILDERS.

SEALED PROPOSALS, for furnishing certain materials and constructing a portion of the Napa State Asylum Building for the insane, will be received at the office of the President of the Board, No. 204 Sutter street, San Francisco, until 12 o'clock M. of the 30th day of October, 1873.

The printed specifications and printed forms of proposals can be had on application to Messrs. Wright & Sanders, Architects, 418 California street, where plans and drawings can be seen and all further information obtained. No bids will be entertained unless made on the specified printed forms of proposals and accompanied with a certified check or bond with two or more good and sufficient sureties, in a sum equal to ten per cent. of the total sum of the tender, to be returned on the due entering into the contract by the party to whom it may be awarded, or to be forfeited if the party fails to enter into the said contract.

The Board reserves the right to reject any or all bids.

oc4-td J. F. MORSE, President of the Board.

The time for receiving the above tenders is extended until 12 o'clock M. on THURSDAY, November 20th next.

J. F. MORSE, President.

Oak-Tanned LEATHER Belting

A LARGE, FRESH STOCK just in, of Pawtucket manufacture, for California trade, HEAVY, STRONG and DURABLE. TREADWELL & CO.,
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NOTICE.

To Plumbers, Tinners, Metal Roofers, Type Founders, Iron Founders, Etc.

F. C. BELDEN & CO., METALLURGISTS, are now manufacturing at their works, No. 215 FIRST STREET, SAN FRANCISCO, a superior quality of

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Which they can supply, in quantities to suit, at a MUCH LOWER PRICE than any wholesale house in this city.

F. C. BELDEN & CO.
18v6-3m-16p 215 First street, San Francisco.

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PURCHASERS please say advertised in Scientific Press.

GIANT POWDER.

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THE ONLY SAFE BLASTING POWDER IN USE.

GIANT POWDER, NO. 1,

For hard and wet Rock, Iron, Copper, etc., and Submarine Blasting.

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For medium and seamy Rock, Lime, Marble, Sulphur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, etc.

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HALLIDIE'S

Patent Endless Wire Ropeway.

Covered by Numerous U. S. Patents.

IMPORTANT TO

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah. Superintendent's Office, Sept. 23, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully, L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

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MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, NOVEMBER 29, 1873.

VOLUME XXVII. Number 22.

Concentration of Ores.

There has been during the last five or six years, considerable improvement in the concentration of ores in Pribram, Bohemia, in consequence of which the very extensive self-discharging rotary tables have been entirely abandoned and replaced by Rittinger's continuous percussion tables. This contrivance consisting of two partitions, or rather two tables, on one frame, costs about $400 in Pribram. The only improvement on this machine for many years, has been the substitution of a large polished marble plate forming the bottom, on which the separation takes place. One double percussion table has two marble places 4 feet by 8 each, in an iron frame, in place of wood, which, before the adoption of the marble, was coated with vulcanized white india rubber, answering better than plain wood, but not very durable. The marble plate, is, of course, more expensive. Formerly these tables were used for concentration of sands coming from the battery and the rotary tables received the slimes. Now, since the introduction of jiggers, improved so fine that grains of from 3 to 1 *m* in size can be advantageously and better treated than on percussion tables, these latter concentrators receive only slimes, and the rotary tables are put out of work entirely.

The loss of metal, or its value, on the best tables was from 20 to 25 per cent. if operating on galena, or lead glance of common kind. This loss increased proportionately, in case the ore contained a large amount of silver fahl ore. Included in the above mentioned 20 or 25 per cent. loss, is also that part which floats out of the last tank. Concentrating on rotary tables up to 30 per cent., the loss as stated in Rittinger's work on concentration, was 19 per cent. of which 7 per cent. floated away before concentration. This loss would have been more than doubled if the concentration had been carried on to 60 per cent. Saving the floating slime which carried the 7 per cent. would influence the total loss very little at a higher concentration, as it consists of the very finest slime subjected to the heaviest loss.

The jiggers for fine sand, as at present in operation at Pribram, are explained by the accompanying disgrams.

Figure 1 shows a sectional cut across the machine, and Fig. 2 is a sectional view lengthwise. The box, four feet by six, is first separated into two independent compartments (Fig 2), the lower end of each terminating in a funnel, and each funnel box is again parted through a partition, but only in the upper part, not reaching the bottom (Fig. 1.) On one side is the sieve, *a*, and in the other partition the piston, *i*. This apartment is lined with smooth inch boards, *f*. There is room enough left between the pieton and lining to prevent a contact which would cause friction. The piston rods work on eccentrics, which are not alike in all machines, each sort of grain requiring a different lift of the pieton.

The water communicates in both partitions. The screw *g*, with the frame-work, rests on the fixed frame c, and can easily be removed. Although the machine does not require the force of even one-quarter of a horse power, it must nevertheless be firmly secured by bolts to the foundation. The valve, *d*, serves to regulate the outflow of the concentrated part, either at intervals or continuously. The area of the piston, which is six inches thick, corresponds with that of the sieve, and makes from 130 to 150 lifts per minute. It was considered that a round shape below piston and sieve would agree better with the quick motion of the water from the piston to the sieve and back, but it was found afterwards ineffective, and the present form is like that shown in Fig. 1.

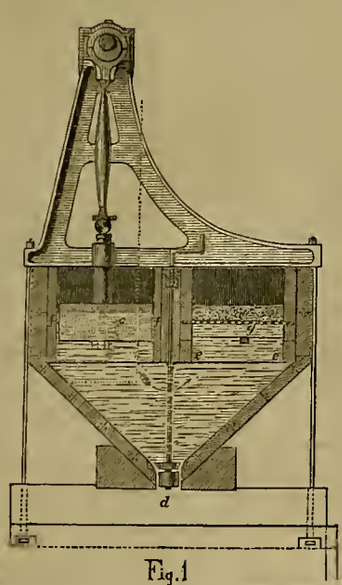

Fig. 1

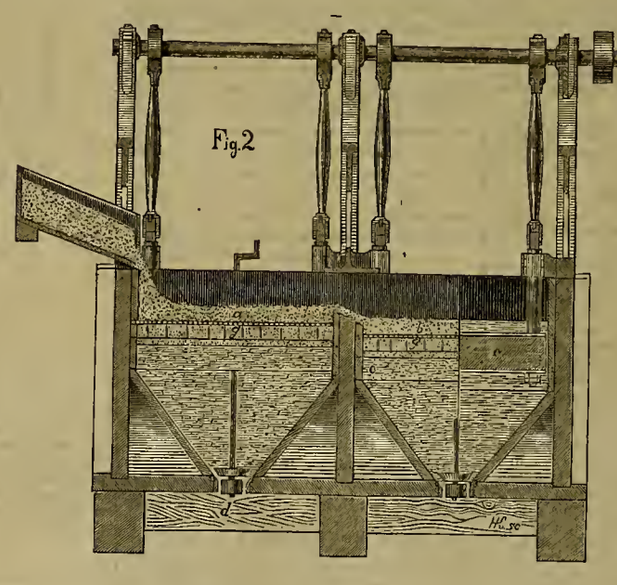

Fig. 2

CONCENTRATING JIGGER.

Retribution.

The sentence consigning the notorious "Boss Tweed" to twelve years' imprisonment is hailed with universal satisfaction by the people and press of the United States. Satisfaction at seeing men like Tweed and his associates made to feel the enormity of their offences, and gratification at knowing that the majesty of the law has prevailed. Various decisions of late, which showed that money influenced even justice, or the courts, which embody and represent justice, had made the majority of the people feel that the capitalist and the poor man were not, as they are supposed to be, equal in the eyes of the law. The decision imprisioning and fining "Boss Tweed" is, therefore, learned with a feeling akin to surprise, since the magnitude of the fortune he had stolen, was supposed to be the talisman which would influence lawyers, judges and jury in his favor.

The case has been watched with much interest, and far from being a local affair has almost become of national importance. The boldness and rapacity of the plunderers, the amounts stolen, the almost universal corruption exposed, and the facility with which it was done, have made the actions of the New York Ring known throughout the civilized world. And in this it has injured the national name. We are already called a nation of office seekers and politicians, and the name of an American abroad is coupled with the idea of money making and sharp practice. The issue of this case, therefore, involved more than a local question. Could we punish politicians for malfeasance in office? Were rich men better protected than poor ones? Could a man steal a million and go free, while the paltry offender was punished; and, "What were we going to do about it?"

These were the questions which arose in the mind of those who thought at all on the subject; and they have been answered satisfactorily. It is a good sign of the times and a suggestive one. Abuses against the government have always been treated leniently—too leniently for the good of the public morale. The higher the official the more chance of his embezzling money or perverting the duties of this office. Examples can be gathered not only from every city but every country town. Investigations are now the order of the day, but unfortunately they seldom amount to much in the end. The mere fact of their being necessary, however, is a severe commentary on the low grade of the morals of the office holder. The farmers' movement, now assuming such gigantic proportions in the land, shows that the honest men of the community think of these abuses.

The man who steals while holding offices of public trust is, in our eyes, a worse thief than he who breaks into your house at night. The former is intelligent; the latter ignorant. The public officer is placed in his position to hold in trust the money of the people and guard it against thieves. When he steals he is doubly guilty. There examples are most injurious to our young men who cannot fail to see that the men who steal most are punished least. How can we expect poor clerks to remain honest, when the leading men of their city or country are publicly denounced as dishonest, yet remain unpunished. Public opinion has heretofore treated these things too lightly, but now a revulsion has come. Dishonest men should be given the cold shoulder no matter in what circles they move, and honesty proportionately rewarded. The example of Tweed will, from its very prominence, be one that will be remembered. It will act as a wholesome safeguard against official corruption. If stealing goes on, it will never again assume such proportions, as the people will cry out against the offender, in a voice which shall influence judge and jury more than money can do. Tweed has reaped the reward due to him as the biggest thief of modern times, and the only good he has done consists in the example he has unwillingly given to the world.

Perfection in the Art of Dentistry.

Many prominent members of the dental profession deserve great praise for the efforts they have made in inventing improvements in their art, and experimenting with them until perfected. Of late years the desire among them has been to save teeth by filling, not only when decay has taken place, but also in the case of persons of mature age, when the enamel or grinding surfaces are entirely worn off. In such instances the dentine or bony structure soon shows wear and in a comparatively short time there is not much of a tooth left above the gums. This is a source of annoyance to persons in such condition. A few years ago, when a patient's teeth were worn down or broken off, recourse was had to a metallic or rubber plate, after the bad teeth had been extracted. These plates are always more or less uncomfortable and quite expensive. Now, the art of dentistry is so perfected that the teeth can be built up, or capped with gold, giving to the patient many more year's use of his natural teeth than by the old method of substitution, or employing artificial teeth.

In front fillings, where the tooth is thus built up to its natural shape, the gold must necessarily be conspicuous, and many persons naturally object to this prominent exhibition of shining gold. This objection, however, is now overcome entirely by the invention of Dr. Chas. E. Blake, dentist, of this city, which consists of a metallic enamel, so shading the natural color of the gold, that the bright yellow luster of the metal is changed or toned down, so as to blend with the color of the tooth. This process can be performed after the tooth has already been filled in the ordinary manner with gold. The coloring material can be inserted with the gold, and when finished, the blending together of the two metals skillfully will give any desired shade to the filling, to correspond with the color of any particular tooth. Of its durability there can be no doubt as the material used is platinum, a white and pure metal.

We witnessed this week, the operation of building up a tooth by the method spoken of, from which it is plain that no great amount of skill is required to produce a desirable shade by the alternate use of the two metals, one white and the other yellow. Gold foil is not used. Very thin plates of gold and platinum, alternating, are used and thoroughly incorporated together in filling. The platinum is plated with a thin covering of gold, so as to make it adhere closely. It is prepared here in sheets by Dr. Blake from the pure metal. The finished surface is perfectly hard and solid, giving a grinding face to the tooth which is very durable.

The importance of this invention will be obvious at once to the members of the profession and their patients as well.

There is in fact, a great dislike to a prominent display of bright gold in the mouth, particularly among those persons accustomed to converse much, and among public speakers, singers, actors and artists on the stage. To the latter, perfect teeth are a necessity, in order to enable them to give the proper enunciation. To exhibit a mouth full of radiant gold at the foot lights is disagreeable, as the display would readily be perceptible. Even ordinary people dislike showing their teeth, when the gold facings and fillings are thereby made prominent. Dr. Blake's patent will remedy this and will doubtless be appreciated by the public.

EASTERN VISITORS.—Our largest hotels are thronged with visitors, very many of them from the cold and stormy lands of the northern and middle Atlantic States. Every day we see them at our open fruit-stands, admiring the wonderful variety and superb excellence of our fruits; and numbers are arranging for permanent homes amongst us.

CORRESPONDENCE.

The Pioneers of El Dorado County.

EDITORS PRESS:—El Dorado county, in and abont the city of Placerville, was numbered among the most thrillingly exciting localities in California in 1849. There were few, if auy, placee in the State, so prolific in gold. For several years past, for want of proper facilities for working, the excitement that early prevailed has somewhat subsided. There is gold here in abundance, and small intereste are etill industriously worked with comparatively small returns.

Within a very few weeks a large and substantial company has been organized and bought out several small water privileges and large miniug interests. The water supply is to become greatly increased, and many hands are now employed to dig ditches for the conveyance of Silver lake and creek, with other streams, which will add very largely to the supply of water, the deficiency of which has been the great draw-back to the mining interests of this district. The consequences are that pricea of land are tending upward, and a renewal of former prosperity will, in a measure, prevail as in early timea. I have just paid a visit to

Two Quartz Mines,

One belonging to a Mr. Peter Gross, and is called the Gross Lead. It has been a source of profit to him eince laat July. He presented me with several apecimens, which exhibit considerable richness. The mine is situated abont a mile north of Placerville, in what is called Big Cañon. It is producing an average of $125 to the ton. I am credibly informed that he has been offered $16,000 for his claim, but is not disposed to sell.

The other is called the Ida Mitchell, and is owned by Messre. Mitchell & Halloway, both hard-toiling, practical and intelligent men. They have heen laboring very industriously for a long time, and at length their lahors are crowned with snccesa. This lead is iu the heart of the city, and givea very encouraging evidence of large production. They also gave me a very rich specimen. It indicates much greater richness than Gross.'

There are many persons reeiding in this town who have seen its riae and fall. They are strongly attached to the place, and pride themselves in being claasified

Among the Pioneers.

Few, indeed, have made much money, whilst many have lost large fortunee, but all are hopeful of the good time coming.

Strange aa it may seem, there are those to be found, and with whom I have conversed, who enjoy very little more than a comfortable daily support, that still see fortnue in the not far-distant future, and seem to be quite as happy in their hopeful anticipations as though they really possessed their long-sought fortnne. Such persons are very often pronounced weak. I look upon them as the strong, sturdy adventurers, through whom alone many fortunes are secured to the less adventurous and more cautious. Without thia dreamy, hopeful and restlesa spirit, which alone opens up and develops our country, to-day California would not occupy the proud and envious position of the foremoet of our new States. California'a rapid advancement and greatnes attained, challenge the civilized world, and yet she has scarcely more than reached her majority. She poseesses rare natural advantagea in mineral wealth, climate, soil, agricultural productions, the cereals, fruits, vegetables and eemi-tropical fruits, the importance of which but for the restless adventurer, to-day would acarcely be known. It is too frequently asserted that money is the great lever — the power that controls. I cannot quite enter into accord with that idea. The great power is brains, bone and sinew. These plan and execute, and money is only the representative of their force and value.

It was in this county that gold waa firet discovered, at a little town called Coloma. With the name of the adventurer, Mr. James W. Marshall,

The Discoverer of Gold,

Your readers are mostly familiar. Accidentally, to-day, I was introduced to Mr. Marshall, who, in course of conversation, gave me quite an intereating account of his experiences, after which he preeented me with a copy of his life and adventures, from which I quote the following extract:

"On the morniug of that memorable day, Jauuary 19, 1848, Marshall went out as usual, to euperintend the men employed in his mill, and after closing the fore-bay gate and thus shutting off the water, walked down the tail-race to see what eand and gravel had heen removed during the night. This had been customary with him for some time, for he had previously entertained the idea that tbere might be minerals in the mountains, and had expressed it to Colonel Sutter, his partner, who, however, only laughed at the idea. On thia occasion, having atrolled to the lower end of the race, he stood for a moment examining the mass of debris that had been washed down, and at this junctnre his eye canght the glitter of something that lay lodged in a crevice, on a riffle of soft granite, some six inches under the water. His first act was to stoop and pick up the eubstance. It was heavy, of a peculiar color, and unlike anything he had eeen in the stream before. For a few minutes he stood with it in his hand, reflecting and endeavoring to recall all that he had heard or read concerning the various minerale. After a close examination, he became eatisfied that what he held in his hand must be oue of three eubstances—mica, sulphurets of copper or gold. The weight assured him that it was not mica. Could it be sulphuret of copper? He remembered that that mineral is brittle, and that gold is malleable, and as this thought passed through his mind, he turned about, placed the specimen upon a flat stone and proceeded to test it by striking it with another. The eubstance did uot crack or flake off; it simply bent nnder the blows. Thie, then, was gold, and in thie manner was the first gold found in California."

He related a little incident to me which I do not find recorded in hie life and adventures. Before leaving the home of his parents in Hope township, Hunterdon county, New Jersey, he said he was sent out one warm spring day to perform eome duty. Seating himself in the sun, he fell into a sleep and dreamed that he would some day be the discoverer of gold. Scarcely a day from that time that he did not carry with him vieions of that kind. Dreams of gold disturbed his slumbere, and were the constaut thought ot his quiet meditations in the day, until at last the wonders of his dreams were unfolded.

Mr. Marshall possesses very little of an estate, I nnderstand. He is, however, as prond of his character as the discoverer of gold in California, as though he were a millionaire, and, indeed, more so. He is one of the kind of whom we have just been speaking. He has adventured, lahored and toiled with thousands more, whilst the few only of more cautious character have profited. His memory will live always. I. T.

Placerville, El Dorado connty, Nov. 10th.

Mining in Mexico.

EDITORS PRESS:—I have just been over to Guadulupe de Los Reyes and Tomanil. In the former district the 20-stamp mill, burned down last apring, has been overhauled, and ten stamps rigged up and running—by steam. A separate 10-atamp Bryan battery, driven by a turbine wheel, has been bnilt, and is rnnning. The mine being a long way ahead of the mills, not much work is being done here. A brilliant law suit is promised over this superb mine, the equal of any mine in the world—if it were in Nevada. It has besn in litigation for many years, and over thirty mule loads of documents (law suits) existing, and wonld take a lifetime to read over. Pronunciamentos have been gotten up over it freqnently to rob it, and a fine novel could be written about it, embracing tragedies—Popes, Kings, Presidents, etc.

It was shown to Yriarte, a poor rauchero, by an Indian. and when he got into the huge bonanza, his daughter ran off and married an English Consul. This pereon, on trifling charges, was thrown into prison by the money of the "cruel parient," who carried it from the highest churchman in Mexico to the Pope, to annul the marriage; $1,000,000 in money were presented to hia Holiness, indirectly, but failed to accomplish the end. Ruffiane were then found who entered the jail and murdered the husband; the wife then entered a convent. Several superintendente have been aasassinated, and a band of armed men are alwaya kept to defend the place. They should send to Pioche for several of its *Puros finos* at $20 per day (possession guaranteed).

Tomanil or Chapote, ia in the same mountain, but on the northeast face one-half day's ride. It was owned by Manuel Ruhio, who was lost on the Continental, off Mazatlan or Cape St. Lucas, in September, 1870. The property has been bonght in by Carrascosa and Sr. D. Vicente Laveaga, of San Francisco. The mine is in bad shape jnst now, from the had state in which it was worked, but it is a powerful mine, and will be heard from one of these daya.

San Dimas is engaging in law suits pretty extensively, a good eign of a healthy reaction.

The 10-stamp mill of Capt. Dahlgren is having a crusher added, a self feeder (copied from illustrations in the MINING ANN SCIENTIFIC PRESS), which does nicely—a large 12-foot settler and a 50-foot wheel, instead of the 24-foot one now running it, a large dryer, and aleo stacking up wood, salt, quicksilver, for a long run. A purchase was made of 100 tona of ore from the Soledad mine at $76 per *carga*, equal to $501 per ton. This wae an abandoned mine and full of water. A company of six put in $1,000 each, aud atarted to pump it ont; $11,000 haa heen so invested and $8,000 repaid by ore sold, so that only $3,000 of dead work is now actually repreaented.

The San Luis hoieting works progress. The mine can hoist 150 tone per week of $400 ore, and they are opening up more gronnd. The timber used is a hard wood and will last for 100 years in water. Fred Sundell, of Mariposa, is the engineer of the work. Henry Janin took a "flyer" in a mine, the Bolaños, but trying to exercise his San Francisco "ingenuity" (as he stylee it), was beaten by Capt. Dahlgren, and will have to retire in disgnst. This will be fully ventilated hy and by, and will eclipee his diamond fiasco, for want of judgment and lack of skill in tryiug to play "Smart Alec." Boys pleying taw have a saying "knuckle down, cheating never thrives."

We would he out of the world if it were not for your valuable eheet, but hy means of it, keep fully posted. With profonnd pleasure, we note the progress of the Sutro Tunnel, now having at leaet 5,000 feet of dead work done—*y pur si muovo*.

All I can say for this part of the world is, that for healthy climate, scenery, wood, water aud minee, thie country beats the world, and when railroads come in, all the rest will follow. I have collected some information about tunnels, and lacking more, forward what I have, and do me the favor to add what you have, and it will be of interest to your readers.

THE EXTENSIVE TUNNELS OF THE WORLD.

TUNNEL.	LOCATION OF THE WORK.	LENGTH. MILE'S FEET.	DEPTH	NOTES.
Meissen	(Germany, Freiburg	24.00 126,720		
Ernst August	Austria, Clausthal (?)	13.60 72,000	1,200	June 1864, 13 years' work.
George	Austria, Clausthal	10.83 57,000	900	Finished in 1799.
Rothschild	Austria, Schmöllnitz	9.00 47,520		Urnau Tunnel.
Rothschild-Liberge	Germany, Freiburg	8.00 42,240		
Mt. Cenis	France-Italy	7.50 39,603	2,100	Railroad T. No Central shaft, $1,600,000 per mile.
Hoosac	U. S. Massachusetts (N. Adams)	5.00 25,031	1,630	R. R. T. 1 M. Shaft. E. end done. $1,900,000 per mile.
Sutro	U. S. Nevada, (Comstock)	4 — 21,178	2,000	4 Shafts, 5,000 feet done.
Union Pacific	U. S.	1.00 5,280	1,500	Railroad T. Finished in 1870.
Sierra Madre	U. S. Colorado, (Black Hawk)	12.00 63,360	2,400	Commenced in 1873.
Bear River	U. S. California, (to N. Fork Am. Rvr.	2.40 12,540		3 Shafts.
San Carlos, (projected)	Mexico, Durango, (San Dimas Mines)	.50 2,640	2,500	
St Gothard	Switzerland-Italy			Railroad T.

I have to complain of aome mean fellow who stops my MINING AND SCIENTIFIC PRESS, *Engineering and Mining Journal*, of New York, and *Reese River Reveille*, of Anstin, in Mazatlan. If they would read and forward, I would not growl, but when they try to rub it in, then I get "riled," and will see what can be done to stop it. Very truly yonrs,

VALVERNE.

On the road, San Ygnacio, Oct. 25th.

NEW CRUSHING MILL.—An ingenious substitute for Chilian mills and quicksilver tables hae been invented by Mr. Denny, of Denison Bridge, Macquarie River, and may be described as a combined hnddle and pulverizer. The machine itself ie very compact, and works with great simplicity, regularity, and ease; from the triale already made it ia believed that the machine will be exteneively adopted. The middle portiou of the vertical shaft is aquare, the bottom being turned and fitted into the center of the bottom of the discharge pan, and the top also turned to work in a bearing, having a crown wheel keyed to it. This crown wheel receivee motion from a pinion wheel keyed on the horizontal shaft, which also carries the driving pulley. On the square part of the vertical shaft a cast-iron receiver worka loose, and givea motion to the four arms which carry the rollers under which the material to be treated hae to pase. By conetructing the outer diameter of the rollers larger than the inuer the ueceesity for the usual scrapers is obviated, and the coarser stuff is alwaya driven to the center of the roller, where it ia reduced to the required degree of fineness. As a proof of the saving capacity of the machines, it is mentioned that by the time the "ailver well" ie reached all the precious metal has been extracted, for in all the cases in which tailings have been paseed through the machines no gold has paesed with the fine sand into the lower pana.—*London Mining Journal*.

FROM the 1st of April the Phœnix mine has produced some $61,000 worth of quickailver, with an average of 50 men employed.

Nevada Soda.

Among the mineral interests in which Nevada promises to become pre-eminent, there is none more important than that of the production and mannfactnre of soda. "The Nevada Soda Mine," which is located about two and a-half miles from Carson river, is the first and only miue of the kind ever discovered that producee pure carbonate of soda in any coneiderable quantities. The mine wae first discovered by emigrants when croeeing the Forty-Five Mile Desert from Humboldt Mountaiue to the Carson river. The location is at the point known as "Reg Town," where travelere were in the habit of paueing on their trans-continental journey, after from five to seven months' travel. The mine was taken up and surveyed by A. Kenyon, who afterwards sold one-half of hie claim to A. C. Scott, then Sheriff of Churchill county, in 1868. R. L. Higgins, of this city, having teeted the quality of the soda, coneidered the mine worth working, as the supply appeared to be inexhanetible. Acting upon thie impression he purchased the entire property from ite original owners, who did not consider it of very great value. Soon after, Mr. James Duffy, of Carson, became owner and partner by the purchase of one-half of the mine.

Messrs. Duffy and Higgins introduced the product of the mine into several of the mills working on the Comstock lode. By practical tcst it was found that our native aoda wae far better than any that could be procured eleewhere, and that it was of great value in the process of the reduction of ores. Soon the ntility of soda was appreciated, and large qnantities were purchaeed by the mills and mining corporatione. Shortly it waa introducod into the paper and woolen mills of California, and also into the manufactories of eoap and sal aoda on the Pacific Coast. The mine yields about 2,000 tona per year, all of whioh ia sold aa faat as it is taken out. The greatest depth attained as yet in the mine ia about forty feet, at which point a deposit has heen found of solid soda at leaat twenty feet square. At the bottom of the mine there is a never failing spring, containing about one inch of water, which will crystalize in twenty-four hours into aolid carbonate. The aituation of the mine is peculiar, it being located in a basin on the great desert, about four acres of which have sunken at least 250 feet below the level of the desert. The company working and owning the mine is now incorporated under the name of the "Nevada Soda Mining Company." The stock has never heen placed on the market for apeculation, as the owners, five in number, are contented with an ample remnneration for the practical working of the mine. It is impossible for the company with the mine at its preeent state of development, to supply the demand upon it, and aa faat as circumatancea will warrant, increased facilities for working will be procured. The bueiness of the company is rapidly increasing, and the product of the mine will before long become one of our most important ataples.—*Nevada Mining Review*.

MINT STATISTICS.—The annual report of the Director of the Mint, for the fiecal year ending June 30th, says that the amonnt of gold and silver deposits and purchases, coins struck and stamped and manufactured during the year was as follows: Deposita of gold, $59,937,429.45; Silver, $12,307,380.43. Total amount received and acted upon, $72,244,818.88. Deducting re-depoeits made and issued by one institution and deposited with another, the deposits were: Gold, $57,573,385.88; silver, $9,145,328.43—total, $66,849,714.31. Gold pieces coined, 1,824,420; value, $35,249,337.50. Silver piecea coined, 11,774,250; value, $2,945,745.50. Minor pieces, 18,925,000; value, $49,405,000. Total numher of pieces, 32,523,670; total value, $38,689,183. Bare of fine gold, $7,054,956.86; imported gold, $12,940,659.25; total, $20,495,616.11. Fine silver. $3,034,259.56; imported silver, $3,981,654.94. Total, $27,517,530.61.

The report is very voluminoue, and full of interesting statistical aud general information, and concludea as followa:

"Some idea of the increased operations may be formed when it is stated that the coinage of gold during the month of October approximated in value, $14,000,000. The coin, except as to Pacific Coast States and Territoriee, being as a general thing in the treasnry and banka, the preeent time ie a favorable one for estimating the amount of gold and eilver coin in the country. From the most reliable data obtainable, the gold coin is estimated at $135,000,000 and silver at $5,000,000; total, $140,000,000. Silver coin ia principally in circnlation in California, Idaho, Arizona, and Texaa. The increase in coin in this couutry has been at a very feir rate since the 1at of April laet, and the indications are that although there may be an occasional exportation, it will gradually go on till an amount sufficient to enable the conntry to resume specie paymente will be secured. This much desired result, however, will depend upon couditions which oannot be discussed."

FLY-TAKERS OF CAPE COLONY.—A large wisp of straw is dipped in milk aud hung hy a string to the beams of the roof; when thia ie covered with flies they come with a large bag alowly under the straw and getting it in a certain depth, shake it so that the flies are shaken to the bottom of the bag. In thie manner they sometimes take as many aa a hnahel of flies a day.

MECHANICAL PROGRESS.

Combination in Machines.

It is surprising, says our able cotemporary, the *Artisan*, when we come to analyze machine arrangements to find how much skill and inventive talent has been expended in the combination, or aggregation, of functions in machines, without adding to their efficiency, or even cheapening their cost.

The combination of several functions in a single machine presents to the unskilled the highest grade of novelty, and as all know, the distinction between novelty and utility is exceedingly difficult to understand and define. A machine that will drill, turn, mill, and so on, carries to the mind an impression of great utility, a kind of conviction that such a machine will perform all these operations at once and is equal to a drilling machine, a lathe and milling machine. Nor is this estimate by any means confined to the unskilled, as is proved by the great numbers of combination machines, both for wood and iron work, that are continually made and sold, especially in England.

In this day of dividing labor and shop processes, everything points to a division of machine function; the more a machine can be subdivided the greater the effect that may be produced; and the present wants in manufacturing machines and tools, as before said, point to "segregation" instead of "aggregation." Instead of machines to turn, bore and mill, we need machines directed not only to each operation separately, but these machines should again be subdivided into classes suited to heavy, light or special work. Combination in machines can have but few objects; the same frame may support two or more machines, but nothing is saved but the material in the framing, and sometimes floor-room; nearly always these considerations are more than balanced by a want of adaptation in the machines; that is, one function in the machine must be adapted to another, instead of to the work to be performed.

As a rule, a combined machine gives employment to but one attendant, and represents but a single machine while operating; its other functions being idle while only one is active.

Combination machines are useful in certain and exceptional cases. If one man can perform all the machine operations in a small shop, or all the irregular jobs in a large shop, and a combination machine is so arranged as to cause no loss of time in changing from one operation to another, then such a machine may be used with advantage. An illustration of this is seen in the universal milling machines generally employed in the tool rooms of our large shops. Another, and perhaps, the most important object of combination in machines is to avoid changing tools when several different operations are to be performed on one piece, and when much time is saved and accuracy secured by a combination of tool-holding appliances, or a combination of spindles that may act successively.

INCRUSTATION OF BOILERS, &c.—Of all the approbia of industrial chemistry, this is perhaps the greatest, and numerous and no less ingenious than unsuccessful have been the appliances to that end successively announced, tried, and discarded. Among the more recent are the resolvent finid, patented by Mr. Hatfull and the sand-blast, both still upon their trial. The inconvenience and positive danger occasioned by incrustation are more evident than the success of either romedy. One of the latest examples of these, as regards water-pipes, we have from Boston, where, according to the *New York Times*, the local fire insurance companies are now calling attention to the condition of the water-pipes in that city. It seems that the water supply is greatly diminished by the incrustation formed on the inside of the iron pipes by the action of the water, so that a 3-inch pipe that has been laid ten years becomes reduced to 2 inches, those of 4 inches to 3, and the 6-inch mains reduced to 5 and 4 inches. A pipe was recently taken up in Howard Street through which one could not see, though water flowed slowly; and a pipe of 3-inch bore was taken up in Beacon Street filled up solid with rust. In the suburbs cement pipes are used, but it is said that they are hardly strong enough to bear the pressure of the Cochituate water.

STEAM AS AN AUXILIARY.—The increased price of coal in England is causing the reagitation of the question of the use of steam as an auxiliary power in ships. A writer in *Iron* says: A vessel for a long voyage should be of the following dimensions:—Length, 300 feet; breadth, 40 feet, depth of hold, 24 feet, with accomodations for passengers, officers and crew on deck, and a pair of direct acting engines placed in the after part of the vessel, below the main deck, capable of working to about 150 horse-power, with boilers to maintain a steam pressure of 60 pounds per square inch. The consumption of coal would be about 72 cwt. per diem, and the speed, with a folding screw propeller, about six knots in a calm. In a sailing vessel built from my design, the best day's work was from 330 to 360 miles for nine days. It appears to be a great pity to dispense with sails, when such results can be obtained, and if a small auxiliary power were introduced as above described, into a proper proportioned vessel, it would be the most economical and effectual carrier for ocean navigation.

Invention.

After the increase in the value of labor, we have as causes of invention—first, the progress of civilization; second, the increase of trade and commerce; and third, the spread of warfare. And, strangely enough, each of these is also responsible for the advancement of the very influence upon which each has depended for its own increase, so marvellously interwoven are the relations between invention and human existence and progress. For instance, trade and commerce languished until invention furnished them with facilities. These facilities widened the lines of trade and commerce, and these again involved the necessity for added invention to keep pace with their requirements. Again, conditions of warfare stimulated the invention of new implements; and the existence of these begat a feeling of security which impelled towards conquest. Finally, invention, while satisfying old desires, created new ones, which again stimulated it to renewed effort, and thus improved instruments and conditions pushed forward civilization. We find, then, that the causes and effects of invention have been correlative, and mutually reactive, which accounts, in a measure, for its remarkable strides during the period we have named. We find, also, that invention, while directed in so many thousand different ways, and bearing upon so many thousand different results, has really tended towards but three grand conclusions to which its details have only been subsidiary. These have been the advancement of trade and commerce, signifying peace; the improved facilities for destruction, signifying war; and the progress of civilization, signifying human perfection. To these distinct and vital purposes have been devoted the labors of invention, whether directed immediately towards agriculture, mechanics, or the arts of design. From gunpowder to the electric telegraph and the sewing-machine, one portion of mankind has invented to preserve itself, while another has labored for its own destruction. The principles of good and evil, of life and death, struggling for ever, as in the old Hindoo mythology, for supremacy. To invention we owe our present advanced condition of being, and to the same element we may charge all the evils which have kept pace with it. Invention induces us to cut down forests for ship timber, and to improve our dwelling places; and the loss of these forests changes the climate of localities, and renders them, to a certain extent, uninhabitable. Invention has enabled us to live in compact and closely-constructed quarters; and this mode of living breeds pestilence, poverty and famine. Invention improves, temporarily, our modes and styles of wearing apparel, and this begets extravagance, which, in turn, brings upon us bankruptcy. Invention has increased a thousand fold the quantity and form of our food; yet there are more starving ones to-day, and food is higher priced than it was five centuries ago. Necessity is the mother of invention, and the children of invention are still—necessity.—*Builder.*

Glass Cloth.

A correspondent describing the manufacture of glass cloth at the Vienna Exposition, says: One little machine interested me, as it pertains to a new art of cloth making from glass. While in the glass exhibition, I noticed a glass case filled with silky looking articles, such as feathers, children's hats, cuffs, collars, etc. of not very tasteful styles, yet attracting some attention. Sure enough, here were the articles made of glass of which we had read so much during the last six months, also a real piece of cloth of the same material. According to promise, I endeavored to procure some of the latter for a wedding vest for a bachelor friend; but it does not seem to be for sale, being made only for a sample. The feathers were for sale, and not at all dear. I was given some specimens of the silk, and of the wool, as it is called, hanging outside of the case. The good fran told me the art was an old one from Venice, but had been lost; was now first put to practical use by her "mann," whose spinning machine was at the Machine Hall. So here, to-day, to my surprise, I found the machine, primitive as the Turk's turning table. A small boy turned the wheel having a broad rim of iron, while a girl sat with a few small glass rods before an intense jet of flame. Taking up one of these rods with one hand and melting the end in the flame, with the other she thrust a point into it, and threw a thread of glass over the wheel, much as the silk of a cocoon is started upon a reel. This was not always accomplished at one trial, but when once started it would spin off infinitely, as long as the glass rod was held in the flame. This silk upon the iron reel had the same appearance as that of one continuous web of cocoon, though not so strong. The process after this to cloth making is simple enough, and with proper machinery it may at length be made in quantity.

NEW IDEA IN ROLLERS.—A roller exhibited and tested at the Royal Society's Show just held, consists of three sections, the novelty being that the central section, instead of being on a line with the other two, is placed in front, so that it answers as a steering wheel. In the axle between the two rear sections their is a double joint, so as to admit of their adapting themselves, as they move, to irregularities of surface. The sections are made of iron, with solid sides, so that they can be filled with water if it is desired to increase their weight.

SCIENTIFIC PROGRESS.

Fruit Without Flowers.

At a meeting of the Academy of Natural Sciences, Philadelphia, Mr. Thomas Meehan presented an apple, which was borne by a tree at Kittaning, in Pennsylvania, and which tree never produced any flowers in the popular acceptation of the term; but always yielded an abundance of fruit. This specimen furnished a practical illustration of some morphological truth which could not often be demonstrated in the way this afforded the opportunity of doing. It was admitted that a fruit was a branch with its accessory leaves transformed. The apple fruit was made up of a series of whorls of leaves comprising five each. Cutting an apple through the found a series of five formed the carpels containing the seeds. Several series of whorls, very much retarded in development, probably formed the stamens, but this could not be so well seen in the apple fruit, as they seemed to be almost absorbed in the corolla series. This was the next in order that appeared in the divided apple—the green curved fibrous line which we find in all apples midway between the "core" and the "rind" is the dividing line between the series which forms the corolla and the outer series forms the calyx.

In this tree there are no pistils, the series which usually goes to make up this part of the fruit structure being either very rudimentary or entirely wanting. Hence there was no core to the fruit. The result of this want of development was that the usual calyx basin of the apple was in this case occupied by a cavity three-quartere of an inch across. There were no petals; but in place five gland or rather hud-scale-like processes, at regular distances, on the edge of the green fibrous outline before referred to. The outer whorl, which usually forms the only, was almost asepalous, as a mere scarious membrane marked the place where the calyx segments or sepals should have appeared. It was so easy in this specimen to trace the dividing line between the outer or calycine whorl and the inner or corolline whorl, which unitiag and becoming succulent, formed the popular apple fruit, that it was worthy of note in this connection. But the most interesting feature in this specimen was what were probably, from their similarity in appearance, cork cells, formed abundantly on the outside of the apple. It would seem that with the lack of development in the inner series of whorls necessary to the perfect fruit, those which remained were liable to take on somewhat the character of bark structure.

Origin of Nerve Force.

In a paper by Dr. A. H. Garrod, the following ingenious hypothesis regarding the production of nerve force is advanced. Admitting that the force in question is either identical with, or closely allied to, electricity in its properties, he then asks, where does it originate? The existence of special organs for its development in the torpedo and other creatures, which exhibit external electrical phenomena, and the absence of any such organ in man and the higher animals, would seem to indicate that the production of electricity in animals requires some other form of apparatus than the nervous ganglia. In answer to this, the Doctor seeks to show that in the difference of temperature between the interior and surface of the living body, a source of energy is presented which, on thermo-electric principles, is capable of producing all the force required. The brain and minor ganglia, he adds, would then act as offices for the reception and transmission of currents in the required directions, being in fact the commutators of the system.

In support of this, the Doctor says: "There are several of the most important phenomena exhibited by the nervous system which are very satisfactorily explained on the above hypothesis. For instance, in cold weather the impulse to action is much more powerfully felt than in summer, when the air is hot; and therefore, the temperature of the surface is higher. It is well known that it is impossible to remain for more than a very short time in a hot water bath of which the temperature is as high as, or a little higher than that of the body, on account of the faintness which is sure to come on, and this may be reasonably supposed to be the result of the cessation of the nerve-current, which is consequent on the temperature of the surface of the body becoming the same as that of the interior. This faintness is immediately recovered from by the application of a cold douche. When great muscular exertion has to be sustained, as in swimming or rowing, it is always necessary to have the clothes very thin, and it is felt during the time that it is necessary for the continuance of the effort that the surface of the body must be kept cool."

SEPARATION OF OXYGEN.—The following details of the process followed by the Oxyhydrogen Gas Company, of Buffalo, N. Y., in the production of oxygen on a commercial scale, may be of interest, though it is in general the same as the process of M. Tessie du Mothay. The treatment of the material is thus described by the *American Artisan:* The pulverized manganate of soda is introduced into iron retorts 7 ft. long, 1 ft. wide and 2 ft. deep (a cross section being an ellipse). It is here heated in a current of superheated steam. The steam passes through the mass and carries with it part of the oxygen. In ten minutes the current of steam is shut off and atmospheric air is blown in; the soda salt now re-absorbs or re-unites with the oxygen, and the nitrogen escapes. Air is passed in for ten minutes, and then steam as before. From the retorts the gas passes to the condensers, which are like the usual upright cast iron pipes used in all gasworks. Here the steam is condensed, and it washes the gas; from these the gas passes to the scrubber, where all further impurities are washed out; it then passes to the holder. It seems that the process followed is not identical with the published description of the patent. Several modifications in details have been found necessary in practice. The manganate also appears not to work to perfection, since it has been found to lose its porosity and agglomerate after being for some time in use. It is found necessary, therefore, to re-charge the retorts after a time with fresh material. Experience indicates that, could the steam be supplied perfectly dry, this difficulty might be obviated. What may be the ultimate success of the company must be left for time to decide. It is at present supplying consumers with hydrogen gas at the rate of 2.50 dols. per M., and oxygen gas at the rate of 5.00 dols. per M.

Incombustible Paper and Fire-proof Ink.

An invention has been recently patented in this country, which, if it will only stand the test, should have a wide field of usefulness. A really incombustible paper, without a fire-proof ink, would be a very valuable article in many businesses, and for many purposes of everyday life, but if it can be supplemented by a fire-proof ink, its value will be enhanced tenfold. Such a discovery Mr. G. W. Halfpenny believes he has made, and has accordingly secured his rights by obtaining the Great Seal. We gather from his specifications that the paper prepared by his process is absolutely indestructible by fire of any degree of fierceness, but that under such circumstances as fires in houses, factories, or other buildings, it is "ordinarily incombustible." The inventor prepares his paper in the usual manner, from a pulp consisting of vegetable fiber, asbestos, alum and borax, in about the following proportions: Vegetable fiber, one part; asbestos, two parts; borax, one-teuth part; and alum, two-tenths of a part. The vegetable fibers are minutely divided, and treated in the manner usual in the production of ordinary paper; the asbestos is also divided as much as possible, and the two are then intimately mixed with the alum and borax in a sufficient quantity of water to make a pulp of the requisite consistency, which is then made into paper by any of the well-known processes. The proportions given are not rigid, but may be varied to suit the quality and nature of the desired product, and also to suit the different qualities of the raw materials.

Thus, the inventor says he has made incombustible paper in which the proportions of the ingredients varied from 50 to 70 parts of asbestos, and from 30 to 50 parts of flax or other vegetable fiber, with only two and a half per cent. each of alum and borax. He proposes to use in some cases silicate of soda, in order to insure hardness and coherence in the substance of the paper after it has been acted upon by fire. In order, we presume, to obtain a paper of great strength and flexibility, the sheets may be made of linen or other woven fabric, and coated on both sides with the incombustible paper.

The fire-proof ink for use in writing or printing on the incombustible paper is made of the following substances in or about the proportions given, in apothecaries' weight: Graphite, twenty-two drachms; copal or other rosinous gum, twelve grains; sulphate of iron, two drachms; tincture of nut-galls, two drachms; and sulphate of indigo, eight drachms. These materials are mixed together and boiled in water, the graphite, of course, being reduced to an impalpable powder. This ink, which besides being fire-proof is said to be insoluble in water, under ordinary circumstances is black; but when colored inks are desired, the graphite is replaced by an earthy or mineral pigment of the desired color.

Another portion of this invention consists in the application of the incombustible paper pulp to the manufacture of covers for books and of wrappers or envelopes for parcels and packages. The inventor also utilizes talc for this purpose, singly or in combination, with his incombustible mill-board or ordinary boards. Thus the "back" of the book may consist of a number of slips of talc overlapping one another, secured to and supported by a piece of incombustible paper.—*English Mechanic.*

NEW METHOD OF PREPARING CAUSTIC SODA.—The crude lye is evaporated in cast-iron boilers. At a certain heat the cyanides contained in the pasty mass are decomposed, with escape of ammonia and decomposition of carbon. When this point is reached, the heat is raised to redness, and the mass becomes more fluid. A sheet-iron cover is then fitted upon the boiler, provided with an opening through which enters an iron pipe. This is plunged into the mass, and air is forced in. The graphite which separates rises to the surface and may be collected. The mass is tested from time to time to see if the sulphur is perfectly oxidized. When this is the case the blast is stopped, the mass allowed to become clear, and run off as usual.—*M. Helbig.*

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Nov. 26, 1873.

NAME OF COMPANY.	IN MINE.	IN MINE.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE
WASHOE.							
Alamo Gold and S. M. Co	.....	.....	2	2	.....	.....	.....
Alpha Consolidated	300	6000	38½	35	.....	.....	1½
Alta	3600	.....	.....	.....	.....	.....	.....
American Flat	.....	30000	.....	3¾	1	.....	.....
Arizona & Utah	1800	18000	1½	1¼	.....	¼	.....
Bacon Mill & Mining Co.	65	24000	.....	.....	.....	.....	.....
Baltimore Consolidated	.....	54000	6⅞	6⅝	.....	1⅛	.....
Belcher	1040	104000	90	80	.....	7½	.....
Best & Belcher	224	22000	12	8¾	.....	2½	.....
Bowers	20	8000	.....	.....	.....	.....	.....
Buckeye	.....	16000	1⅝	1¼	.....	.....	.....
Bullion	2500	25000	20	17½	.....	.....	.....
Caledonia Silver M. Co	6000	20000	19½	16	.....	3	.....
Central	150	10800	13	12	.....	.....	½
Central No. Two	100	20000	8	8	.....	.....	1
Chollar-Potosi	2800	28000	57	50¾	.....	1½	.....
Confidence Silver M. Co	130	24960	8	7⅛	.....	.....	⅛
Cons. Gold Hill Quartz	3415	20000	.....	.....	.....	.....	.....
Consolidated Virginia	1160	1080?0	59	45½	.....	10	.....
Cook & Geyer	1600	24000	.....	.....	.....	.....	.....
Crown Point G. & S. M. Co	600	100000	97½	93	.....	.....	2½
Daney	2000	20000	2¾	1⅞	.....	.....	.....
Dardanelles	1200	24000	1	.....	.....	.....	.....
Eclipse	70	25000	5⅞	5	.....	⅛	.....
Empire Mill & M. Co	75	50000	4¾	4⅝	.....	.....	⅛
Exchequer	400	8000	20	14¾	2	.....	.....
Fairmount	.....	.....	3¼	3	.....	.....	.....
Flowery	3000	12000	.....	.....	.....	.....	.....
Franklin	.....	20000	1⅞	1¼	.....	.....	⅛
Globe	1200	48000	14	12⅝	.....	¾	.....
Gould & Curry S. M. Co	400	16000	38½	35½	.....	.....	2½
Hale & Norcross	184	100000	6¾	6½	.....	.....	⅛
Imperial	.....	.....	.....	.....	.....	.....	.....
Indus	2000	30000	.....	.....	.....	.....	.....
Insurance	.....	.....	.....	.....	.....	.....	.....
Jacob Little	.....	20000	4⅛	3⅝	.....	.....	.....
Julia Gold and S. M. Co	2000	20000	8	6¾	.....	.....	.....
Justice	3000	21000	12	11	.....	.....	1
Kentuck	95	30000	3	2½	.....	.....	.....
Knickerhocker	1200	24000	.....	.....	.....	.....	.....
Lady Bryan	.....	.....	.....	.....	.....	.....	.....
McMeans	3600	36000	.....	.....	.....	.....	.....
Mint Gold & S. M. Co	1600	50000	.....	.....	.....	.....	.....
Nevada	3000	40000	2	1	.....	.....	.....
New York Consolidatad	3600	36000	4	2¾	1¼	.....	.....
Occidental	800	10000	.....	.....	.....	.....	.....
Onhir Silver Mining Co	1400	16800	82	74	.....	.....	9
Overman Silver M. Co	1200	37400	37	26	.....	10½	.....
Phil. Sheridan	1200	24000	.....	.....	.....	.....	.....
Pictured	2000	30000	.....	.....	.....	.....	.....
Rock Island	.....	24000	90c	65c	.....	¼	.....
Savage	800	16000	58½	55	.....	.....	1½
Segregated Belcher	160	6400	79½	63	12	.....	.....
Segregated Caledonia	.....	10000	.....	.....	.....	.....	.....
Senator Silver M. Co	.....	24000	.....	.....	.....	.....	.....
Sierra Nevada	.....	20000	22	17	5	.....	.....
Silver Hill	.....	54000	10	9½	.....	.....	.....
Sonth Comstock	.....	.....	2½	2⅜	.....	.....	⅛
South Overman	.....	24000	.....	.....	.....	.....	.....
Succor Mill and M. Co	1600	28800	5½	3½	.....	.....	.....
Sutro	.....	24000	3¾	2½	.....	¾	.....
Trench	20	50 0	.....	.....	.....	.....	.....
Tyler	2200	33000	¾	65c	.....	.....	.....
Union Consolidated	803	20000	4¾	3½	2	.....	.....
Utah	.....	20000	7⅛	6¼	.....	.....	3⅛
Woodville G. & S. M. Co	1400	28000	1⅞	1¾	.....	⅛	.....
Yellow Jacket	1200	24000	63	60	.....	.....	2½
NEVADA.							
Adams Hill	.....	50000	.....	.....	.....	.....	.....
Alps Silver Mining Co	600	30000	⅞	80c	.....	.....	.....
Amador Tunnel & M. Co	.....	.....	.....	.....	.....	.....	.....
American Flag M. & M	.....	30000	6½	5¾	.....	.....	¼
Arkansas	300	30000	.....	.....	.....	.....	.....
Belmont	.....	.....	25	22	.....	2	.....
Bowery	.....	30000	½	45c	.....	.....	.....
Chapman Mill & M. Co	.....	30000	40c	35c	.....	¼	.....
Charter Oak S. M. Co	1000	30000	.....	.....	.....	.....	.....
Chief of the Hill	.....	30000	1½	.....	.....	.....	.....
Chief East Extension	.....	30000	20c	15c	.....	.....	.....
Columbus M. & M. Co	10000	50000	.....	.....	.....	.....	.....
Condor	.....	25000	.....	.....	.....	.....	.....
El Dorado Sonth	.....	.....	3¾	3½	.....	.....	1⅜
Eureka Consolidated	.....	50000	9⅞	9¼	.....	⅛	.....
Excelsior	.....	12000	.....	.....	.....	.....	.....
Harper Silver Mining Co	.....	30000	.....	.....	.....	.....	.....
Hayes	.....	.....	2¼	1¾	.....	⅛	.....
Hernes	1000	30000	3	3	.....	.....	⅛
Home Ticket	.....	.....	.....	.....	.....	.....	.....
Huhn & Hunt S. M. Co	3600	30000	1⅞	1½	.....	.....	⅛
Ingomar Silver M. Co	1000	40000	45c	30c	.....	5c	.....
Ivanhoe	.....	30000	.....	.....	.....	.....	.....
Jackson	.....	50000	.....	.....	.....	.....	.....
Juniata Consolidatad	5000	50000	.....	.....	.....	.....	.....
K. K. Consolidated	.....	.....	.....	.....	.....	.....	.....
Kentucky Gold & S. Co	1000	30000	3¼	3	.....	.....	¾
Kinston	1000	30000	.....	.....	.....	.....	.....
Lehigh	1000	30000	.....	.....	.....	.....	.....
Lillian Hall	1000	15000	.....	.....	.....	.....	.....
Louise	2400	30000	45c	35c	.....	oc	.....
McMahon	1000	30000	.....	.....	.....	.....	.....
Marion	.....	30000	.....	.....	.....	.....	.....
Meadow Valley	24023	60000	14½	14	.....	.....	¾
Mocking-Bird	1200	30000	.....	.....	.....	.....	.....
Monitor-Belmont	.....	.....	5	5	.....	2	.....
Murphy	2000	60000	.....	.....	.....	.....	.....
Newark Silver M. Co	800	32000	3¾	3	.....	.....	½
Pacific Tunnel & M. Co	.....	.....	.....	.....	.....	.....	.....
Page & Panaca S. M. Co	2400	40000	1¼	1	.....	⅛	.....
Peavine	1000	30000	35c	10c	.....	.....	.....
Phoenix	.....	50000	60c	55c	.....	.....	.....
Pioche Silver Mining Co	1000	20000	5	4½	.....	.....	¼
Pioche West Extension	.....	35000	¾	⅜	.....	.....	.....
Pioche-Phoenix	.....	40000	.....	.....	.....	.....	.....
Portland	.....	.....	.....	.....	.....	.....	.....
Raymond & Ely	6000	30000	61	56½	1	.....	.....
Rye Patch	.....	.....	8	7	.....	.....	.....
Silver Peak	.....	30000	1⅝	1	.....	⅛	.....
Silver West Consolidated	.....	.....	.....	.....	.....	.....	.....
Standard Mill and M. Co	.....	.....	.....	.....	.....	.....	.....
Star Consolidatad	18000	50000	.....	.....	.....	.....	.....
Starlight	6900	25000	.....	.....	.....	.....	.....
Sterling	.....	30000	.....	.....	.....	.....	.....
Spring Hounk	.....	35000	.....	.....	.....	.....	.....
Spring Mountain Tunnel	.....	20000	.....	.....	.....	.....	.....
Ward Beecher	.....	.....	.....	.....	.....	.....	.....
Washington and Creole	200	30000	6½	4½	.....	1	.....
Watson	.....	.....	3½	3	.....	2	.....
Yellowstone	.....	.....	.....	.....	.....	.....	.....
CALIFORNIA.							
Alpine	1200	12000	.....	.....	.....	.....	.....
Bellevue	8000	20000	.....	.....	.....	.....	.....
Calaveras Gold M. Co	3200	20000	.....	.....	.....	.....	.....
Cederberg Gold M. Co	.....	24000	6	6	.....	.....	.....
Consolidated Amador	.....	.....	39	39	.....	⅛	.....
Cottonwood Creek	.....	20000	.....	.....	.....	.....	.....
Dunderberg M. & M. Co	.....	.....	.....	.....	.....	.....	.....
El Dorado Ind. Quartz M	.....	.....	.....	.....	.....	.....	.....
Eureka Gold Mining Co	1650	20000	20	19	.....	.....	.....
Gillis	.....	24000	.....	.....	.....	.....	.....
Independent Gold M. Co	1800	25000	3	2⅞	.....	.....	1½
Keystone Quartz	.....	10000	.....	.....	.....	.....	.....
Mt. Jefferson	1500	25000	.....	.....	.....	.....	.....
Oakville Quartz M Co	.....	.....	.....	.....	.....	.....	.....
St. Lawrence M. & M. Co	.....	.....	.....	.....	.....	.....	.....
St. Patrick	1800	20000	6½	5	.....	½	.....
Tecumach	3000	30000	.....	.....	.....	.....	.....
Yule Gravel	400	16000	.....	.....	.....	.....	.....
IDAHO.							
Empire	.....	25000	3½	3¼	.....	¼	.....
Golden Chariot	750	20000	21	19	.....	3½	.....
Ida Eilmore	1300	10000	4⅞	4⅝	.....	.....	.....
Mahogany G. & S. M. Co	720	10000	7	7	.....	.....	⅛
Minnesota Gold & Silver	1070	20000	.....	.....	.....	.....	⅛
Red Jacket	.....	.....	2¾	1¾	.....	.....	.....
South Chariot	660	20000	9	8	1	.....	.....
War Eagle	1000	10000	.....	.....	.....	.....	.....
WHITE PINE.							
General Lee	1000	20000	.....	.....	.....	.....	.....
Mammoth Silver M. Co	1800	36000	15c	15c	.....	.....	.....
Noondey	1000	20000	.....	.....	.....	.....	.....
Orig. Hidden Treasure	800	21333	3½	3½	.....	.....	¼
Silver Wave	.....	.....	.....	.....	.....	.....	.....
Ward Beecher	.....	24000	.....	.....	.....	.....	.....
UTAH.							
Deseret Consolidatad	2400	30000	.....	.....	.....	.....	.....
Wellington	.....	50000	.....	.....	.....	.....	.....
OREGON.							
Virtue	2300	20000	.....	.....	.....	.....	.....

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thursday from Advertisements in the Mining and Scientific Press and other S. F. Journals.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Deling'nt.	Sale.	Secretary.	Place of Business.
Arizona & Utah M. Co	Washoe.	7	50	Nov 11	Dec 15	Jan 3	J. Maguire,	419 California st
Alpha Cons M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California st
Belmont S. M. Co	Nevada	2	1 50	Oct 14	Nov 15	Dec 5	C. H. Bogart.	411½ California st
Bowery Cons. M. Co.	Ely District.	4	50	Nov 5	Dec 16	Jan 9	C. E. Elliott.	419 California st
Baltimore Cons. M. Co.	Gold Hill.	4	1 00	Nov 18	Dec 23	Jan 14	D. T. Bayley,	401 California st
Cederberg 1st. Southerly Ex.	Cal.	9	10	Oct 9	Nov 12	Dec 1	G. N. Webeer,	420 Montgomery st.
Caledonia S. M. Co.	Washoe.	6	3 00	Nov 13	Dec 18	Jan 3	R. Wegener.	414 California st
Caroline M. Co.	Ely District.	3	30	Nov 11	Dec 22	Jan 15	C. E. Elliott.	419 California st
Daney G. S. M. Co.	Washoe	7	50	Oct 9	Nov 14	Dec 15	G. R. Spinney,	320 California st
Dardanelles M. Co.	Cal.	1	1 00	Nov 4	Dec 8	Dec 29	J. L. King.	434 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Nov 13	Nov 18	Dec 13	Wm Willis,	419 California st
Emery Hill M. Co.	Utah		25	Oct 2	Nov 11	Dec 3	F. Madge,	Merchants' Ex
Empire M. & M. Co.	Idaho	6	1 00	Oct 4	Nov 8	Dec 2	W. Willis.	419 California st
Equitable Tunnel & M. Co.	Utah	4	10	Oct 7	Nov 10	Dec 1	C. S. Healy,	Merchants' Ex
Gould & Curry S. M. Co.	Washoe.	20	1 50	Nov 14	Dec 16	Jan 7	A. K. Dearborn,	Merchant's Ex.
Globe M. Co.	Gold Hill.	4	50	Oct 14	Nov 17	Dec 8	Joseph Maguire,	419 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Dec 15	Wm. Willis,	419 California st
Julia G. & S. M. Co.	Washoe	16	1 00	Oct 13	Nov 17	Dec 6	A. Noel,	419 California st
Knickerhocker M. Co.	Am. Flat.	7	1 50	Nov 16	Dec 13	Jan 2	H. Boyle,	Stevenson's Bldg
Lady Bryan Tunnel M. Co.	Utah	5	10	Oct 7	Nov 10	Dec 1	C. S. Healy,	Merchants' Ex
Mammoth S. M. Co.	White Pine		10 cts	Oct 22	Dec 1	Dec 22	J. L. King	434 California st
New York Cons. M. Co.	Gold Hill		25	Oct 13	Nov 17	Dec 8	H. C. Kibbe,	419 California st
Chio Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp,	116 Leidesdorff st
Ophir S. M. Co.	Washoe	27	5 00	Oct 8	Nov 11	Dec 2	Jos. Marks,	Merchants' Exc
Ophir Copper S. & M. Co.	Cal.		10	Nov 12	Dec 13	Jan 5	W. H. Bergart,	411½ California st
Phoenix S. M. Co.	Washoe.	4	25	Oct 28	Dec 1	Dec 18	S. Phillips,	408 California st.
Phoenix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Dec 10	J. Maguire,	419 California st
Ploche S. M. Co.	Ely District.	5	1 00	Oct 30	Dec 10	Jan 6	C. E. Elliott	419 California st
Red Jacket M. Co.	Idaho	1	1 00	Nov 1	Nov 6	Dec 1	Wm Willis,	419 California st
Rye Patch Cons. M. Co.	Nevada		1 00	Nov 7	Dec 16	Jan 6	D. F. Verdenal.	409 California st
Silver Hill M. Co.	Washoe.	2	2 00	Nov 14	Dec 16	Jan 5	W. E. Dean,	419 California st
Silver Clond G. & S. M. Co.	Cal.	6	3 00	Sep 30	Nov 6	Dec 3	A. A. Erquest, cor. Minna & N Mon.	
Sierra Nevada S. M. Co.	Washoe.	37	2 50	Nov 14	Dec 22	Jan 12	R. Wegner,	414 California st
Trench Gold Hill M. Co.	Nevada	1	1 00	Oct 17	Nov 21	Dec 11	J. Marks	Merchants' Ex
Union Consolidated	Washoe.	4	50	Oct 20	Nov 20	Dec 8	J. M. Buffington	Merchants' Ex.
Virtue G. M. Co.	Oregon	3	75	Oct 4	Nov 12	Dec 15	C. F. Balcom	426 Montgomery st.
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Dec 15	T. B Wingard,	318 California st
Washington & Creole M. Co.	Ely Dist		1 00	Oct 13	Nov 17	Dec 10	C. D. Deary	Merchants' Ex
War Eagle M. Co.	Idaho.	3	1 50	Nov 18	Dec 24	Jan 15	L. Kaplan,	Merchants Ex
Wyoming G. M. Co.	Nevada Co., Cal		25	Sept 13	Nov 18	Dec 8	W. J. Gunn.	410 Montg'y st

Other Companies (not on the Lists of the Boards.)

Alpha Cons. M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California s
Auburn G. M. Co.	Placer Co.	6	50	Nov 17	Dec 23	Jan 12	R. Wegener,	414 Californir st
Bunker Hill Q. M. Co.	Amador Co.	12	10 00	Nov 12	Dec 20	Jan 12	W. L. Palmer,	19 Fir st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6	6	Oct 6	Dec 5	Jan 5	A. Noel,	419 California st.
Black Mountain Coal M. Co.	Cal.		2½	Oct 8	Dec 1	Dec 29	W. H. Parahley,	602 Montgomery st.
Commercial Coal M. Co.	Santa Cruz Co		25	Oct 8	Nov 17	Dec 15	S. B. Hanson,	402 Montg'y st
Clay Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
Cunel & Tiger S. M. Co.	Arizona.		20	Oct 25	Nov 26	Dec 20	C. J. Eaton,	Express Building
Eclipse Wintars & Plato Cons. M. Co		1	50 cts	Oct 17	Nov 20	Dec 10	J. Marks	Merchants' Ex.
Eureka M. & S. Co.	Eureka, Nev.	3	25	Nov 11	Dec 13	Jan 2	T. P. Beach,	217 Sansome street
Granite Tunnel M. Co.	Cal.		5	Oct 8	Nov 15	Dec 6	W. G. Holmes, cor. Wash. & Battery	
Great Blue Gravel R. M. Co.	Cal.		10	Nov 20	Dec 22	Jan 12	W. H. Watson,	302 Montgomery st
Gold. Mountain M. Co.	Amador Co Cal.		25	Oct 31	Dec 13	Jan 5	W. Aug. Knapp,	116 Liedeadorlf st
Homestead Farm Ass.	S. F.		7 00	Oct 8	Nov 6	Nov 27	C. W. Shepherd,	Merchants' Ex
Hayden Hill M. Co.	Cal	1	15	Sept 29	Nov 14	Dec 15	W. H. Knight,	Monty'st
Ingomar S. M. Co.	Ely District.	6	25	Nov 6	Dec 1	Jan 8	C. S. Neal,	419 California st
Ida & Rhoda Lewis C. M. Co.	Arizona.		10	Oct 27	Nov 29	Dec 4	C. J. Eaton,	Express Building.
Indenendence Con. M. Co.	Grass Valley		10	Nov 3	Dec 9	Dec 29	F. J. Herrmann,	418 Kearny st.
Knickerhocker M. Co	American Flat.	7	1 50	Nov 10	Dec 13	Jan 2	Henry Boyle,	Stevenson's Building
Leo M. Co.	Washoe		10	Oct 6	Nov 10	Dec 4	C. J. Eaton,	Express Build'g
Lady Franklin M. Co.			50	Oct 14	Nov 22	Dec 15	J. S. Luty,	507 Montg'y st
Lane & Kurtz 'ariboo M. Co.	BritishCol		1 00	Oct 3	Nov 6	Nov 28	B. B Minor,	411½ California st
North Bloomfield Gravel M. Co.		28	1 00	Oct 17	Nov 24	Dec 15	T. B. Wingard,	320 Sansome st
Nicholson Pavement Co.	S. F.		5 00	Oct 4	Nov 6	Nov 28	W. Firderer,	513 Montg'y st
North Forth M. Co.	Plumas Co. Cal.	1	1 00	Nov 7	Dec 11	Jan 3	A Martin,	Sacramento City
Price of the Mountain M. Co.	Nevada		10	Aug 25	Sept 30	Oct 20	T. W. Colburn,	419 California st
Pacific Asbestos Co.	Placer Co. Cal.		6	Nov 17	Dec 22	Jan 12	H. B. Congdon,	306 Montgomery st
Revenue Cone S. M. Co.	Arizona	1	25	Oct 11	Nov 12	Dec 10	R. Harney,	113 Leidesdorff st
Rising Sun M. Co.	Nevada Co. Cal.	6	10	Oct 27	Nov 29	Dec 22	J. M. Buffington,	Merchants' Ex.
South Chariot M. Co.	Idaho.	8	1 00	Nov 14	Dec 12	Jan 14	Frank Swift,	419 California st
Thompson Coal M. Co.	Cal.		2½	Oct 8	Dec 1	Dec 29	W. H. Parehley,	602 Montgomery st.
Umpire Tunnel and M. Co.	Utah T	2	6	Oct 21	Nov 24	Dec 15	F. A. Eakins,	230 Kearny st
Wellington M. & S. Co.	Utah.	2	25	Sept. 22	Nov. 3	Dec. 1	R. Wegener.	414 California st
Washington M. Co.	Mariposa Co. Cal.		1 00	Oct 30	Dec 8	Dec 31	T. B. Wingard,	318 California st
Woodville G. & S M. Co.	Gold Hill Nev.	4	1 00	Nov 12	Dec 16	Jan 5	A. Noel,	419 Calififoroia st
Wonder G. M. Co.	Cal.	1	10	Nov 5	Dec 15	Jan 5	H. C. Howard.	332 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Chief East Extension.	Nev.	R. Wegener,	414 California st.	Annual.	Dec 5
Challenge Cons. M. Co		W. E. Dean,	419 California st.	Annual.	Dec 8.
Condor S. M. Co.	Ely District.	C. E. Grimes,	240 Montgomery st	Special.	Dec 15.
Golden Sun M. Co.		W. B. Lake,	611 Washington st.	Annual.	Dec 8.
Gold Canon Cons. M. Co	Nev.	A. A. Purdow,	420 California st.	Annual.	Dec 11.
Heckerdorn G. & S. M. Co.		Louis Terme,	734 Montgomery st	Special.	Nov 28.
Independence Cons. M. Co.	G. Valley.	F. J. Hermann.		Annual.	Dec 8
Independence Con. M. Co.	G. Valley	F. J. Herrmann,	418 Kearny st	Annual.	Dec 8
Pinnte C. M. Co.		A. F. Benjamin,	430 California st	Annual.	Nov 28
Peninsula M. Co.	Lower Cal.	D. A. Jennings,	401 California st.	Special.	Dec 1

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	F. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	4 00	Nov 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Nov 10
Cederberg M. Co.	California	D. M. Bokee.	420 Montgomery St.	50	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Nov.10
Derby M. Co.		F. Cunningham,	304 Montg'y st	50	Oct 22
Diana M. Co.		N. C. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Nov 1
Fairport Coal Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor,	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gy St.	1 50	Aug. 1
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Mar. 15
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Diat., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

THURSDAY EVE. Nov. 20, 1873.

There hae been a pretty fair business done iu mining etocks during the past week, and pricee have generally ruled higher. Reports from the various mining districts are very encouraging, and a favorable eeason is anticipated. A number of new districts are being prospected, which may develop favorahly next year, but of which there are as yet conflicting reports. We note, by the way, the incorporation of a company to work the Wonder of the World ledge in the newly discovered Panament mines. If this new company intend working their mine properly and do not rely too much for profits on stock sales, the district will he materially benefitted, and attention will he drawn to it.

We note, aleo, that many of the numerous hydraulic claims in this State are starting up work again under favorable auspices. This class of prospecting is often neglected in favor of quartz, while it ie at the same time much more profitable, ae a general thing. Judging from the tone of our Englieh exchangee, hydraulic mines are greatly in favor just now in London, while no Englishmen want to touch quartz mines with a forty-foot pole. It augure well for our State that these capitalists are desirous of trying this class of proepecting, as we have plenty of it.

Among the lateet remittances received from some of our mines are $3,450 from the Mahogany, $2,388 from the Jnstice, $3,571 from the Sierra Nevada, and $23,400 from the Raymond & Ely, making a total of $91,100 from the last named for the month, and 900 ounces gold amalgam for the last week's run at the Eureka mine. The Cederberg has also received 632 ounces, or about $10,500 this week.

The Derby mine has declared a dividend of 50 cents per share.

Business in the Comstock mines has been quite lively this week, showing that confidence is felt in nearly all of them getting ore sooner or later.

Advices from the Belmont still continue favorahle.

THE SONOMA Mine in Cinnabar District, will have a 15 ton furnace running in about a month; the total cost of the machinery will be $15,000. The mine has plenty of good ore out now.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

AMADOR COUNTY.

WORK PROGRESSING.—Amador *Ledger*, Nov. 22: Work is progressing rapidly on the Amador Canal. Mr. Merriman, who has taken five miles to complete, has 175 men now employed on his contract and is pushing the work rapidly. On the three mile coutract, which will bring the canal to the river, 125 men are now employed, which force in a few days will be very materially increased. The force of carpenters that passed through Jackson a fews ago is now engaged in constructing the flume around Bald Rock. All the material necessary for construction, is being placed along the line of work as rapidly as the same is required; a force of men is engaged in cleaning out and removing all obstructions from that part of the canal heretofore finished. No work of that kind and magnitude has ever before been pushed on more rapidly or satisfactorily than is now being done on the canal under its present supervision.

STATE OF MAINE.—We learn that in running the drift from the bottom of the maiu ehaft, the workmen a few daye ago came on to a very fine quartz ledge about three feet in thickness, solid and compact, with well defined walle and all indications surrounding well formed permanent ledges. The ore not only looks fine hut prospects well. The mill belonging to the company, has been moved from its former eite to a position near the mine, and will soon he ready for crushing. We are further informed the mine never preeented a more flattering appearance than at present.

ALPINE COUNTY.

I X L.—Alpine *Chronicle*, Nov. 15: The water having been pumped out of the shaft, work has been reaumed where the heavy body of water was struck.

SILVER MOUNTAIN.—Alpine *Chronicle*, Nov. 22: Manager Chalmere has his teams busy hauling ore from the mines to his mill, preparatory to making another run before snow flies. The rock ie considered the best ever brought from the mines.

MONITOR.—The Schenectady mill has been pounding away on rock from the old dump for the past week.

N. & N. W.—The Carson river is again pouring its waters over the newly repaired dam. The structure is greatly improved in every respect.

Work is being pushed forward in the Silver Glance ahaft and tunnel. At the bottom of the ehaft the ore is looking quite promising. In the west drift there is quite an improvement in the rock. Three samplee taken from seams in the face assayed $54, $39 and $39 per ton, respectively.

CALAVERAS COUNTY.

HYDRAULICING COMMENCED.—Calaveras *Chronicle*, Nov. 22: Work has been commenced in the great hydraulic claim of Veith & Co., located in Tunnel ridge—the first "piping" of the season in this vicinity. During the summer the sluices connected with the mine have been raised twelve feet above their original position for the purpose of affording a better "dump" for the tailinge, and for working to advantage. It will give a good account of itself this winter. Other claime are in readiness to commence operatione eo soon as the water eupply will warrant it.

GARLAND'S MILL.—Garland'e new mill, at Mosquito, is in readiness to run with the exception of the lack of eteam pipe. That will be on the ground shortly, and the battery immediately set at work upon Good Hope rock.

SAN BRUNO.—Operations are heing pushed very briekly at the San Bruno mine at Mosquito

and sinking, under the superintendonce of H. G. Coward, the former owner. Mr. Hanagan, who is in charge, struck a permanent veiu of great riohness. The main shaft is down 360 feet; the vein increasing in size and richness, the ore heing of a high grade.

The Bendareta mine was formerly tho Eclipse, from which the Goodwin Brothers took out those hundreds of thonsauds. After them Peter Wynant became the owner. He too, took out large amoants, but it seems that they lost the lead and geve it up as a "petered" mine. Some time ago Mr. Wynant made an arraugement with a San Francisco company, who placed it in oharge of Mr. Hanagan. Mr. Hanagen intends starting up the mill ou Monday next, if there is a sufficiency of water.

The John L. Scanlan mine is situated on the opposite side of the river from the Bandareto. Mr. Scanlan has had several lots of ore from this mine worked, which paid a handsome profit over expenses.

There are several other old abandoned mines in the immediate neighborhood of those above mentioned, to wit: The Martin & Walling, the Cherokee and Heslop, all of which have been profitably worked—the Martin & Walling in partionlar; it was of fahulous riohness, and thore is no question of all of them proving equally as rich as those above mentioned.

The reopening of these mines has hed the effect of starting out a number of prospectors. Some of them have been rewarded with very flattering promises. Qaite a nnmber of good prospecting new veins have beeu discovered iu proximity to the above mentioned mines, and as capital eeems to be seeking investment in this particnlar region the day is not far distant when the North Fork and Gentry's Gnlch diggings will he a second Washoe.

PLACER COUNTY.

Rising Sun Mine.—Placer *Argus*, Nov. 15: This quartz mine is about two miles from Colfax, and is one of the best mines, in the county. The company is now working on the 400-ft. level, and at that depth the ledge is from eighteen inches to two feet, and the rock yields from $30 to $60 per ton. They are now sinking for the 500-ft. level and the rock continnes to grow richer as they go down. The oompany has for some time past declared a dividend of $6,000 per month from rook worked in a five atamp mill.

The Crater Mine.—*Herald*, Nov. 15: They were now down 312 feet in this mine, and at this level they had oommenced drifting each way along the ledge. At this depth the rock at the bottom of the shaft was very rich, and they find in drifting that it doea not decrease any in value. For the last hnndred and odd feet they have been sinking through $40 and $50 rock, and when tbey get their levels in and begin stoping ont this riob rock in large quantities, we shall expeot to hear of some immense olean-ups from the St. Patrick Co.'s mill.

TUOLUMNE COUNTY.

Spring Gulch Mine.—Tnolamne *Independent*, Nov. 22: This mine looks encouraging. The workmen have struck a rich chnte of ore about 18 inches in width which will pay about $500 per ton. The mill is running on half-time, owing to a scarcity of water, and doing well.

The Chapaaral.—Sitnated one mile sonth of the Bnchanan is a quartz vein called the Chaparral, and is considered by those whn are posted, as among the best. The ground is owned by Messrs. Trout, Wagner, Schultz & Co. The lead is three feet in width, and showa gold all-through the vein. In the tunnel, 150 feet from the surface, free gold is seen in the rock, and will probably pay abont $50 per ton. This vein is supposed to be a continnation of the Bnchanan.

About to Start Up.—The ten stamp mill on the Buchanan mine will start np in a few days. Sup't Tulloch has 200 tons of rock on the dump in which gold is generally disseminated, and is supposed to pay from $30 to $50 per ton. They are at present working 15 men. The lead at a depth of 175 feet is ten feet wide, and gold can he seen from one side to the other, and rock enongh in sight to keep a twenty-stamp mill running for twelve months. The company are building a ditch for water which they intend to nse for a twenty-stamp mill in the spring.

Day Arroya.- *Union Democrat*, Nov. 22: In the claim on Sullivan's Dry Arroya, the ground is paying for aluicing about ten dollars a day to the hand. The company is now working old ground that has been washed off down to the slate; upon sinking through the slate gravel was struck; the slate and gravel are hoth being run through the sluices with the above result.

Soulsby.—At the Soulsby mine, work was commenced this week, to put up the shaft and hoisting works, that were damaged hy fire a few weeks since, in good order and condition. Superintendent Johns informs us he expects to have the works completely repeired and the mine pumped out in three weeks, that the taking out of ore may he resumed at that time. When the burning out of the shaft occured the vein had just been opened where it indicated fine paying ore.

Nevada.

WASHOE DISTRICT.

Consolidaten Viroinia— Gold Hill *News*, Nov. 22: Daily yield 100 tons of ore. There is no change in the quality of the ore extracted. The ore breasts on the 1,200-ft. level are yielding fully up to the most sanguine expectations, Sinking the north winze on this level is making steady progress, though the ore in the bottom reqnires continual blasting. The qnality of the ore continues good. Sinking the south winze is also making fair progress, the quality of the ore in bottom being excellent. The main east drift on the 1,000-ft. level is being driven vigorously ahead, the ground in the face being much softer. Sinking the main shaft is making rapid progress. It is expected that opening a new station at the 1,300-ft level will be commenced abont the first of next month.

Crown Point.—About 400 tons of ore are extracted daily from the 1,000, 1,200 and 1,300-ft. levels. Tho ore is of the same character as described in previous reports. A drift on the 1,400-ft. level is being pushed forward rapidly to connect with the south winze from the 1,300, which is on the boundary line of the Crown Point and Belcher. Have not yet made connection with the middle winze on the seme level, but expect to do so hourly, thereby obtaiuing better ventilation. A donble compartment drift is heing run on the 1,500-ft. level. Work on the soutb oompartment has been stopped in order that the one north, which is designed solely for ventilation purposes, may overtake the former. A steady stream of wetor, hot enough to cook an egg in five minutes, continues to flow from this level. The pumps are taxed to their ntmoet capacity. The various breasts and stopes throughout the mine are looking splendidly, and are yielding their usual amount of excellent ore.

Belcher.—Daily yield, 500 tons. The incline from the 1,300-ft. level has been driven downward as far as the 1,400 in very hard rock. The drift from the incline on the 1,300-ft. level is in 173 feet. A drift has been extended southward from the Crown Point line, on the 1,300-ft. level, 480 feet, still in quartz. The winze starting from the same level ia down 173 ft. The winze commencing at the 1,200-ft. level is down 102 feet. Good ore fonnd all along. Abont 260 tons of ore daily are hrough up through the Yellow Jacket shaft. The mine is looking very well, and plenty of ore is in sight.

Sierra Nevada.—Sinking the new shaft is making excellent progress. The shaft in size and finish will be second to none on the Comstook lode, and shonld the ground prove favorable through which it is designed to pess, will he unexcelled by any the world. The ore developments in the old Sacramento ground on Cedar Hill, continne to improve.

Sutro.—The main drift is heing pushed rapidly ahead with no let-up night or day. Daily progress five feet. The drift is in 95 feet. Some fine looking rock has been encountered assaying from $10 to $35 per ton. The general appearance of the mine is promising and its proximity to the Utah enhances the prospective value of the mine.

Sutro Tunnel.—This great enterprise is being pushed ahead vigorously aa usual. Total length at present, 5,242 feet. Good progress is made in sinking the various shafts along the line of the tunnel.

Julia.—The water in the shaft is gradually subsiding. The main southwest drift on the 900-ft. level is making steady progress. The west cross-cut from this drift is being pushed ahead, with excellent indications of striking the main ledge.

Utah.—The main west drift from the shaft on the 400-ft. level is now advanced over 100 feet toward the ore vein. Work in this drift is carried on without cessation. Excavating for a tank in the shaft at the 400-ft. station is making good progress. Upon its completion, sinking the shaft for the 500-ft. level will be reaumed.

Justice.—Daily yield, 50 tons of ore, mostly from the third station. The raise from the main north drift on the 300-foot level to connect with the upper level is making rapid progress. The main north drift on the 400-foot level is still driven energetically ahead. Sinking the winze in the mein south drift on the 400-foot level ia making fine headway, with excellent prospects of a rich ore development soon. A crosscut from the main north drift is being run 200 feet north of the shaft, on the 400-foot level, which will soon reach the ledge.

Dayton.—The main north drift at the third level is still driven vigorously ahead, the face in fair grade ore. The main south drift on this level is still in fair grade ore, with small spots of porphyry mixed in with the ore. At the second station the main south drift continues in hard blasting ore of a fine quality.

Gould & Curry.—The several cross-cuts on the lower levels are still carried forward without intermission. There are no particularly favorable features noticeable in any of the drifts. In the old upper levels of the mine, considerable work is going on, as there is still a large area of ground at those levels remaining nnprospected.

Succoa.—This mine possesses more than nsual interest at the present time, owing to new and good ore developments. From the hottom of the small shaft in the ravine near the mill, 180 feet from the surface, the drift east at a distance of 130 feet cut the ledge, which has been followed 30 feet. It is principally gold ore, the proportion of silver being light, and gives some very rich assays. One this morning went over $13,000 to the ton, some $600 of which was silver. The ledge is about six feet wide.

Pictou.—Driving the tunnel ahead as usnal, and we are pleased to report that it has got through the hard blasting rock and is making much better progress. The company is making all necessary preparations for continuing work during winter.

Overman.—The main west drift at the 1,200-ft. level is still driven ahead, the rock working finely. The machinery of this mine is among the finest on the Comstock lode, and every thing in the best possible working condition for the approaching winter.

Hale & Norcaoss.—Sinking the mein incline is continued and setisfactory progress heing mede.

New York Consolidaten.—Sinking the shaft is making fine progress, the rock in the bottom being much softer, and the indications of striking the ledge increasing every day. The new hoilers are in place, and will be ready to steam up hy next Monday. The pump will be lowered during next week. Everything in and about the mine is in fine condition for future operations.

Chollar-Potosi.—Daily yield 150 tons of ore, the assay value of which is $40 per ton. The ore prospects in the south drift at the third station still continue excellent. Tbe ore breasts and stopes in the Belvidere and other portions of the ore-producing sections are all looking and yielding finely. Another mill, the Empire State, has just been started up, crushing ore from the mine.

Savage.—Sinking the mein incline is making somewhat better progress, the rock in tbe bottom not being so hard to hlest. It is now down 250 ft. below the 1,700-ft. level.

Arizona, Utah and Globe.—Tbe face of the main west drift at the 400-ft. level has greatly improved in appearances since our last report, and promises some fine ore developments before long. There is also an improvement in tbe ore in the south cross cut from the bottom of the incline.

Baltimore Consolidaten.—Siuking the shaft is making excellent progress, the rook in the bottom working finely. It is now down 61 feet below the third station.

Yellow Jacket.—Prospecting the 1,400 and 1,500-ft. levels continues as usual.

Ophir.—Both the main west and prospecting drifts south, on 1,700-ft. level, are driven energetically ahead, with some fair indications of future ore developments.

Kossuth.—The main west drift, at the 250-ft. level, is still driven vigorously forward, the rock in the face blasting out finely.

Calenonia.—The new reels are in place, and everything ready to resume the extraction of ore from the lower levels in a very short time.

Empire.—All the drifts on the lower level are showing improvement and making good progress. Some high grade ore has been developed, giving hope of soon finding a valuable and permauent body.

Knickerbocker.—Everything is in readiness for the erection of the new machinery as fast as it arrives. Two large boilers and two heavy hoisting engines will be delivered at the mine this afternoon. The remainder of the machinery will be on the ground in a very few days.

American Flat —The main southwest drift at the third station is still driven ahead with steadily increasing prospects of good ore developments when crosscutting the ledge shall be resumed.

Arizona.

MOHAVE COUNTY.

Items.—Arizona *Miner*, Nov. 1: "We have rumors of a rich strike having been made by a prospecting party ahout twelve miles from here; but know no particulars as yet. As the landing for the greater portion of the Cedar Valley district, considerable ore is shipped from here to San Francisco, and merchandise received for the mines. "Have just returned from Cedar Valley district, which looks very promising. New and rich discoveries are made nearly every day. The old claims improve wonderfully with depth. Some men are arastraing, others shipping ore; hoth with success, and a more cheerful set of miners could not, I think, be found in any part of the world, every man feeling convinced that the camp will 'soon "come out."

Colorado.

New Mines.—Central *Register*, Nov. 12: Reports come from Santa Fé that Baldwin's expedition has discovered large and valuable deposits of cinuibar near the boundary line between Colorado and Arizona.

A Party of six or eight persons will leave Black Hawk in a few days for tbe mines on the San Juan.

The *Mining Review* says that the gold and silver product of Colorado, for the current year, will amount to $5,000,000, abont $2,200,000 of which will be gold, and the remainder, or larger portion, silver.

The roasting furnaces for the reduction works at Middle Boulder will probably arrive at Boulder City to-day. They are fifteen feet in length and six feet in diameter.

The Mountain City lode, situated on U. P. R. hill, and worked by Messrs. Miller & Co., is yielding very satisfactorily. The ore obtained in sinkiug yields from four to eight onnces per cord. It is intended to pnt up a good shaft-honse and work all winter. After sinking a few feet more, drifts will be run, opening up ground for the employment of quite a number of men. This will place the Mountaiu City in the list of prominent ore producers.

The newly opened coal bank near Valmont, on the Colorado Cental, which is owned in part by Teller and Turck, is already producing two carloads of "black diamonds" per diem. The coal is said to he of excellent quality for looomotive purposes.

Idaho.

South Chariot.—*Avalanche*, Nov. 15: Just before going to press we learn from an nndisputable source that they have struck an immensely rich 3 ft. vein in the face of the 6th level drift, 470 ft. north of the Sonth Cheriot main drift. A large piece of the ore shown us, fairly sparkled with pure silver mingled with gold. At a depth nf 10 ft. in the winze which is beiug snuk hetween the 6th and 7th levels, 320 north of the sheft, they heve also strnck the ledge, similar in size and rickness to thet just found in the 6th level. The South Chariot is nndonhtedly, to-dey, one of the very hest mines on War Eagle Mountain. There is no mistake sbout it whetever.

Silver City mine on Florida Monntain was was recently sold at Sheriff's eale, R. H. Leonerd being the successful bidder at $2,000. He bought the mine for the intervenors.

All the mines in Owyhee continue to look splendidly. The mills are all husy, and every stamp is kept ponnding away nigbt and day.

Montana.

GREENWOOD COUNTY.

New Mines.—Moutane *Independent*, Nov. 8: The mines are situated ehout five miles north of Greenwond, and were discovered about two months ago by Mr. Cal. Adems, who has been working in the District since that time. The gold is coarse and of good quality.

One hundred snd five claims have been recorded; 45 helow and 60 above discovery. In the spring there will he from 40 to 50 sluices running in the Camp and not less than 150 men will find profitable employment in the new mines.

Messrs. Wm. Butler & Co., are digging a ditch from the right fork of Dog Creek to Meadow Creek Bar, and will have it completed hy the first of May. Tbe company have ground enough to last ten years, and it will pay from $10 to $20 a dey to the haud.

McIawin & Rowen have a claim opened in Hope Gulch aud intend to work all winter, using spring watet to wash with.

Hornevill & Finn are driftiug on Unole Ben's Gulch, and are taking ont rich ground.

The miners are all highly elated with their prospects, and some fifty men will winter in the Camp.

MADISON COUNTY.

Summit.—Cor. *New North West*, Nov. 15: Work in the Gulch is suspeuded, with the exception of a few claims that will be drifted, until spring opens. The four fluming companies have done well—and in faot no one seems to have much to complain of, as over $40,000 in dust have been taken down to Virginia City from Summit district since the first of Jnne. This, all must agree, is a good showing for a district as small as Summit.

Quartz Mining is rather duller than nsual. Why it should be so, I cannot imagine, for every pound of quartz crushed in Summit the past summer paid well. Mr. T. Conner & Co. are running a tunnel to prospect the Oro Cache, and seem confident they will be repaid for all the labor and money expended in prospecting. Messrs. Shroyer and Roister are working the Kearsage lode, and are taking out a fine quality of ore. The rook worked from this mine last June paid thirty-seven dollars per ton; and there is plenty more of the same sort left to be taken out this winter.

Lower California.

The New Japa Mines.—San Diego *Union*, Nov. 22: Reports from these lately discovered placer mines in Lower California, are very favorable. About 80 men are now working in the diggings in Japa. The country has been but little prospected; and new discoveries, some of them very rich, are made every day. Much excitement prevails concerning these mines at San Diego, parties leaving there daily, for the mines, with complete outfits, and in such numbers, it is said, as to give the city the air of one of the up-country mining towns in tbe days of '49. Sufficient dust has been brought in, to make a good showing aud keep up the excitement.

Utah.

OPHIR DISTRICT.

Cor. Salt Lake *Tribune*, Nov.11: The mines are all pushing work in the face of the approaching winter, and are expecting to do so for four or five weeks, if the weather remains pleasant. The weekly shipment of the several mines have been as follows: The Emma mine shipped about 90 tons; the Grizzly 100 tons; the Daveuport 150 tons; the Vallejo, 60 tons; the Toledo, 25 tons; the Oxford and Geneva, 20 tons; the Prince of Wales ahout 30 tons.

The Oxford and Geneva are continniug their shipments as usual, averaging about 5 tons daily. This amount leaves the mine, bnt considerable trouble is experienced in getting it down the newly made road in time, owing to its icy condition. A new level is beiug driven 75 ft. from the tunnel level, and looks promising so far as it is now driven. The work of sinking the main shaft (now down 185 ft.), 200 ft. deeper, will be pnshed to its termination without delay. The Company hopes to develop another large and rich body of ore when the required depth is attained. The provisions for the winter have all been gotten np and housed, so that at least one more mine can he added to the list of those that will work all winter.

The Flagstaff Mine has again resnmed work with a reduced force of about 40 men, and it is said at the low figure of $2 a day; it is proposed to work the ship-ore during the winter.

The Emma Mine continues to work out the second-class dump, and are pushing up their repairs for the winter, in order to proseoute work on this valuable mine without interruption this winter.

Mineral Resources of Spain.

Few countries, if any, possess the mineral and other resources of Spain. Her mountains teem with silver, quicksilver, lead and copper. Iron ores of the finest qualities exist in abundance. There are coal fields of great magnitude with rich seams of excellent coal. The surface of the soil produces all necessaries, and even luxuries, in abundance. Political troubles have, however, for more than half a century disturbed the Peninsula, and, as a natural consequence, every sort of industry has flagged. The underground wealth has been in a great measure neglected—the fertile fields indifferently tilled. Under the circumstances it is gratifying to find that, notwithstanding the difficulties which stood in the way, a marked progress has been discernible in the development of the mineral production, not only of raw ores but of manufactured metals, during the five years which elapsed from 1865 to 1870. Since then causes which it is needless to recapitulate have exerted a baneful influence and made it difficult to collect reliable data on the subject; but there can be but little doubt that the impulsion already given still exists, and will again become manifest so soon as the present unfortunate state of affairs shall have passed over. In 1870 the value of the minerals produced in Spain was between six and seven millions sterling, representing something over one-half of raw ores and the remainder of manufactured metal. In these industries there were at the time 40,500 individuals employed, of whom 33,000 were men, 1,500 women, and 6,000 children. There were besides 266 blast furnaces with 10,000 workmen.

The increase in the production of the year 1870 over that immediately preceding had been very great, being about 169,050 tons, which showed a very considerable activity. It was particularly remarkable in the case of iron, in which the greatest increase had taken place, it being 62,650 tons. In 1866 the total production of iron was only 90,000 tons, and in 1870 it was 216,000 tons. Whilst this development was going on in the production of iron during the period from 1866 to 1870, an increase of greater value, though not of so great relative proportion, was occurring in other more valuable metals—quicksilver rising from 5,750 tons to 12,000; copper from 140,000 tons to 200,000 tons, lead from 130,000 tons to 154,000 tons, and spelter from 35,000 tons to 60,000 tons. In all these calculations no account has been taken of salt, raw or manufactured. The salt works of the State, however, produced salt of the value of over four millions sterling, but the number of workmen employed in the manufacture is not stated, though it must be very considerable. The principal export from Spain is lead, as it is one of her chief products. Thus Spain turned out from 1865 to 1870, of lead ore 16,600,000 quintals, of pure lead 3,809,890. England has produced only 4,800,000 quintals of ore, but its lead is pure galena, yielding from 73 to 74 per cent.; while Spanish ore yields but 15 per cent. of lead. Silver also, which is found in conjunction with the lead and zinc ores, is also largely found in Spain, and with the increase in the production of the former metals it has also gone on advancing, and from a production of 23 tons of silver in 1866, it had attained 29 tons in 1870; the total yield for the five years up to 1870 being 132 tons, an excess of 51 tons over the preceding period. The total amounts in tons 1,000 kilos. each, of minerals and metals which Spain exported in 1871 were—Steel, in bars, 18; quicksilver, 1,390; copper ore, 3,300; ditto, bars, 900; manufactured, 78; wrought iron, 88; old rails, 4,000; pig lead, 38,000; ditto, silver-bearing, 39,500; wrought ditto, 27; spelter, in slabs, 1,257; galena, 1,000; pyrites of iron, 140; antimony, 57; copper, 164,000; tin, 2; iron, 253,300; manganese, 24,000; spelter ore, 3,400; calamine, 48,000; phosphate of chalk, 40,000; and jet, 23. The Badojoz-Lisbon Railway took, in 1870, 27,000 tons of Spanish phosphate of chalk, which was shipped to England.

The above statistics show that even already the mineral and metal production in Spain had acquired in 1870 very considerable dimensions, and was in the fair way of becoming a source of large revenue to the country. For the present a marked decline is noticeable, but so soon as affairs shall have settled down, it is not to be doubted that it will again not only resume its previous activity, but go on steadily advancing. The natural wealth of the country is so great that the national energy may for a time be depressed, but it cannot be destroyed, and requires only the fostering help of a strong Government which can afford security to property, to enter on a new era of progress and prosperity. This will be the more apparent when the large amounts produced by the mining industry of the Peninsula are taken into consideration. From the official statements it appears that the ores raised in the five years under consideration amounted in value to over 11,000,000 *l* sterling, whilst the pure metals sold were worth about 13,000,000*l*. sterling, exclusive of salt. The relative amounts of ores and pure metals exported at different epochs, five years apart, were in metric tons—Ores of all kinds, 1861, 4,900; 1865, 106,000; 1870, 500,000; Pure metals, 1861, 15,000; 1865, 41,000; 1870, 84,000. From these figures it is clear that great progress had been made, and that had other circumstances been favorable, the trade would by this time have assumed very large dimensions and it is satisfactory to notice that whilst the export of ores went on increasing, that of pure metals was going on augmenting at the same time. The production, indeed, was beginning to assume very considerable proportions, and gave promise of a still further development. The mines and salines belonging to the Government were in regular working, and had yielded—Almaden quicksilver mines, 26,000,000 francs; Rio Tinto copper mines, 8,000,000 francs; Linares lead mines, 3,000,000 francs; State salines or salt works, 105,000,000 francs. It will, of course, be some time before Spanish industries will resume their wonted state, should even all political disturbances disappear from the horizon; but that they will do so sooner or later, is self-evident. Wealth so great as that which belongs to the country cannot be left long unattended to. Should the means for developing it not exist on the spot, money will easily be forthcoming from the capitalists of other lands for so promising an investment. When this is the case, Spain will commence again to resume the place she once held amongst nations, and besides being herself a large producer, will also become a large purchaser. Nothing is more likely to conduce to this end than the development of industries in the country adapted to its climate and its position, and the construction of ready means of transport and locomotion in extended railroad systems, which will not only furnish markets for the produce, but bring the different sections of the people into closer contact, and make them see that the general is the individual interest.—*London Mining Journal.*

Gravel Mines of Tuolumne.

A correspondent of the Tuolumne *Independent* says: I have just returned from a visit to the Alpha and the Blue Gravel Table Mountain mines, located in Table Mountain, west and north-west of the town.

The Alpha

Is an old mine, never having been much worked, however. It was formerly owned by Harvey Mays but subsequently re-located by a Jamestown company, in connection with Mr. Marks and others, of San Francisco. Mr. Marks was made Superintendent, ran an incline and got out some good pay gravel. Jamestown partners in the mine, not being exactly satisfied with the manner in which things were shaping themselves, sold out to John Roberts and other owners in the Blue Gravel Mining Co. The Superintendency then slid from Mr. Marks to Col. M. G. Gillett, the accomplished mining sharp of years' practical experience in old Table Mountain. Under his supervision, the Alpha has commenced to assume a shape which looks like business. He has opened out the original tunnel, which at once taps virgin gravel and drains the mine. He is now waiting only for water to commence washing up and securing the root of all evil. From the Alpha I visited the

Blue Gravel Table Mountain Mine,

Which is adjoining and immediately north of the Alpha, and owned in part by members of the same company. Just as I arrived, that 200 pounds of originality, Col. M. G. Gillett, drove up. Wanted to know "where I was going;" told him "right here; come to see you, Gillett. I want to go through you; that is to say, I wish to interview you. I am here in the capacity of reporter for the *Independent*, and I wish to find out all you know, and more too, if possible, about this mine; to the end that its past renown and future greatness may be mirrored forth in the columns of the aforesaid journal." Mr. Gillett kindly showed me around, and gave me much information, relative to the mine, his future plans of operation, etc., which I will endeavor to set forth here. Already fearful of trespassing upon your space, I will endeavor to be brief.

Some 18 years ago, work was first commenced on the "Humbug," the original name of the present "Table Mountain Blue Gravel Mine," —a misnomer. A tunnel was then run in near the center of the mine, and the work prosecuted in a northerly direction—and during that long period of time it has been constantly worked and constantly declaring dividends. Where the original tunnel was run in, I have been informed by Mr. Wheelock, some of the very richest gravel ever taken out of this famous mine was found. Mr. Gillett has recently caused an incline to be run down, tapping the channel where first tapped 18 years ago, and has been rewarded by finding there a channel of 100 to 125 feet in width, and of the very richest character. He immediately commenced to erect a new mill and wheel in which he will place a new Cox Pan at the mouth of this new incline. He will also have a first class engine there to be used for hoisting purposes.

The old works are by no means worked out yet. The Superintendent informs me that there is a year's work for a full force of men, now in sight, with a channel 150 feet in width. A new incline has been run down, striking this channel, and the Col. is now engaged in moving the old mill up to the mouth of this new incline, thereby making it handy and easy of access in conveying the gravel to the mill.

The entire amount of expenditures incurred in these improvements will aggregate the sum of $5,000, which Gillett says breaks his heart; but adds, "we have enough of the blue gravel funds already on hand to meet the liabilities, with coin to spare."

W. C. Wheelock, of our town, an original owner in the mine, or, as Gillett calls him, "Lieutenant-General Wheelock," is General-in-Chief of the new works; and as he is aided by a competent force of first-class mechanics from your city, the mill will soon be in good running order.

The result of these improvements and the new developments going on, will soon place in active operation here three mines with a bright a future as that of old "Humbug" mine, employing a force of perhaps 75 men, and all under the supervision of an intelligence, who, by recent results, proves that he knows what he is doing.

These things look encouraging for the future; they give a cheering impetus to our business men here. The outlook is certainly more favorable in the mind of your correspondent than it has been for years.

Treasure Hill.

Since the discovery of silver on this famous hill, such dull times have never been known as at present exists there. A visit to the old stamping-ground of thousands now scattered world wide, reveals a marked change from former days, and where throngs of people filled the narrow street, one could now fire a 100-pounder, loaded with cannister, its entire length and not hurt a man. Still there are some sixty men engaged in the mines of the Eberherdt & Aurora company, the only mine now being worked to any extent. A casual observer would suppose all this inactivity and apparent desolation was the result of failure in the mines; but a close examination would at once convince any one that such was not the case. The fact is, as we have persistently stated, knowing from actual observation our statements are correct, that never in the history of Treasure Hill, not excepting the days of the great excitement, have the mining interests ever looked so well as now. Particularly is this the case in the Edgar mine, of the Ward Beecher Consolidated. We are informed by practical miners, who have worked constantly in the above mentioned mine, and have had their assertions verified by mill men, that there now remains enough ore in sight to guarantee the working of forty stamps for a year. This is not written from hearsay; it is the actual state of facts, which can be abundantly proven by inspection. For the purpose of enriching a few, the many stockholders, the miners, and the interests of the entire county are being sacrificed. While our institutions deny no men or set of men the right to work their properties in their own way, we still hold, notwithstanding, that the people have some rights, which ought to be respected, and that justice should dictate the equal distribution of profit arising from labor. In this company, as also the Hidden Treasure, we have a sample of monopoly, the great curse of our country, one which, to the people directly interested, equals any other now agitating the political world. The question, pertinent to the case in point, could and should be asked by the stockholders, as to what disposition has been made of the money accruing from the last run of the Manhattan mill, when the average results of three or four months' operations were from $30 to $50 per ton of ore. Why, in the face of these results, should assessments be levied, and the stock of a company doing nothing be $7 per share, and that of the mine producing such returns not be quoted at all? We know of men owning stock in the Ward Beecher, aware of the intrinsic value of the Edgar mine, who are poor comparatively, and who have to come out with one dollar a share very frequently, and can sit in their own doorways watching the teams laden with their ore on the way to the mill. Of course we all understand these operations; of course we know why this manner of conducting mines is adopted; but let us assure the gentlemen operators that, after a time, forbearance ceases to be a virtue, and a day of retribution will surely come, unless they change the present selfish mode of working mines. The system of "freezing out," now so common, must cease, and the working-men stand an equal chance with the monopolizing capitalist.—*White Pine News.*

Cement Gravel.—The Stockton *Independent* has the following: Mr. A. Sciefford, of San Andreas, brought to this office some specimens of cement gravel taken from a newly opened mine in Calaveras county, about four miles from San Andreas, which excelled in richness anything we have ever before seen. The gravel is perfectly lousy with gold, besides what is seldom seen in such materiel—large quantities of fine particles of sulphurets of iron. The mine from which this was taken is on the noted blue lead of Calaveras, which paid so extravagantly in the neighborhood of Mokelumne Hill, and later in the mine owned by R. H. Paul. This mine has not been previously worked on account of the prevalence of water, but parties commenced a tunnel to drain it several years ago. Owing to the lack of capital the work was suspended after the tunnel had been run nearly eleven hundred feet, and it is only within the last few months that operations have been resumed and the channel at last struck. From the description given by our informant, the present owners have a very promising prospect. Joseph Dias, a well-known citizen of Stockton, is one of the fortunate individuals.

New Mode of Treating Gold Quartz.—Some experiments have been tried publicly during the month of a new process of treating quartz, discovered and patented by Mr. E. Reading of Castlereagh street, Sydney. As far as the experiments have gone they have been highly successful. The treatment consists first in burning the quartz, and then whilst red hot plunging it into a bath prepared with acids. The effect of this is to utterly destroy the silica in the quartz, and to render it perfectly friable, so much so that it can be readily reduced to powder by the Chilian mill, without the intervention of the ordinary crushing battery. Besides this, the silica being destroyed, what had previously been stone is converted into an earthy matter, which is carried off easily by a gentle flow of water through the basin of the mill. The sulphurets, too, are all destroyed, and the quicksilver continues bright and lively, taking up every particle of the gold, however fine.—*Thompson's Investment Circular and Share List.*

Dutch Flat Mines.

A correspondent of the Truckee *Republican* writes from Dutch Flat as follows:

"Staple Bros. are running a tunnel from the Cañon lead into Bear river, up to their old Somerset claim. They have been at work on it since July, and will soon be in 200 feet and ready to raise the shaft. The Cedar Creek gold mines and water company have been employing a great number of men during the past summer and this fall, in cleaning and repairing its different ditches, flumes and reservoire, and fitting up its various claims preparatory to washing the coming season. This company started a bed-rock tunnel last July, to run from the month of Dutch Flat cañon to the Deep Shaft claim, a distance of about 3,000 feet, for the purpose of washing to the bed-rock all of the rich deposit overlying the ancient channel, under which it will pass. This tunnel is being run by hand at present, but a Burleigh drilling machine is now on the way, which, when it arrives and is set up, will press the work onward at a rapid rate. The motive power for the drill is compressed air, led through an iron pipe into the tunnel. The machinery will be driven by water power, of which the company have plenty for this purpose the year round, the pressure at this point being 750 feet. Aside from the rock in the face of the tunnel, four shafts are to be sunk—one of which is already down about 140 feet, and the tunnel run from them—it being the intention to run from eight faces, so as to complete the tunnel as soon as possible. The face of the main tunnel is now in about 200 feet, and it is expected will be completed in eighteen months. This is quite an important enterprise for our town, as all of the surface gravel had been washed off, and it became necessary for some such an enterprise to resuscitate and keep alive the little trade we have. The company have had not less than fifty men in their employ during the entire summer (who heretofore have remained idle from the ending of one washing season to the commencement of another) and the coming water season will employ about 150 men in all, besides a number who derive a living by cutting blocks, pitch wood, etc. It is the opinion of experienced miners that the best days of many of our mines are yet to come. The London company have brought the greatest number of mines in this vicinity, and having an immense amount of capital will work them thoroughly.

International Mill.—Capt. Frank Drake assures us that, if no mishap occure, his splendid 30-stamp mill will be in running order on the 17th inst. We are sincerely pleased to know this fact, and trust his anticipations may be more than realized in its working. While passing through the mill the other day, it was a matter of astonishment to notice the immense amount of work accomplished in so short a time. Reverting back in memory to the apparently useless mass of *debris*, which remained after the great fire, wherein were mixed broken castings, charred timbers, bent shafting and all the accumulation of wreck and ruin, one cannot but admire the skill, ingenuity and perseverance which have been displayed and made manifest in the magnificent structure now almost completed. Only such material as would necessarily be destroyed by fire has been purchased to replace the old, a fact a casual observer would never notice while looking at the mill. Everything has been done to render the institution one of convenience and comfort to the workmen, and all experienced mill men assert that there is no better appointed or before made extended mention of the new constructed mill of the kind in Nevada. We have structure, but cannot refrain at this time from offering our sincere congratulations to all concerned for the successful completion of the work.—*White Pine News.*

The Rattlesnake Mine.—The Sonoma *Democrat* of November 1st gives the following as the latest from the unique quicksilver mine: Two cute have been made into the mountain, one about twenty-six feet deep. From both ends tunnels have been run. Near the surface they struck a mass of cinnabar and vein matter, holding free quicksilver; both vein matter and ore of astonishing richness. The free metal follows the flow of the pick and trickles down the sides in globules. It runs together and stands in little pools on the floor of the tunnel. We saw dipped from a hole in the floor, with a shovel, a mass of blue clay, some water, and a greater proportion of quicksilver than either. We saw an oblong piece of cinnabar, not so large as a bag of shot, which weighed thirty pounds; it was valued at twenty-five dollars; there was in it only sufficient foreign matter to hold the mass together. A number of specimens of this kind were placed in a sack, it was lifted up and beneath there was a pool of metal.

Useful Information.

Paper Decoration.

Under this head the *London Furniture Gazette* makes some sensible remarks. Speaking of the decoration of dwelling rooms, it says paper hanging is, of course, not of ancient date, for it is but about two hundred years ago that the practice of hanging paper on walls, and decorating it by etencil distemperiug aud by drawing, came into use. The next improvement was to print an outline by means similar to that now employed in block-printiug, and upon that basis filling in the colors iu stencil and by hand. The art gradually developed to what it was about forty years ago, since which time it has made little progress, except in the adaptation of machinery, toward the supply of the vastly augmented demand.

We offer some suggestions in the hope of promoting improvement, and because the subject is interesting. Sick people know the torment of some patterns, and although they would he difficult to please in any case it often happens that their criticisms and objections are endorsed hy tunse in good health. Comfort and propriety form the ultimate court of appeal iu all matters of furniture and decoration. What sense is there in putting into a poor man's hedroom a small hard diamond pattern? If he is well he can hardly see it because it is so dazzling, aud if he is ill he will put his head under the sheet as often as he can; and yet this is one of the choicest specimens for a bedroom. The sick man sighs in vain for the hanished chintz hangings of the unhealthy kind, because that some birds of paradise, some convolvulne or rose, some sprig, leaf or tendril, unending, would he changeful objects for his weary time.

Then there is a freak of fasbion in color which is not easily accounted for in England, where the climate and sky would suggest brightness as the first elemeut of proper taste. We refer to the continual use of light brown for dining-rooms, with generally the adjunct of aome gold pattern. This looks so elegant and snitable when on the stand at the paper-hanger's shop that its selection is not to be wondered at, especially as it looke like tooled leather, which was in vogue hnndreds of years ago; but experience must have taught many persons that such colors absolutely absorh the light, aud that its delicaoy flies very speedily indeed. Yet that taste prevails. And surely the decorator who knows all this shonld endeavor to find some new idea that shall be an improvement, some grounds that do not absorh the light but increase its influence, that do not so rapidly "perish in the using" and some patterns having more in them than the plain imitation tooling of the bookbinder, and yet free from the flaunting vulgarity of thirty years ago.

Suggestione have heen made, having for their object the rendering of papered walls instructive to the honsehold. It arose from the circumstance that in the early days of paper decoration, when part of the labor was handwork, it was not nncommon to fill up certain spsces with water-colored drawings, or chalks, executed hy the ladies of the house or their artistic friends. Some antiquarian scholars sought to bring the psper stainer's art to their service by suggesting that small spaces in cheap hangings should he devoted to separate pictures of plauts, hirds, animals, etc., hut the idea was impracticable.

But the pictorial idea is much too good to be abandoned; and for houses of the hetter class, there should be an attempt to set on foot an enterprise of change. These could well afford a new design for a ground pattern, composed of the floral and the scroll, light, graceful, aud of the most correct taste. In this pattern-ground there might be introduced spaces of varioue well-known sizes, into which the vast variety of French and Austrian oleographs, or best wood engravings, conld find a place at once bright, effective, and beantiful.

To Clean Paint.—A correspondent of the *Country Gentleman* says: Use hut little water at once; keep it warm and clean by changing it often. A flannel cloth takes off fly specks better than cotton. Soap will remove the paint; so use but little of it. Cold tea is the best liquid for cleaning varnished paint, window panes and mirrors. A sharp piece of soft wood is indispensable for cleaniog ont corners. A saucer of sifted ashes should always be at haud to clean unvarnished paint that has hecome badly smoked; it is better than soap. Never put soap upon glass, unless it can be thoroughly rinsed off, which can never he done to window glass. Wash off the specks with warm tea, and rub the panes dry; then make a paste of whiting and water, and put a little in the center of each pane. Take a dry cloth and rub it all over the glass, and then rub it off with a chamois skin or flannel, and your windows will shine like crystal.

Hardening Lead.—Lead which coutains sulphur is so much harder than pure lead that galena or native snlphide of lead is often fused with the lead to give it hardness. A small quantity of antimony has the same effect. By combining the two processes and smelting together five parts hy weight of lead to one part sulphnret of antimouy, a hright hard regulus is obtained, which may be added to ordinary soft lead in snitable quantities to produce the desired hardness.

By fusing two parts of galena and one part sulphide of sntimouy, sulphurous acid is given off, and a regulus of hard lead is obtained similar to the above, and consisting of sulphide of lead and antimonuretted lead.

Good Health.

Fish, Chemically Considered.

By chemical analysis, says Prof. Wetherbee, it is found that fish contains a greater proportion of phosphorus than any other class of animal food, aud therefore must be considered the richest "hrain food." In land animals the phosphorus is coutained for most part in the hones, in combination with lime, as a phosphate, while the muscle is rich in fibrin, etc. Bnt on the nther hand, the various genera of fish, although not abounding in fihrin, are much richer in phosphorus, and this element, as a general rule, varies according as the fish ia lively or slow iu its movements and habits. Upon this difference depends, in a great measure the relative value of different kiuds, those containing the greateet proportion of phosphorus, and consequently those of the most rapid movement command the greatest prices. Thus, the salmon a fish of remarkable agility in its movements, and its nearest relative, the trout, are among the most expensive of the varieties in our market, while the less active kinds command but inferior prices. But an exception to this rnle, due only to ignorance or prejudice, is exemplified in the New England farmers of the last century, who were often bound by legal obligations not to feed their apprentices more than three meals a week upon salmou, as it was exceedingly plenty, and therefore, fit only for those who were too poor to obtain anythiug else. The same worthy farmers were wont to consider oysters a mere luxury for the epicure, and they were generally associated with champagne, late snppers, aud high living generally. But in our seaport towns they are undouhtedly among the cheapest, and by no meaus the least nutritious articles of diet, although we have recently seen it asserted that they contaiu no nutriment. We have also seen philosophers who contended that cheese was only a luxury and contained none of the elements of nutritiou, being ignorant of the chemical fact that the casein of the cheese and the fihrin of meats are almost the same, and are hoth resolved by constructive assimilatiou into muscle.

Thoee natious who eat fish with one meal each day are nndouhtedly the most active in intellect, and the most capahle of hrain labor without exhaustion or fatigue. Even those savage tribes who subsist in a great measure upon fish no doubt possess very quick minds although they are uncultivated and iguorant, and other causes may tend to keep them in a deplorable and degraded condition. But when once civilized and Christiauized these tribes of *Ichthyophagi* hecome quick and active in intellect, eveu to put to shame the more stolid beef eaters of our inland towns of Christiau lands. Not only is such phosphatic food conductive to the activity of the brain, but it promotes fecuudity and increases the ahility to endure cold, fatigue, etc., and, while facilities for obtaining it are coustantly increasing, it would he well for the rising geueration were they made to partake of and to realize it as second only in many respects to the staff of life, and the husband and father who occasionally takes half a day from his legitimate business to fill his basket with delicious fish should not he considered as a mere "sportsman," hut a "good provider" for his family of those things of vital utility.

Natural Appetite. — As a general thing, people should consult their natural desires more in the selection of their food. Snch desires are calls to satisfy the wants of the system, and therefore are not given us in vain. If in warm weather the relish for meats and heavy food is less, or even disappears, it should not be eaten; hut if, on the other haud, there is a craving for fresh vegetables and fruit, it shonuld by all means he indulged iu; it acts like a correctiug, purifying medicine on the digestive apparatus, sometimes deranged hy the heat of summer. Let nobody be afraid to live during hot weather on vegetable diet exclusively. On the contrary, when abstaining from meat one will suffer less from protracted heat, especially when abstaining also from distilled or fermented liquors, and drinking water and milk instead. In winter, on the coutrary, we may have a craving for animal food and fat, and then it is time to indulge in it. However, the flesh diet should always be balanced with vegetables and hread or its equivaleut. No animal requires perhaps such a variety of food as man, who is neither carnivorous, like the lion, nor herbivorous, as the horse, hut omnivorous, like the pig, whose digestive apparatus resembles that of man more thau is the case with most other animals. If this is considered rather flattering for the pigs or insulting to men, it cannot he helped.—*Manufacturer and Builder.*

The Abuse of Chloral.

We regret to say that from various quarters we have received trustworthy reports which leave no douht that this very valusble medicine is heing grossly abused hy the public. Hydrate of chloral has received no more than its just praise from those medical writers who have described it as the hest aud safest soporific mediciue in existeuce. But no medical authority has ever dreamed of sanctiouing its employment except nnder direct medical order; yet the public are, to a large exteut, taking it on their own responsihility. In this husy and distracting age the demand for sound and undistnrhed sleep in one of the most urgeut calls of jaded natnre, and it is not nnnatural that people should catch at anything which seems to promise to give repose with certainty and safety. This makes it all the more necessary that the public should be plainly told that chloral is no more to he admiuistered safely hy unskilled hands than is opium or strychnia. There are several ways in which its improper use may cause serious mischief. In the first place, a single overdose may cause death by failure of the circulation, and there seem to be very great differences between persons as to the dose which can be taken without any danger of this fatal catastrophe. The other possible evil results of chloral are chronic. Where it is taken without proper reasons repeatedly for a considerahle time, it may produce either, or hoth of the following effects: it may seriously affect the intelligence and memory, or it may produce partial paralysis of the limhs. The latter is a fact which we have not yet seen recorded anywhere, hut it is becoming known to observant practitioners, and will henceforward have to be reckoned as a possible consequence of the rash use of chloral.

Besides all these things, chloral is fully as guilty as opium or any other recognized narcotic of the tendency to render those who take it the slaves of habit; and we are not sure that the moral enfeehlement which it thus induces is not even greater than that of opiun-eating, unless the latter be carried to great excess. In a word, chloral is a most valuable medicine in the hands of a judicious doctor, hut it is also a most dangerous plaything or luxury in the hands of people who merely wish to escape from the sleeplessness of anxiety or of fashionable *ennui*.—*The Lancet.*

Stammering.

According to M. Chervin, a French gentleman and author of a very successful system of treatment for this embarassing and aunoying misfortune, stammering consists solely in defective co-ordination of the movements of the organs of speech. To correct the difficulty he begins with the respiratory organs, and the pupil is csused to inspire and expire regularly, pausing between respirations. Theu the vocal orgsns are next called into action, hy the emission of the vowel sounds—care heing taken to avoid a useless expenditure of air, uutil the vocal cords have become habituated to contract regularly, as desired by the pupil—then the lips and tougue are called into play by the articulation of the consonant sounds. The author has adopted an ingenious system, similar to musicsl notation, by which he represents to the eye of the nnpil the quantity to he given to each letter, iu pronunciation, aud, in his more adv nced exercises, the places where the voice should pause for inhalation. His *resume* of general directions to stammerers is worthy of careful note by all thns afflicted, and who are willing to take the trouhle necessary to relieve themselves:]"Take a full inspiration before commencing, speak slowly, articulate distinctly, slightly scauning each syllahle, sustain the voice with an accompsnying gesture, a methodical and somewhat declamatory intonation." The practice of this he considers an infallible remedy. Of course all this cannot he done in public and in daily conversation. The stammerer must be willing to go by himself regularly and exercise his organs.

Trichinæ in Pork.—The time had gone by, we had supposed, when there was auy danger from eatiug pork that might be infested with this frightful ahomination. We had thought further more that it was not an affection much diffused in the United States, hut a paragraph from the London *Medical Times*, printed helow, seems to indicate that it is more common here than in Germany, where the worm was first detected and where large numbers of people were made ill, and some died from eating badly cooked swine-food, the home of infinite numbers of those minute parasites of the flesh. "As there is a large importation of American bacon into this country, a statement made in *Virchow's Archiv* (April 10) is of great importance. It is there said that among 6,555 swine slaughtered and examined in Rostock during 1872, none exhihited trichinæ. But of 622 flitches of bacon imported from America which were examined, 12 were found to be infected with trichiuæ. Besides these, a much larger portion of the imported bacon was disposed of without having heen examined."

Care of the Hair.—To keep the hair healthy, keep the head clean. Brush the scalp well with a stiff brush, while dry, then wasb with Castile soap, and ruh into the roots bay rum, hraudy or camphor water. This done twice a month will prove heneficial. Brush the scalp thoronghly twice a week. Dampen hair with soft water at the toilet, and do not use oil.

Domestic Economy.

Cooking Poultry.

Poultry should never he eaten in less than six or eight hours after it is killed; but it should be picked and drawn as soon as possible. There is no direr disgrace to onr Northern markets than the practice of seuding whole dead fowls to market. A writer says: I have bonght such from responsihle poultry-dealers, and found them uneatable, from having remained undrawn until the flavor of the craw and intestines had impregnated the whole body. Those who are conversaut with the habit of careful country housewives, of keepiug up a fowl without food for a day and night before killing and dressing for their own eating, cannot but regard with disgust the surcharged crops and puffy sides of those sold *by weight* in the shambles. If you want to know what you really pay for poultry, honght in these circumstances, weigh the offal extracted from the fowl by your cook, and deduct from the market weight. "Bnt don't you know it actually poisous a fowl to lie so long undressed?" once exclaimed a Southern lady to me. "In *our* markets they are offered for sale ready picked and drawn, with the giblets—also cleaned—tucked nnder their wings."

I know nothing about the poisonous nature of the entrails and crops. I do assert that the custom is unclean and unjust. And this I do without the remotest hope of arousing my fellow housekeepers to remonstrance against established usage. Only it relieves my mind somewhat to grumble at what I cannot help. The best remedy I can propose for the grievance is to buy live fowls, and, before sending them home, ask your butcher to decapitate them; the probabilities heing greatly in favor of the supposition that your cook is too "tinder-hesrted" to attempt the job.

One word as to the manner of roasting meats and fowls. In this day of ranges and cooking-stoves, I think I am speaking within hounds when I assume that not one housekeeper in fifty uses a spit, or even a tin kitchen for such purposes. It is in vain that the writers of recipe-books inform us with refreshing *naivete* that all our meats are baked, not roasted, and expatiate npon the superior flavor of those prepared npon the English spits and in old fashioned kitchens, where enormous wood-fires blaze from morning until night. I shall not soon forget my perplexity when, an inexperienced honsekeeper and a firm believer in all "that was writ" by older and wiser people, I stoed before my neat Mott's "Defiance," a fine snrloin of beef ready to be cooked on the table hehind me, and read from my Instruction-book that my "fire should extend at least eight inches beyond the roaster on either side!" I am not denying the virtues of spits and tin kitchens—only regretting that they are not within the reach of every one. In view of this fact, let me remark, for the benefit of the unfortunate many, that in the opinion of excelleut judges, the practice of roasting meat iu close ovens has advantages. Of these I need mention hut two, to wit, the preservation of the flavor of the article roasted, and the prevention of its escape to the upper regions of the dwelling.

To Cleanse Phials ann Pie Plates.—Cleanse bottles that have medicines in them, by putting ashes in each, immersing them in cold water, and then heating the water gradually till it boils. After boiling an honr, let them remain in the water till it is cold. Wash them in soap suds, aud rinse them till clear in fair wster. Pie plates that have heen long used for baking are apt to impart an unpleasant taste on acconnt of the rancidity of the butter and lard imbihed. Put them in a hrass kettle, with ashes and cold water, and hoil them an hour.

To Pickle Onions.—Choose small, sound silver onions, as eqnal in size as possihle. Top and tail them, but do not pare the tops close, as the air will soften and spoil the onions. Scsld them with brine. Repeat this on the second day, and, when cold, peel the onions as quickly as possihle, throwing them into vinegar ae they are done, to preveut their hlackening. Boil vinegar enough to cover them, with sliced ginger, black aud white pepper and mace: when cooled, pour it over the onions. Cork them well, and dip the corks in bottle rosin.

Colored and white flannels should be washed separately, and never in the same water which has heen used for cotton and linen goods, for not only will the lint adhere to the flannels, hut they are apt to receive a dull, grayish color. Flannels shonld always be washed and dried quickly, and it is a good plan to have them washed first in the morning, hefore the other clothes, especially in the winter, as they dry so much more quickly than later in the day, aud then there is no fear that careless washerwomen will plunge them into dirty suds.

Hop Yeast—One and one-half pounds of grated raw potato, one quart of boiling water, in which a handful of hops have heen hoiled, one teacup of white sugar (coffee sugar) one-half tea cup of salt; when almost cold put a little good yeast to start it, say about half a pint. One pint of this yeast makes four good sized loaves of the most delightful bread.

Veal Croquettes.—Take very fine minced veal, moisten it with cream, and a heaten egg. Season with pepper, salt, sweet marjoram, aud a little pounded mace. Form into small cones, either by hand or in a wine-glass; crumh the ontside, aud fry, or else set into the oven and hake, basting freqnently.

MINING AND SCIENTIFIC PRESS

W. B. EWER..... .....SENIOR EDITOR

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San Francisco:

Saturday Morning, Nov. 29, 1873.

Legal Tender Rates.—S. F., Thurs., Nov. 27.—buying 91⅜; selling 92⅜.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Concentration of Ores; Retribution; Perfection in the Art of Dentistry, 337. Foundry Work; Thanksgiving Day; The Incoming Legislature; Ore Crushing and Sampling Works, 344. Sonoma of California; Huntington's Patent Device for Opening Headblocks; Notices of Recent Patents, 345.

ILLUSTRATIONS.—Concentrating Jigger, 337. Plaza and Barracks of Sonoma; Huntington's Improved Headblock for Sawmills, 345.

CORRESPONDENCE.—The Pioneers of El Dorado County; Mining in Mexico, 338.

MECHANICAL PROGRESS.—Combination in Machines; Incrustation of Boilers Etc.; Steam as an Auxiliary; Invention; Glass Cloth; New Idea in Rollers, 339.

SCIENTIFIC PROGRESS.—Fruit Without Flowers; Origin of Nerve Force; Separation of Oxygen; Incombustible Paper and Fire-proof Ink; New Method of Preparing Caustic Soda, 339.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 340.

MINING SUMMARY from various counties in California, Nevada, Idaho, Colorado, Montana, Lower California, Utah and Arizona, 341.

USEFUL INFORMATION.—Paper Decoration; To Clean Paint; Hardening Lead, 343.

GOOD HEALTH.—Fish, Chemically Considered; Natural Appetite; The Abuse of Chloral; Stammering; Trichina in Pork; Care of the Hair, 343.

DOMESTIC ECONOMY.—Cooking Poultry; To Cleanse Phials and Pie Plates; To Pickle Onions; Hop Yeast; Veal Croquettes, 343.

MISCELLANEOUS.—New Crushing Mill; Nevada Soda; Mint Statistics; Fly-Takers of Cape Colony, 338. Mineral Resources of Spain; Gravel Mines of Tuolumne; Treasure Hill; Cement Gravel; New Mode of Treating Gold Quartz; Dutch Flat Mines; International Mill; The Rattlesnake Mine, 342. The Stickeen Mines; Advantages of Hydraulic Mining; Sharp Practice; Chilian Method of Amalgamation; A Valuable Mining Discovery, 346. The Lower California Placer Mines; The St. Gothard Tunnel, 347.

Our Crushing and Sampling Works.

The old sampling works, Nos. 413 and 415 Mission street, have this week passed into new hands, Mr. J. W. Thurman having sold out to the California Ore Crushing and Sampling company. These works have been running for some fourteen years; they were started by S. W. Howland. Mr. J. W. Thurman afterwards became a partner, and four years ago Mr. Howland went ont, and Mr. Thurmen run the works in his own name. Mr. Thurman was burnt out in 1871, bnt began work again when the building was up, and now Messrs. Judge Craig, Dr. A. C. Putnam, James W. Whitlatch and Major John L. Murphy have started business at the old stand, under the firm name above mentioned.

Mr. Whitlatch, the superintendent and general manager, is well known to the mining community of this coast, but more particularly in Montana, where he has resided most of the time since 1864. He was the discoverer of the famous Whitlatch Union mine, now run by the National Mining and Exploring company and others. Mr. Whitlatch worked on this well known ledge until some $3,000,000 were taken out. He has built some nine different quartz mills on this coast, and one furnace—that at the Starr King mine in Starr King, Nevada. He has had varied experience with mines and ores, all of which will stand him in good stead in his new business.

They have at their sampling works a Brodie crusher, a Howland crusher and two burr mills for pulverizing ore, and intend putting in the requisite machinery to make these sampling works the leading ones on the coast. They will have in a few weeks one of Peer and Lundquist's new concentrating machines (recently illustrated in this journal), and will make a speciality of concentrating ores for shipment. They intend, also, putting up a 5 stamp battery in the rear of their premises, with copper plates, etc., so that lots of ore can be worked by actual mill process. By this means miners can bring down a few hundred pounds or a ton of rock, and see it worked themselves. By comparing the samples and assays with the actual working, and having the sulphurets, etc., concentrated, they can get a pretty accurate idea of what is in the rock, and how much is lost in working. The battery is also for the purpose of giving exhaustive tests of different concentrating machinery, which is already in the market, or yet to be invented. Mr. Whitlatch believes that concentration of ore is a necessity in this country, and wishes to make the best experiments possible, to determine the more worthy machine with particular classes of ore.

Most of the ore brought to these works for sampling comes from Nevada, but some comes also from this State, Arizona, Montana, Idaho, and considerable from Mexico. This is crushed and sampled systematically and then sold and sent to the different reduction works either here or in Europe. They crush considerable fire-clay, etc., for making crucibles. They also crush and sample all kinds of ores in a thorough manner and intend adding all necessary machinery to facilitate operations and increase their business.

Foundry Work.

The Empire Foundry,

The Empire Foundry, Savage & Co., have removed from their old quarters to the more commodious building recently occupied by the Vulcan Iron Works. The Vulcan works still retain part of the building and F. A. Huntington has also moved his machine works from First street to the southern part of the edifice. Mr. Huntington's facilities for doing work are now increased three fold. The Empire Foundry occupies the larger part of the space and have extended their line of work considerably. They now give employment to from 65 to 70 men, making mainly stoves, grates, fenders, blowers, school chairs and desks, fence castings, burial caskets, house fronts, hydrants, sash weights and other castings.

They are now, however, engaged in some heavy castings for the new City Hall. They are making twelve columns, each weighing about 9,000 pounds, and 24 girders weighing a little over a ton each. The columns are for the lower section of the dome of the City Hall. The dome is to be made in three sections of twelve columns each. Three of these columns have already been cast; they are 32 inches in diameter and 32 feet 9 inches long, all finished off in a lathe at the ends. They are making three a week.

They are also getting out a stylish ornamental front for a saving's bank at Santa Rosa, which will be as fine a one as there is in any of our interior towns. The building is to be very strong, the whole front being made of iron.

Another item of interest in this foundry is the fancy light castings being made to ornament the interior of Latham's new bank on California street. The work is of a different description from any ever turned out in this city before. The castings are light but are finely made; they consist principally of heads of animals, etc., and great care is required in their manufacture; one particular moulder doing all the work on them. The shop is a light and commodious one, and while business is very lively there at present there is no confusion or crowding. The

Pacific Iron Works

Are turning out one of largest pieces of engine work ever made on this coast. The engine is an upright one and is being made for the Pacific Rolling Mills to run an additional set of rolls. The cylinder is 30x32, and will weigh about 7,000 pounds. The frame weighs 24,000 pounds, the bed plate 26,000, and the fly wheel 50,000 pounds. An upright engine of nearly the same size was made some years ago for the Savage mine by other parties.

At this foundry they are making water wheel machinery and additional barrels, etc., for enlarging the quartz mill of the Bajada mine in Sonora, Mexico. They are also making machinery for increasing the capacity of the Hornigner mill; there being the iron work for six additional furnaces and a four stamp battery to be added to the mill. They are refitting the Auburn mill at Reno, which is to be started up again under a new management. This is principally new pan work. They have lately been doing some iron work for the new ore reducing works of Wallbridge, and others in Brooklyn, Alameda Co. They are building some cane-sugar machinery to go to Mexico and doing the usual amount of small work.

Meeting of the Legislature.

The Legislature meets at Sacramento on Monday next, and under circumstances somewhat peculiar. The strong party ties which have heretofore separated that body into two distinct factions seem at the present time to be somewhat loosed, presenting a fine opportunity for the members of all parties to make for themselves a record in the interest of the people. In many of the counties throughout the State, very little attention was paid to party in the late election, and a large number of those elected were returned more on account of their fitness for the position, and their devotion to the general interests of the State, than for party fealty. Such a result augurs well for honest legislation the coming winter, and will no doubt exercise an important influence even upon hold-over members. It is to be hoped, and it is confidently believed that the present Legislature will prove one of the most popular that has ever assembled in the State. Already a marked disposition has been manifested by members, in their unorganized capacity, to arrange for a speedy presentation and dispatch of business, and it is to be hoped that the practice of former Legislatures, in devoting a large portion of the early days of the session in electioneering and conniving for a division of spoils and office, chairmanships and memberships of committees, etc., on the basis of partisan service, or for still worse considerations, will be altogether omitted, and the interest of the people at large, and the fitness of the candidates be the only considerations entertained. It is also expected that the usual plottings and manouverings on the outside, for jobs, special franchises, etc., will be suffered to come to grief.

The acts of this Legislature will be more carefully watched and scanned by the people, than has been the case with any which has preceded it. The people have become fully aroused to the necessity for holding their public servants more strictly responsible for their acts than heretofore, and they will do it.

There are many matters which will be brought forward, of unusual interest and importance in relation to the future prosperity of the State, which should be handled with much care and circumspection; and the people will watch with more interest than ever before the course which members take in the progress and dispatch of business. We have neither time nor space at this present writing to even allude to the numerous subjects to which the attention of Legislators will be called; but as business progresses we shall have more or less to say upon all matters of special interest to people.

In order that our readers may become familiar with the names of those to whom the Legislative interests of the State have been confided for the next two years, we herewith present a full and complete list of the members arranged by counties and classified, politically, by the Sacramento *Union*. This list will be found convenient for future reference, and for permanent preservation. The holdover Senators are marked with an asterisk (*).

Senate.

First District (San Bernardino and San Diego)—Jas. McCoy* (D.).

Second District (Los Angeles)—C. W. Bush (I.).

Third District (San Luis Obispo, Santa Barbara and Ventura)—W. J. Graves (D.).

Fourth District (Fresno, Kern and Tulare)—Tipton Lindsey (I.).

Fifth District (Mariposa, Merced and Stanislaus)—T. J. Keyes* (D.).

Sixth District (Monterey and Santa Cruz)—Thomas Beck* (D.).

Seventh District (Santa Clara)—T. H. Laine (I.).

Eighth District (San Francisco and San Mateo)—S. J. Finney* (R.), George Oulton* (R.), W. T. Garrett* (R.), Washington Bartlett (I.), Philip A. Roach (D.)

Ninth District (Alameda) — Edward Gibbone (I.).

Tenth District (Contra Costa and Marin)—David Goodall* (R.).

Eleventh District (San Joaquin)—Geo. S. Evans* (R.).

Twelfth District (Tuolumne, Inyo and Mono)—M. C. Andros* (R.), W. A. Aiken (D.).

Thirteenth District (Calaveras) — Barlow Dyer* (R.), R. Hopkins (R.).

Fourteenth District (Amador and Alpine)—J. T. Farley (D.).

Fifteenth District (El Dorado)—H. J. McKusic* (R.), Thomas Fraser (R.).

Sixteenth District (Sacramento)—J. A. Duffy* (R.), Henry Edgerton (I.).

Seventeenth District (Solano and Yolo)—H. E. McCune (I.).

Eighteenth District (Lake, Mendocino and Napa)—W. W. Pendegast* (D.).

Nineteenth District (Sonoma)—B. F. Tuttle (D.).

Twentieth District (Placer)—J. H. Neff* (R.), N. Martin (I.).

Twenty-first District (Nevada) — Charles Kent* (R.), M. P. O'Connor (D.).

Twenty-second District (Sierra)—H. K. Turner (R.)

Twenty-third District (Yuba and Sutter)—L. T. Crane* (R.) S. Spencer (R.).

Twenty-fourth District (Butte, Lassen and Plumas)—George C. Perkins (R.), W. C. Hendricks (D.).

Twenty-fifth District (Colusa and Tehama)—John Bogge* (D.).

Twenty-sixth District (Shasta and Trinity)—John McMurry* (D.).

Twenty-seventh District (Del Norte, Humboldt and Klamath)—J. J. De Haven* (R.).

Twenty-eighth District (Siskiyou)—Wm. Irwin (D.).

Assembly.

Alameda—I. A. Ammerman (R.), W. J. Gruett (R.).

Alpine and Amador—W. H. Stower (D.), L. Miller, (R.).

Butte—J. B. Clark (D.). J. C. Gray, (R.).

Calaveras—W. P. Peck (R.), George Gilman (R.), M. Fahey (D.).

Colusa and Tehama—John Simpson (I.).

Contra Costa—A. W. Hammett (I.).

Del Norte and Klamath—J. J. Murphy (D.).

El Dorado—G. E. Williams (D.), G. W. Sempers (D.), G. H. Ingham (D.), N. Gilmore (D.).

Fresno—J. J. Ferguson (D.).

Humboldt—B. G. Hurlbut (I.).

Kern and Tulare—W. Canfield (I.).

Lake and Napa—S. K. Welch (D.).

Lassen and Plumas—J. D. Byers (R.).

Los Angeles—A. Higbie (I.), J. E. Venable (D.).

Marin—T. J. Ables (I.).

Mariposa—J. W. Snyder (I.).

Mendocino—R. S. McCallum (I.).

Merced and Stanislaus—H. B. Davis (D.).

Monterey—C. Tully (D.).

Nevada—A. J. Pelham (D.), G. W. Griffin (D.), D. C. Northup (D.), W. Hill (D.).

Placer—W. C. Norton (I.), W. Ronsch (I.), S. B. Burt (R.).

Sacramento—P. Coggins (I.), P. H. Russell (I.), R. Kercheval (I.), J. N. Barton (I.), W. E. Bryan (I.).

San Bernardino—N. C. Pishon (I.)

San Diego—W. W. Bowers (R.).

San Francisco—M. M. Estee (I.), D. Rodgers (I.), J. F. Swift (I.), John Hamill (I.), W. A. Aldrich (I.), C. C. Terrill, (I.), James Patterson (I.), B. C. Vandall (I.), G. C. Wiokware (I.), D. Fridenrich (I.), J. F. Cowdery (I.), Robert Howes (D.).

San Joaquin—Samuel Myers (I.), A. C. Paulsell (I.).

San Luis Obispo, Santa Barbara and Ventura—A. G. Escandon (D.).

San Mateo—James Burns (R.).

Santa Clara—Thomas R. Lea (R.), F. C. French (R.), Alexander Hay (I.).

Santa Cruz—C. L. Thomas (I.).

Shasta—R. Klotz (D.).

Sierra—S. Winchell (R.), W. R. Morgan (R.).

Siskiyou—J. McBride (D.), W. C. Cressler (I.).

Solano—J. L. Heald (I.).

Sonoma—W. S. M. Wright (D.), J. Dixon (D.), W. H. Northcut, (D.).

Sutter—A. L. Chandler (I).

Trinity—W. J. Tinnin (D.).

Tuolumne, Mono and Inyo—J. W. Summers (D.), J. E. Parker (D.), A. J. Long (R.).

Yolo—F. S. Freeman (R.).

Yuba—J. C. Bradley (R.), J. C. Carter (R.), Martin Knox (R.).

RECAPITULATION.

SENATE.

Republicans	18
Democrats	14
Independents	8

ASSEMBLY.

Republicans	19
Democrats	27
Independents	34

IN JOINT CONVENTION.

Republicans	37
Democrats	41
Independents	42

Thanksgiving Day.

The day appointed by the President of the United States and the Governor of California as a day of public Thanksgiving, will have passed before this number of the PRESS will have reached its many patrons. It is too late therefore to suggest the manner in which a grateful people should express their dependence upon and thankfulness to the great Dispenser of gifts, for His kindness in bestowing the bounties of His providence upon them during the past year.

The observance of the day, from a small colonial beginning, amid the frosts and snows of New England, has finally extended its influence so wide—mainly through the migration of New England's sons—as to have given it a character but little less than national; and we hope that every farmer, miner, mechanic and manufacturer, and our whole people of every class and occupation, had as much of the good things of earth garnered up against a day of need or necessity, that he could on this day appointed join in heartfelt thankfulness therefor, and with a feeling that he could also dispense in free gifts a part of his fullness to his less fortunate brother.

Thanksgiving is really the beginning of the winter holidays, and we sincerely hope it proved a joyous one to all our friends and patrons.

Sonoma of California.

The town of Sonoma is the oldest one north of the Bay of San Francisco. The name Sonoma is of Indian origin, and signifies the Valley of the Moon. It was given to the valley of Sonoma on account of the great natural beauties of the place and for its shape as seen by moonlight. The name is peculiarly felicitous. This town is situated a short distance south of the base of the mountains, and about three miles from the place of shipment, the Embarcadero.

It was the chief pueblo of the native California population residing north of San Francisco up to the time of the settlement of the country by the Americans in 1846. Gen. M. G. Vallejo, acting under orders from the Mexican Government, in 1835 proceeded north of San Francisco Bay for the purpose of selecting a site for a town or pueblo, and locating said pueblo near the base of mountains or hills on which fortifications might be erected. On account of the beauty of the valley, the pleasant climate and fertile soil, Vallejo selected the present site of Sonoma. The establishment of the Northern Military Department was mainly caused by a desire to check the Russians and prevent them from encroaching farther south on the Mexican domain. The houses erected were built of adobe, around a plaza, after the old Spanish style. Many of these houses were abandoned by their owners, who had obtained grants from the Mexican Government, and retired on to the same, and furnished the main shelter for the immigrants of 1846. After the country was taken possession of by the United States forces, Sonoma was occupied for some time as a military post. Gen. Vallejo's palatial residence occupied the principal portion of the north side of the Plaza. The buildings were in the usual Mexican style; excepting on a large scale, the front, or main building was two stories high with a tower of four stories in the center of the building, the west wing of the front was not complete; in fact, the General had employed mechanics for years in finishing up the interior of the building long after the change of government. His brother, Don Salvador, had also erected a very large and commodious building on the west side of the Plaza, which has been built upon and occupied at times for various purposes, such as hotel, Masonic Hall, and at this time used for a wine cellar. Jacob P. Leese, the brother-in-law of General Vallejo, erected and occupied a large adobe building at the south-west corner, which still stands in good repair and is noted for being the headquarters of General Persifer F. Smith; General, or at that time Colonel Joe Hooker, Capt. Gibbs, Capt. Stone, Major Leonard, Paymaster, Major Phil. Kearney, Lieut. Derby *alias* Squibob, or John Phœnix, George W. Stoneman, Capt. Stone, afterwards General, of Ball's Bluff notoriety, Lieut. Davidson Williamson, and a host of United States officers. Many are still living and will long remember the happy hours they enjoyed while stationed at Sonoma Barracks.

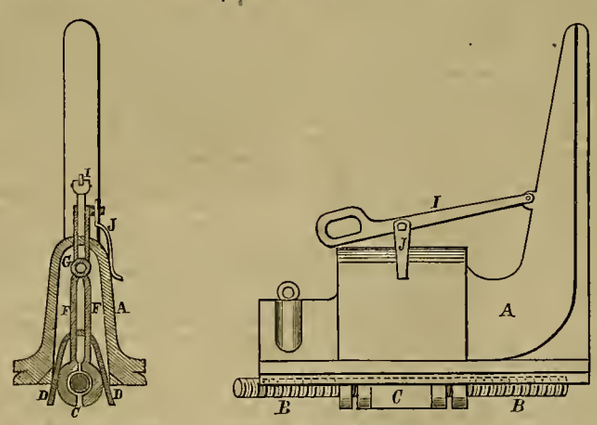
PLAZA AND BARRACKS OF SONOMA.*

*This engraving, with some of the facts accompanying it, is taken from Menlice's Sketch Book of Napa, Sonoma, Lake and Mendocino counties, now published by Haas Bros., Napa City, Cal.

Van Nostrand's Science Series.—D. Van Nostrand, the well known publisher, 23 Murray street, New York, is issuing a monthly series of valuable little publications, under the title of "Van Nostrand's Science Series." They are put up in a neat, uniform and attractive shape, 18 mo. size, and sold at 50 cents (currency) per number. The subjects are of an eminently practical character—scientifical and mechanical—and will embrace a wide range of topics. To give the reader some idea of the matters treated upon, we append the subjects of the first six issues. No. 1, Chimneys for furnaces, fire-places and steam boilers, by R. Armstrong, C. E. No. 2, Steam boiler explosions, by Zerah Colburn. No. 3, Practical designing of retaining walls, by Arthur Jacobs, A. B. No. 4, Proportion of pins used in bridges, by Charles Bender, C. E. No. 5, Ventilation of buildings, by W. F. Butler. No. 6, On the designing and construction of storage reservoirs, by Arthur Jacobs, A. B. Either or all the volumes will be sent by mail, post free on receipt of the price.

Huntington's Improved Head Block for Saw Mills.

The cuts shown on this page represent an improvement in opening and closing divided nuts, being more especially applicable to the nuts which are employed in connection with the screw used in saw-mills for moving the carriage forward in order to feed the log to the saw. When the half nuts are closed upon the screw they form a single nut so that the turning of the screw slowly feeds the carriage forward until the log is sawed through. It is then necessary to move the carriage back in order to take a fresh cut, and if the nut remained closed, it is plain that a considerable length of time would be occupied in doing so. In order to avoid this waste of time the half nuts are separated so as to leave the screw free. The carriage can then be run back without reference to the screw. The device shown in the illustration is intended to open and close this divided nut as occasion may require. *A* is the head block of a saw-mill carriage and *B* the screw by which the carriage is fed slowly forward as each cut of the log is made. This screw operates through a nut, *C*, which is made in two parts. In order to open and close this nut rapidly and firmly, two inclined arms, *D D*, form a saddle which sets down over the half nuts; one leg passing upon each side. On each leg of this saddle is a flange which passes beneath bent lugs, which are cast upon each half nut. Arms, *F F*, extend upwards from the half nuts, and are hinged together at some point above, as shown at *G*. Arms pass up through the head block, and are pinned to the lever, *I*, so that by raising the lever the saddle will be elevated, and as the arms, *D D*, spread apart at their lower end, they draw the nuts apart as they are lifted, and by pressing down upon the lever the saddle is forced down so as to press the nuts together by the two inclined legs. This device can also be applied to lathes and other machines where a long feed-screw is used for feeding in one direction only. The device is quite simple and is positive in its operation, and being constructed upon the wedge-principle a powerful pressure can be exerted to keep the nuts closed. This arrangement is the invention of F. A. Huntington, No. 145 and 147 Fremont street, in this city, and was patented through the Scientific Press Patent Agency.



HUNTINGTON'S IMPROVED HEADBLOCK FOR SAW-MILLS.

Recent California Patents.

Among the patents recently obtained through Dewey & Co's., Mining and Scientific Press, American and Foreign Patent Agency, the following are worthy of mention:

Mitre Box.—John P. Tiernay, Sacramento, Cal. In this invention Mr. Tiernay provides our carpenters and mechanics with a machine which can be used for making mitre joints with very little trouble. The machine is adjustable so that any desired level or angle can be given to the mitre.

Elevated Wire Way.—Henry T. Lantis and Nelson Davis, Atlanta, Idaho Territory. This is an improvement in the wire tram or rope-ways which are being extensively introduced upon this Coast, for transporting ores and other substances from one place to another. The improvement consists of an arrangement by which the load is suspended directly below the rope by a straight hanger, and yet is arranged to pass the pulleys which support the rope without hindrance. It is a very simple and neat device.

Watch Chain. — Henry H. Markley and Alphonse Matthieu, San Francisco, Cal. This patent is for a design for a watch chain, and it consists in employing a triangular shaped link, the sides of which are set or filled with quartz stone.

Mechanical Key and Sounder for Telegraphe.—David L. Parkhurst, San Francisco, Cal. This invention relates to a small telegraph key sounder for teaching the telegraphic alphabet and manipulations to learners. It consists of a thin metal plate, having a thin spot in it. This plate has one end secured in a frame while the other end is free. A lever is provided which has a projection or boss so arranged as to bear upon the plate. By depressing the lever, the middle of the plate is depressed so, to cause the thin spot to vibrate or buckle, and thus give a sound similar to the click of a telegraph key sounder. The upward movement of the lever allows the plate to spring back and repeat the sound.

Shoe Fastening.—Geo. L. Fitch and Henry M. Jones, Little Lake, Cal. This invention relates to an elastic shoe fastener to be used instead of laces or buttons, for fastening shoes upon the feet.

Burial Case.—Jerome B. Cox, San Francisco, Cal. This invention consists in securing the interior lead box or air tight case, which is usually placed inside of burial caskets, by passing its upper edges out between the seat of the lid of the coffin and the sides, and then soldering it to the roof or cover outside. This prevents the lead coffin from collapsing, as it usually does, and provides a perfectly tight seat for the lid of the coffin—a very comfortable arrangement.

Washing Fluid.—Nathan W. Lane, Mendocino, Cal. This is a cleansing compound and is claimed to be much superior to the washing fluids heretofore in use. It is said to be particularly valuable for cleaning painted surfaces.

Window Fastener.—William A. Hawetume and Edgar E. Scott, Carson City, Nevada. An improved device for securing and locking the lower sash of windows at any point of elevation. The arrangement is quite simple and neat, and appears to be effective.

Fruit Box.—Chas. W. Weston, San Francisco, California. This invention relates to an improved berry box, which is made of thin shavings or veneers of wood. The chief advantages consist of peculiar flap fastenings for securing the box in its folded condition, and in a peculiar stiffening rim. Mr. Westou is the inventor of several improvements in berry and fruit boxes.

Car Coupling.—Richard B. Buckner, of Gilroy, Cal. This invention relates to an automatic or self-acting car connector or coupling. The invention is quite simple and strong, and can be applied to both passenger and freight cars.

Veneer Key.—Geo. W. Swan, San Francisco, Cal. This invention relates to a key made of thin shavings or veneers of wood, wrapped around a cylindrical form and provided with heads at each end. A strip of canvas is wrapped around the exterior of the key and secured by any suitable adhesive substance. It makes a cheap key, and when lined with a lubricator, (which is also the invention of Mr. Swan) it can be used to hold liquids and other substances which are usually contained in keys.

Medical Compound.—Peter H. Steenberger. Chico, Cal. A cure for rheumatism and similar inflammatory complaints.

Mill Pick.—Morgan N. Young, Kelseyville, Cal. This invention relates to an improved method for securing pick points in the hammer head, so that the point can be removed to be sharpened or replaced by another one. It consists of a peculiar dovetail slot in the end of the hammer head, and in making the base of the pick point to correspond therewith; the point is then secured in place by being forced into the slot—a very cheap and convenient arrangement.

Peavine District, although not entirely new, is just now coming into general notice. It is situated some eleven miles northwest of Reno Nev. Some prospects were obtained from this place several years since but nothing of importance turned up until about a year and a half ago. The principal company now at work there is the Consolidated Poe Mining Co., who own some 3,000 feet of location. The Paymaster mine, belonging to them, is quite a large one, the ledge in some places being 30 feet between the walls, the assays from which go from $24 to $1,000 per ton in silver. The ores are free milling. The company have nearly completed a 10 stamp mill and have now between 400 and 500 tons of rock ready for working. John Poe is the manager and H. C. Toombe is the Superintendent.

The Stickeen Mines.

The Portland (Oregou) *Bulletin* says: The arrival of the steamer California from Sitka and way ports, has had the effect of awakening renewed interest in tbe recent gold discoveries in British Columhis. The intelligence she brings is of rather an exciting nsture, so much so, in fact, tbat the Yakima mines are for the time heing, almost forgotten. The mines are located on tributaries of Dease's lake, in the British Possessions. The route and distance from this city are as follows: From here to Victoria, 308 miles; from Victoria to Nanaimo, 74 miles; from Nanaimo to Fort Wrangle, 765 miles. At this point gold seekers leave tbe steamer, and by small boats proceed up the Stickeen river past Ice mountain, the last trading post of the Hndson Bay Company, Clearwater river and Shakesville, to Buck's Bar, 160 miles from the mouth. This is at present the hesd of navigation, up to wbich point small steamers—which are ss yet a myth, hut will become a reality should the minss hold out—can ascend.

From this point to Dease's lake, the route is an overland one, and it is on this portion of the road that the first real hardships of tbe trip are enconntered. The country from this on is hnt a succession of swamps, amid which foot passengers are apt to become hadly mired. This strip of the conntry will prove a great drawback until s regular trail is established, of which there is serious tslk already. A passage way of this kind ould he constructed without serious difficulty, and by reasonahle tolls, could, it is thought, be made a paying investment. The distance from Buck's Bar to tbe southern end of Dease's lake, is 160 miles, which is at present, as before stated, hardly open to foot travel, while in other places, navigation would not be out of the question, ss the entire route is but a succession of swamps and boggy land. After striking the lake, the distance to Dease's creek is bnt fifteen miles, while Tibbets' oreek, on which the mines are located, is but twenty-five miles frnther on. Desse's creek, as yet, hss been but partially prospected, but indications are very favorable. Near here, is the end of the lake, which narrows into and in tnrn empties into the McKenzie river, which hss bsen prospected for nearly 450 miles, and yields ahout six cents to the pan. It is, in fact, the general opinion of old miners, that the whole country along its hanks abonnds in rich ore.

The boundary line dividing the English from the American possessions, crosses the Stickeeu river ahout 100 miles above Fort Wrangle, thus throwiug the mines in the possession of the crown. Tibbets' creek, which at present is the headquarters of the mining district, is from 45 to 50 miles in length, and from 80 to 100 feet in width at the mouth. It empties into the lake from the uorth west, and fairly abounds with flattering indications. The Rath hrothers, who were fellow psssengers of Mr. Knott's from Wrangle to Victoria, made from eight to nine onnces per day, the gold in their claim being very coarse pieces, being fonnd worth from $5 to $27 each. Captain Moore and bis sons were the discoverers of the gold deposits on Dease creek. They worked in all about six weeks, with rockers, and left the diggings abont the 27th of September. The gold was found in bars and bed of the stream, and the Discovery company at no time reached bedrock. The Forest Rose company (two men), just above the Moores, averaged hetween eight and ten onnces per day for eight or ten days, and then hsd to leave for want of food. Rath brothers had run sluices on a limited scale in their claim, and had succeeded in washing out two hundred and fifty-eight onnces of gold in a little over five weeks' time, which may be considered pretty good wages for two men's lahor.

A recent Victoria paper, in speaking of these mines, says McGregor and Reynolds, on Tibhet creek, made $600 in eight or ten days, when they, too, had to leave and come out. George Williscroft and an Indian, on Dease creek, in the canon, took ont $179 in eight hours, and then had to lesve. Jim Hollywood, on the same creek, got thirty-two ounces in six weeks. Miller, in the canon, made an onnce a day. Wigg & Casey, helow the canon, made from four to five ounces a day. Captain Moore and his three sons, made from five to twelve ounces a day iu the gravel. The pay gravel is from four to five feet deep in Dease creek as far as known. There is a good deal of cement mixed with the gravel, snd the gold is rusty. The frost set in severely about September 24th, and snow fell in three days to the depth of eighteen inches. When the Rath brothers left Tibbet creek, ice was forming in that estream, hut there was no ice on Dease creek. Dease lake was partly frozen over when they left, but when the Fraser party went in to stake off claims a thaw set in, and the snow and ice had almost dieappeared. The health of tbe district was good. Fraser and party spent eight dsys in prospecting on Dease creek, and got prospects of from 25 cents to $2.50 to the pan.

There are at present but ahout twenty miners in the vicinity, although a number were met going up the Stickeen with their winter's grnb, while ahout forty were at Bnck's Bar, intending to pass the winter there. A numher of men intend starting from Victoria about the 1st of Jauuary, and transport supplies from Buck's Bar acrose the country on hand-sleds, which they consider csn be succesefully carried out. We were ehown some specimens of placer gold, purchased hy Mr. Knott, that were truly magnificent, and unusually free from imperfeotione of any kind. There is little donbt that the mines will yield handsomely. The estshlishing of a trail across the country is but a question of time, after which the rush to the gold diggings will be immense. Mr. Knott intends to return in the spring, having, it seems, unbounded faith in the fnture prospects. Meauwhile it will he the suhject of general comment on the whole northwest coast, for the gold fever is easily taken by the residents thereof. Our advice, which, by the way, is furnished gratis, is, don't get excited and, after a wild impulse, do what you will hereafter have cause to regret.

Advantages of Hydraulic Mining.

The following are extracts from a letter by Professor Silliman, pointing out the advautages of hydraulic mining, and especially referring to the Blue Tent:

"The affluents of the Yubs river have become proverbial for the excellent returns they have yielded to all legitimate undertakiugs iu hydraulic washing. Some of the largest fortunes in California have fallen to the lot of individnal owners and company organizatione working these deep-lying auriferous gravels of the Yuha. No comparatively virgin msss of auriferous gravel upon these waters can excel that hody of which the Blue Tent is an important psrt. You msy confidently assnre your friends that the Blue Tent property, properly and economically worked as contemplated in my report, will pay them 20 per cent. or 25 per cent. upon a capital of one million of dollars 'while water flows and grsss grows'—that is, for an indefinite time to come. To obtain this result they must supply and wisely use the working capital needful to bring forward the water in ample flow to do the work and open up the wsshiugs; nor must they fail to avail themselves of the hest skill and economy in management. Fortunately this skill is not difficult to attain in California, nor is it costly.

"The great powers of nature reslly do the work (as they have already prepared the material); the amount of human labor, therefore, needful for tbe direction of these powers is not large.

"I am certain that no person, however intelligent he may be in mining matters generally, and much less one wbo hss only a general knowledge of such suhjects, can form, without careful etudy, any adequate notion of tbe nature and extent of the deep-lying gold placers of California, and of the peculiar means by which the treasures they coutain are obtained.

"One view of the superior claims of this sort of miuing adventure, compared with deep mining in mineral veins, often presents itself to me, whicb I briefly state, as it may make the snbject more clear to your own mind.

"It is proposed, for example, to purchase and work a gold or silver mine. We will assume that such a mine has been opened by whst is esteemed iu the opinion of good miuers adequate exploration; shafts have heeu driven upon the course of the vein, thus opening up the ground to a considerable extent npon a deposit of the mineral. Several huudred, or it may be thousand, tons of ore have been extracted, milled or smelted, and the aversge value per ton has been ascertained hy actual working. The mining engineer now comes to view the property, scrutinising all the explorations; obtains his own mining samples for assay and working tests; he measures up all the ground which has been mined out and also the cubic contents of tbe vein matter which he sees and finds still standing, as well as the qnantity of ores already pnt out at tbe dnmps. From all tbese data, together with the teachiugs of his experience in regard to mineral veins and the probable future of mines, he prepares a careful statement of the actusl state of the property—what it has done, as shown hy the mining records (if he is so fortunate as to find any), and what it is probably capahle of doing. Let us suppose that he finds (a rare case indeed) a dividend-paying mine, with visible and measured reserves of ore worth in gross, say, one million of dollars, a reasonably good showing for the future, and pretty certain to pay steady dividends for two or three yesrs. At what value shall such a property he sold upon the market? Unfortunately this qnestion is rsrely put to the man who alone is the most competent to answer it. The mining engineer is regarded as having dischsrged his duty when he has rendered his report as to the actnal state and prohahle future of the propsrty, and he is not asked, 'How much capital will it do to pnt at peril in this adventure?' If he were eo asked, he could not with a good conscience eay tbat it was prudent to risk one dollar more than the probable net returns of the ore in sight. All the speculative value which msy be fonnd in tbe mines heyond what is in sight, is tbe rightful property of the new owners, who, wheu they huy, take the chancee of failure as well as betterment. It is an old Cornish adage, 'That no man can see further into a vein than the point of hie pick,' and we all know how often the anticipsted 'reserves' upon which calculations of profit are hssed, fall short of well-founded expectations. It is very nnfair for the disaffected adventurers to turn upon the scientific experts and charge them with carelessness or something worse. They knowingly enter upon an extra hazardons nndertaking, which has legitimate promise of extraordinary profits; but it is never to he forgotten that it has also an equal chance of being a great disppointment. This is true of vein mining the world over, snd nowhere are there more numerous examples in proof than in your own Cornwall.

"Per contrs, snppose thst in plsce of the exposure of the mineral vein we are considering at a few points by shafts and levels, its whole superficial area could be seen and examined over an area of many acres, such as might he exposed if we could conceive the mine laid down in a horizontal position, and its upper covering removed and its thickness determined. This would reduce the chances of error and miscalculation in mining to a minimum, and certainty would take the place of comparative uncertainty. This is precisely what we reach in hydraulic mining. We have a mass of known and messurable dimensions, over the whole area of which we may walk, and whose depth is readily messured hy ravines or workings, open to-day, and whose average valne in gold per cubic yard is determined, not hy the assay or milling of any limited and trifling quantity, bnt upon aggregates so large as to eliminste error and demonstrate a certainty. Here are no hard and flinty ledges to be hroken up no refrsctory chemical combinations of precious metals to he reduced, bnt pure gold in impalpahle dust or coarser grains intimately diffused in small hut wonderfully constant quantities. No labor of men's hands is here required to obtain tbe value, but a resort to the most simple, inexpensive and trnstworthy of natural agencies—to running water, gravity snd the elective force of quicksilver.

"It is true the element of speculation, which lends tbe powerful zest to tbe game of vein mining, is wanting in the gold hydrsulic mining; hnt how often, alas, does this speculative element fail to render us auy substantial return! It is precisely here that we find the reason why such important aress of gold-bearing deposits romsin unworked, or open to purchase at fsir prices, iu that they are not specnlative.

"In a new mining country people domand new and exciting adventures, where great prizes in the lottery of mines are mixed with numberless hlanks; and the fact that a certsin and moderate profit may he made by steady work at hydraulic mining is the sufficient reason why these trusty fields are neglected, or held in comparatively light esteem, while the crowd of adventurers rush off to new aud more tempting hut far more hazardous regions.

"In the Blue Tent property the most moderate estimates confirm the statement that 60,000,000 dols. of valne exist in the area named, within reach of the powers which control it. But a prudent estimate also fixes the probable net annual returns from this property at not more thsn 200,000 dols. to 250,000 dols. per annnm. The available flow of water is the practical limit to the average annual return.

"Compare these statements of reserved value and income from hydranlic gold mining, and the price at which such properties can he obtained, with the sums paid for even the very hest aud most certain of vein mines. It is esteemed prudent to pay for a silver mine, for exsmple, as much as the ores in sight will return, trusting to futnre discoveries to reward the adventurers with richer returns for the risks assnmed.

"The buyer of a good hydraulic mining property puts in jeopardy only a small percentage of the ascertained vslue of the ground he huys—it may be a sum equal ouly to five or six years' income. This income he can calculate with great probsbility upon the volume of water he owns or commauds, as I have shown in my report on the Blue Tent. Tbis circumstance is reslly the controlling one in fixing the value to be paid for these properties, since hy the use of the water alone can the reserves he made available, and tbis agent can be made useful only as the work of washing lays open new and otherwise nnavailable bodies of the gold-hearing gravel.

"When the permanent and thoronghly trustworthy character of these deposits come to he better known—and it is understood that they are good for generations to come as well as for to-day—they will rise in public favor steadily, and their valus will find expression in the constantly appreciating valne of the shares. This description of property ought to attract the attention of careful and prudent investors, and the more so, that it is not attrsctive to speculators."

SHARP PRACTICE.—In the case of Peter Brandow against A. W. Whitney, M. McDonsld, O. H. Bryaut, J. M. Byrne and W. H. Short, Judge Morrison has rendered judgment for the defendants. The complaint ststes that iu the month of December, 1870, the Virginia Silver Mining Company existed, and that the corporation owned no mills and no mines, except one situated in White Pine district, and which mine was not then, nor has it at any time since, been supposed to he of any considerable value. That on the 10th day of Decemher the officers of the company caused to be entered on the books of the company thst they had contracted for the purchase of mines of great value, located on Treasure Hill, viz., the Noonday mines. That the Virginia Silver Mining Company caused a resolution to be entered on the hooks that ite capital stock should be increased from $1,500,000 to $2,133,300, on account of its purchase. Plaintiff further states, that by reasou of the false representations of the defendants, that the company had purchased the mine as aforesaid, he was induced to purchase $3,325 worth of stock. Brandow helieves that the company never purchased the mines aforesaid, hut tbe defendants made the false representations for the purpose of "deceiving the people." The Court instructed the attorneye to draw findings in the case.

Chilian Method of Amalgamation.

THE first process employed in Chili was that of the ordinary *patio*, hut this was soon snpplanted by another method, which formed the hssis of that now in use. This consisted of treating rich snlphurets in copper vessels with cupric sulphate, sodiic, chloride and mercury. At the end of a little time almost the whole of the silver was amalgamated; being, however, only accomplished at the expense of the mercury, the loss frequently being 200 to 250 per 100 of silver; in spite of this the process was freqnently employed for the treatment of ores containing more thsn .002 per cent. silver, owing both to the rapidity of the operation, it taking less than two hours when aided by heat, and to the small percentage of metal (scarcely 0·0002 to 0·0003 per cent.) left in the tailings. The enormous amount of argentic chloride, iodide, and chloro-bromide, produced st Chsnarcillo soon demsnded a more rapid, though less exact, process than the old one. In order to obtsin some idea of the amount of ore requiring treatment, it will snffice to mention that the single mine of Descubridora produced in the years 1831-51 the sum of ninoty-three millions of dollars.

In the new process spplied to these ores, they were crushed and pulverised as in the old method. The pulverised ore was csrried by a stream of water to settling bssins of sheet iron, 6¼ feet in dismetsr and 8¾ feet deep. The stream was conducted in turn to different basins, which, when filled, were left to stand from eight to ten hours, to permit the slimes suspended in tbe water to settle at the hottom. At the end of this period the clarified water was decanted off and tbe slimes were transferred to tinas. These tinas consist of wooden vsts, having a cast iron bottom, and are 5 feet 10 inches by 3 feet 11 inches. They are provided in the line of their axes with a ehaft haviug iron arms which slide over the bottom of the vat. The charge placed in these tinas is about a ton and a half. The ores are a mixture of chlorides, iodides and bromides, having a gangue composed of the carbonstes of lime and haryta aa well as clay and oxide of iron. The charge of the vat was oompleted hy the addition of mercury, about twenty times as much of this beiug added as there is silver in the ore. The shaft was then set in rotation, making about four revolutions per minute. This operation lasted twenty hours, at the end of which the amalgamatiou wss snpposed to be completed. A stream of water was then introducsd snd the rotation coutinued. The slimes were removed by the water and carried into settling basins. When the water ran clear from the vats an orifice was opened in the lower portion of the vat, and the mercnry and amalgsm which ran out were received in a cast iron vessel, called cocha. Tbe amalgam was then squeezed in a thick piece of cotton and then laid aside for distillation.

The wsges, loss of mercury, and various expenses cost $9.30 per ton for ores containing less than 0·005 per cent. silver. The entire operation, including crushing, took about sixtcen hours. The tailings carrisd off by the current of water, and which were oaught in settling basins, contained 0·0008 to 0·001 per cent. silver, in the csse of ores of the abovementioned richness, snd never exceeded 0·002 for richer ores of the same character. The silver obtained contained scarcely 0·01 per cent. of impurities.

The process just described suhseqnently underwent several modifications. The time occupied in treating the ore in the vats, exclusive of lixiviation, was rednced to six hours; and ores were treated in this manner coutaining as high as 30 per cent. silver.

Owing to the increase in the proportion of sulphurets as the mines were snuk dceper, the results of the method of amalgamation just described nnderwent modifications; the percentage of metal in the tsilings behind augmented to snch a degree as to diminish the yield of silver.—*Mining World.*

A VALUABLE MINING DISCOVERY.—A valnshle vein of silver-bearing quartz has just been discovered on tbe east side of West Walker river, about 25 miles east of the Oreans mine (owned hy Winters, Hobart and others), Nut Pine Valley, and is about 15 miles from Wellington Station. The mine was discovered by a Mr. Edwards, who, in company with Thomas Alchorn, of this city, made a location of 1,500 feet on the lead. The vein ie from 10 to 20 feet in width and crope out for nearly a mile. Mr. Alchorn brought to this city several pouuds of samples tsken from various parts of the croppings. These were assayed by three different persons, and run from a few dollare well up into the thouesnds. Some of the assays are as follows, nearly all the valuable metal being silver: $1,302.25, $847.94, $227.91, $212.39. None of the assaye show gold at a higher rate than $15 per ton. The locatore of the mine are Mr. Edwsrds, Thomas Alchorn, William Skyrme, foreman of the Hale & Norcross mine, and Georg› Mock, proprietor of the Washoe Brewery. Their locstion is called the Edwards mine. But one other location (of 1,500 feet) has as yet been made on the lode. Mr. Alchorn eays the regiou is full of fine large veine, all of which present a very fine sppearance, and none of which have heeu prospected.—*Virginia Chronicle.*

The Lower California Placer Mines.

Wa are reliably advised that thera is to be a new order of things in Lower California. The authorities at La Paz obtained authentic information of the rich placer discovery long before it was fully known in San Diego. The *World* was the first jonrnal to give public information of a discovery that may prove of very material benefit tn onr city and section. We derived our informatiou from Mr. Pablo Pryor, who had largo bands of cattle in Lower California, which tbe pastures of the Boca de la Playa were this year nnable to feed. For our present information we ara indebted to Colonel Manuel A. Ferrer.

As soon as the anthorities at La Paz received intelligence of tha rich placer discovery, they were stimulated to undertaka a measure which they had long contemplated. This wae no less than removing tbe Cocopah Indians to a reservation. For tbis pnrpose a force of five hnndred men was organized, which was on the 10th of October started en route overland for the Frontera. The march will be necessarily a slow one, consuming a great deal of time, on acconnt of the fact that provisions, water aud avery necessary will hava to be packed. Immediately upon their arrival the Cocopahs will be removed from their immemorial hunting grounds to a suitable reservatiou.

The Cocopahs inhabit a mountain range in Lower Califirnia, which looks dowu ou the Colorado Desert, and extends for a great distance down the Peninsnla. Their territory rnns on to the Desert. They have always guarded it very jealously. When the Messrs. James and Purdy conducted au expedition to tha month of the Colorado, at tbe instance of Mr. Chapman and others, with the ostensible view of discovering the practicability of making the Colorado Desert a salt-water lake, with the benevolent object of modifying the climate, they enconntered the Cocopahs in force. The chief, Myorc, utterly forbade their passage through his dominious. After much entreaty he finally consented to allow them to pass, on the condition that they should put np their surveying implements and make no observations. They thus effected a hurrisd passage to the mouth of the Colorado.

The Cocopahs are a fiue, martial race of Indians, and, as near as can be asesrtained, there are between two and three thousand nf them. They are tall, and nse the primitive how and arrow as weapons. Breech-clouts and certain rnstic ornaments, with blankets, make up their aquipment and apparel. They are brave and good-humored, but resent any attempt to penatrate their country,

It has long been known that the Cocopahs have had access to gold. In the old days, and at intervals up till data, they have been in the habit of going to Yuma and paying for their goods with dust and chunks of gold. In the time when Hinton used to keep store at Yuma, parties of Indiane were wont to make their way to his place and barter gold for goods. He frequeutly endeavored to fiud out where they got the gold, but insffectually. Their habit was, also, to ornament themselves with rare gems of virgin gold.

Some years ago a Cocopah Indian came to Dr. D. B. Hoffman, of this city, and showed him a large lnmp of gold. The Indian affected not to know what it was. The Doctor told him, and made him a very liberal proposition. This was that if the Indian would show him (the doctor) where he had fonnd the treasnre, he (the doctor) would keep him during the period of his natural life. The Indian said that he wonld have to go home to his tribe and obtain the consent of bis chief. He never returned.

The fact that the Mexican Government is beginning to turn its attention to Lower California is shown by the detailing Señor Blanco to make a prolonged recouuoissance of the Frontera, which was done in the latter part of last winter. The movement of troops from La Paz has followed that and the discovery of the placers. If the statement made by Peters is true, that he prospected in the Cocopah mountains fifty or sixty miles from Japa, and tbat he found very rich placers in the mountains, as well as running water and abnndant wood, why, then, takan in connection with the removal of the Cocopahs, and putting them on a reservation, we are going to have lively times and a new era of development in Lower California, and an unpreeedented activity in San Diego.

Parcels of gold are reaching San Diego daily. Experts pronounce it a very fine quality of float gold. It has evidently been washed from a distance. Jesus Marron, who is driving a stage to Japa, arrived from that section yesterday. He informs us that there are about two hundred people on the ground, and that he connted fifty on the way there as he came up. He says that everybody who is not too lazy to work can make money at the placers, although he has to pack his dirt two or three miles to water. In addition to Marron's information, Judge Chicon writes to Colonel Ferrer that, besides the Japa diggings plenty of gold is also being discovered at Socorro El Topo and El Caballo—the latter about fifteen miles from Japa. The Judge says that ohunks of it are picked up, and that the diggings are exceedingly rich.

Per contra, the Messrs. Sampson Miller and Jamee Allison, who epent a day or eo at Japa, and have just returned, tell ns that there is gold there, but not in sufficient quantitiee to pay. They say that the ocuntry is a bastard granite formation. They don't think the quartz would pay. They think that thirty or forty men might maka something, but that a larger numbsr would he ont of place. The Messrs. Miller and Allison aro the nnly persons frnm whom we have hsard an adverse report. From every other source the accouuts of the district are most flattering. The one patent fact remains—gold is coming in, Mr. Wash Jacobs alone having brought teu ounces with him. It is bright and polished gold, some of it in scales of considerable size. Two Mexicans of Japa have a rawhide nn ekids, and a fnule. They haul one day and wash the next, and each makes, wa are informed, six dollars a day. If this be true, the diggings are all that is claimed for them.—*San Diego World.*

THE ST. GOTHARD TUNNEL.—The journal of the Society of Arts reports that tho works of the St. Gothard Tunnel are progressing rapidly. On the 25th of last month 5·90 mstres of heading was driven at the Ariolo, and on the following day the amonnt of progress made was six metres. The contractor, M. Favre, to enconrage tha workmen, has wisely offered a premium to the miners should the length driven exceed that established by him as a proper day's work. The great difficnltics that wera met with at first from tho quantity of water, which hindered the progress of the work of tunneling at this end, have in a great measure been overcome; and as the length of heading increases there is every reason to anticipate that very little water will be met with. The tnnnelliug machines used at this side are those kuown as the system Dubois and Francois, and are similar to those adopted by the "Socictie de Charbon de Maribayc," and by the "Companie pour l'extraction de l'huile minerala a Anzin." The total length of these machines is 2·20 metres; their width, 0·23; and hight, 0·32. The diameter of the cylinder is 0·07, and weight, 220 kilogrammes. Six of these "perfomtors" are mouuted on a carriage, similar to those used at the Mont Cenis tnnuel, running on rails, which are laid down as the work proceeds, and worked hackward aud forward as reqnired by the little locomotive "Tessin."

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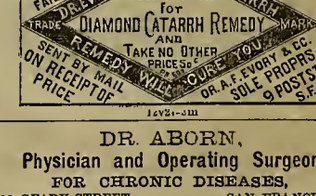

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By Special Dispatch, Dated Washington, D. C., November 25th, 1873.

FOR WEEK ENDING NOV. 11TH, 1873.*

MACHINE FOR CUTTING COBBLE STONES.—Hezekiah Lombard, Joseph P. Morrill and Leroy A. Sweatt, S. F., Cal.

OFFICE AND COUNTING-HOUSE STOOL.—Alfred De Forest Cartwright, S. F., Cal.

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The following companies have filed certificates of incorporation in the County Clerk's office, San Francisco:

KEARSAGE QUICKSILVER MINING CO.—Nov. 20. Location: Lake county. Trustees—John C. Hanscom, E. T. Armstrong, Wm. Amesbury, Seth Dunham and D. W. Lilly. Capital stock, $4,000,000, in shares of $100 each.

CHALLENGE CONSOLIDATED M. CO.—Nov. 20. Location: Gold Hill Mining District, Storey county, Nevada. Trustees—Wm. Sharon, James H. Dobinson, J. D. Fry, A. K. Harmon and James Freehorn. Capital stock, $5,000,000, in shares of $100 each.

PIOCHE WATER CO.—Nov. 24. Object: to supply all persons and corporations in Pioche, and within a radius of ten miles of the town, with pure fresh water for all purposes. Trustees—L. L. Robinson, Oliver Eldrige, Irving M. Scott, Charles J. Brenham and Maurice Dore. Capital stock, $100,000, in two thousand shares of $50 each.

PANAMINT MINING CO.—Nov. 24. Location: Wonder of the World claim, Panamint District, Inyo county. Trustees—James Palache, Richard C. Jacobs, Charles P. Schmidt, Gustave Wiss and Henry W. Schmidt. Capital stock, $2,000,000, in 20,000 shares.

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J P Ridgeway	87	1000	200 00
J P Ridgeway	88	1000	200 00
J P Ridgeway	89	1000	200 00
J P Ridgeway	90	1000	200 00
J P Ridgeway	91	100	20 00
J P Ridgeway	92	100	20 00
J P Ridgeway	94	100	20 00
J P Ridgeway	95	100	20 00
J P Ridgeway	96	100	20 00
J P Ridgeway	97	100	20 00
J P Ridgeway	98	100	20 00
J P Ridgeway	99	100	20 00
J P Ridgeway	100	100	20 00
William Miller	49	500	100 00
William Miller	50	500	100 00
William Miller	51	500	100 00
William Miller	52	500	100 00
William Miller	53	500	100 00
William Miller	55	500	100 00
William Miller	58	500	100 00
William Miller	57	500	100 00
William Miller	58	500	100 00
William Miller	59	500	100 00
William Miller	81	100	20 00
William Miller	145	50	10 00
William Miller	146	100	20 00
William Miller	147	100	20 00
William Miller	148	100	20 00
William Miller	149	100	20 00
W H Smith	24	25	5 00
W H Smith	25	25	5 00
W H Smith	28	20	4 00
W H Smith	29	20	4 00
W H Smith	30	20	4 00
W H Smith	31	20	4 00
W H Smith	32	20	4 00
W H Smith	140	1000	200 00
W H Smith	142	25	5 00
W H Smith	143	50	10 00
W H Smith	177	1200	240 00
Henry Raymond	13	200	40 00
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W H Raymond	66	500	100 00
W H Raymond	67	500	100 00
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T E Jewell, Trustee	36	500	100 00
T E Jewell, Trustee	36	500	100 00
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E Martin Smith, Trustee	38	1000	200 00
E Martin Smith, Trustee	39	500	100 00
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Julius Renault	134	100	20 00
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M Kraszynski	167	30	5 00
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M Kraszynski	169	30	6 00
Charles Spencer	17	100	20 00
Charles Spencer	40	100	20 00
Charles Spencer	42	100	20 00
Charles Spencer	43	100	20 00
Charles Spencer	101	1000	200 00
Charles Spencer	102	1000	200 00
Charles Spencer	103	1000	200 00
Charles Spencer	104	1000	200 00
Charles Spencer	105	1000	200 00
Charles Spencer	106	100	20 00
Charles Spencer	107	100	20 00
Charles Spencer	108	100	20 00
Charles Spencer	109	100	20 00
Charles Spencer	110	100	20 00
Charles Spencer	111	100	20 00
Charles Spencer	112	100	20 00
Charles Spencer	113	100	20 00
Charles Spencer	118	1000	200 00
Charles Spencer	117	1000	200 00
Charles Spencer	118	1000	200 00
Charles Spencer	119	1000	200 00
Charles Spencer	120	1000	200 00
Charles Spencer	121	100	20 00
Charles Spencer	122	100	20 00
Charles Spencer	123	100	20 00
Charles Spencer	124	100	20 00
Charles Spencer	125	100	20 00
Charles Spencer	126	100	20 00
Charles Spencer	127	100	20 00
Charles Spencer	128	100	20 00
Charles Spencer	129	100	20 00
Charles Spencer	130	100	20 00

And in accordance with law, and an order of the Board of Directors, made on the twenty-fifth day of October, A. D., 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, room No. 12 Express Building, San Francisco, California, on Saturday, the twentieth day of December, A. D., 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, room No. 12 Express Building, San Francisco, California. oc29

Bunker Hill Quartz Mining Company—Location of works, Amador, Amador County, California.

Office, No. 19 First street, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment (No. 12) of Ten Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 19 First street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 20th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, Cal. no15

Black Mountain Coal Mining Company—

Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. H. PARSHLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco Cal. no1

Buena Vista Petroleum Company.—Location of principal place of business, San Francisco, California. Location of works, Buena Vista, Kern County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 25th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Stephen Bond	248	150	$150 00
Stephen Bond	249	70	70 00
John Hambleton		30	30 00
Wm S Kavanaugh		20	20 00
J C Lovejoy	203	5	5 00
J C Lovejoy	247	20	5 00
John Pfeifle	229	5	5 00
Chas Sleeper	105	1	1 00
Chas Sleeper	106	1	1 00
Chas Sleeper	107	1	1 00
Chas Sleeper	108	1	1 00
Chas Sleeper	109	1	1 00
Chas Sleeper	110	1	1 00
Chas Sleeper	111	1	1 00
Chas Sleeper	112	1	1 00
Chas Sleeper	113	1	1 00
Chas Sleeper	114	1	1 00
Chas Sleeper	115	1	1 00
Chas Sleeper	116	1	1 00
Chas Sleeper	117	1	1 00
Chas Sleeper	118	1	1 00
Chas Sleeper	119	1	1 00
Chas Sleeper	120	1	1 00
Chas Sleeper	121	1	1 00
Chas Sleeper	122	1	1 00
Chas Sleeper	125	1	1 00
Chas Sleeper	126	1	1 00
Chas Sleeper	127	1	1 00
Chas Sleeper	128	1	1 00
Chas Sleeper	129	1	1 00
Chas Sleeper	130	1	1 00
Chas Sleeper	131	1	1 00
Chas Sleeper	132	1	1 00
Chas Sleeper	133	1	1 00
Chas Sleeper	134	1	1 00
Chas Sleeper	135	1	1 00
Chas Sleeper	136	1	1 00
Chas Sleeper	137	1	1 00
Chas Sleeper	138	1	1 00
Chas Sleeper	139	1	1 00
Chas Sleeper	140	1	1 00
Chas Sleeper	141	1	1 00
Chas Sleeper	142	1	1 00
Chas Sleeper	143	1	1 00
Chas Sleeper	144	1	1 00
Chas Sleeper	145	1	1 00
Chas Sleeper	146	1	1 00
Chas Sleeper	147	1	1 00
Chas Sleeper	148	1	1 00
Chas Sleeper	149	1	1 00
Chas Sleeper	150	1	1 00
Chas Sleeper	151	1	1 00
Chas Sleeper	152	1	1 00
Chas Sleeper	153	1	1 00
Chas Sleeper	154	1	1 00
Chas Sleeper	155	1	1 00
Chas Sleeper	156	1	1 00
Chas Sleeper	157	1	1 00
Chas Sleeper	158	1	1 00
Chas Sleeper	159	1	1 00
Chas Sleeper	160	1	1 00
Chas Sleeper	161	1	1 00
Chas Sleeper	162	1	1 00
Chas Sleeper	163	1	1 00
Chas Sleeper	164	1	1 00
Chas Sleeper	165	1	1 00
Chas Sleeper	165	1	1 00
Chas Sleeper	167	1	1 00
Chas Sleeper	168	1	1 00
Chas Sleeper	169	1	1 00
Chas Sleeper	170	1	1 00
Chas Sleeper	171	1	1 00
Chas Sleeper	172	1	1 00
Chas Sleeper	173	1	1 00
Chas Sleeper	174	1	1 00
Chas Sleeper	175	1	1 00
Chas Sleeper	176	1	1 00
Chas Sleeper	177	1	1 00
Chas Sleeper	178	1	1 00
Chas Sleeper	179	1	1 00
Chas Sleeper	180	1	1 00
Chas Sleeper	181	1	1 00
Chas Sleeper	182	1	1 00
Chas Sleeper	183	1	1 00
Chas Sleeper	184	1	1 00
Chas Sleeper	185	5	5 00
Chas Sleeper	186	5	5 00
Chas Sleeper	187	5	5 00
Chas Sleeper	188	5	5 00
Chas Sleeper	189	5	5 00
Chas Sleeper	190	5	5 00
Chas Sleeper	191	6	6 00
Chas Sleeper	192	5	6 00
Chas Sleeper	193	5	5 00
Chas Sleeper	194	5	5 00
Chas Sleeper	195	5	5 00
Chas Sleeper	196	5	5 00
Chas Sleeper	197	10	10 00
Chas Sleeper	198	10	10 00
J Castagnetto	1	10	10 00
J Castagnetto	210	10	10 00
Frank Chevillot	28	20	20 00
H G Crane	40	1	1 00
H G Crane	41	1	1 00
H G Crane	42	1	1 00
H G Crane	43	1	1 00
H G Crane	44	1	1 00
H G Crane	45	1	1 00
H G Crane	46	1	1 00
H G Crane	47	1	1 00
H G Crane	48	1	1 00
H G Crane	49	1	1 00
H G Crane	60	1	1 00
H G Crane	51	1	1 00
H G Crane	52	1	1 00
H G Crane	53	1	1 00
H G Crane	64	1	1 00
H G Crane	55	1	1 00
H G Crane	56	1	1 00
H G Crane	57	1	1 00
H G Crane	58	1	1 00
H G Crane	59	1	1 00
H G Crane	60	1	1 00
H G Crane	61	1	1 00
H G Crane	62	1	1 00
H G Crane	63	1	1 00
H G Crane	64	1	1 05
H G Crane	65	1	1 00
H G Crane	66	1	1 00
H G Crane	67	1	1 00
H G Crane	68	1	1 00
H G Crane	69	1	1 00
H G Crane	70	1	1 00
H G Crane	71	1	1 00
H G Crane	72	1	1 00
H G Crane	73	1	1 00
H G Crane	74	1	1 00
H G Crane	75	1	1 00
H G Crone	75	1	1 00
H G Crane	77	1	1 00
H G Crane	78	1	1 00
H G Crane	79	1	1 00
H G Crane	80	1	1 00
H G Crane	81	1	1 00
H G Crane	82	1	1 00
H G Crane	83		00
H G Crane	84	1	1 00
H G Crane	85		00
H G Crane	86	1	1 00
H G Crane	87	1	1 00
H G Crane	88	1	1 00
H G Crane	89	1	1 00
J J Cook	29	5	5 00
Scalmanini & Frapolli	204	5	5 00
Scalmanini & Frapolli	206	6	6 00
Youse & Wilcox (not issued)		175	175 00
E O Darling	215	10	10 00
E O Darling	226	10	10 00
Geo Petit	218	1	1 00
Jas Dolan	221	10	10 00
Hugh Hannah	223	20	20 00
W B Floyd	234	20	20 00
Edwin Moore	235	80	80 00
N G Woodward	235	90	90 00
Alexander Deering	238	5	5 00
James Hambleton (not issued)		30	30 00
C E Farnsworth	245	50	50 00
C E Farnsworth	255	30	30 00
Geo Roberts	39	20	20 00
J A Henry	27	20	20 00

And in accordance with law, and an order of the Board of Directors, made on the 26th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 430 Jackson street, San Francisco, California, on Tuesday, the 25th day of November, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

L. AGUAYO, Secretary.

Office, 430 Jackson street, San Francisco, Cal. no16

POSTPONEMENT.—BUENA VISTA PETROLEUM COMPANY.—The above sale is hereby postponed until Wednesday, December 10, 1873, at the same hour and place. By order of the Board of Directors.

L. AGUAYO, Secretary.

Comet Consolidated Mining and Milling Company.—ANNUAL MEETING.—The annual meeting of stockholders in the above Company will be held at the office, No. 115 Leidesdorff street, San Francisco, at the hour of 3 P. M., on Wednesday, December 10, 1873, for the purpose of electing officers for the ensuing year.

W. AUGS. KNAPP, Secretary.

Office, 118 Leidesdorff street, San Francisco, Cal. 2t

Commercial Coal Mining Company of San Francisco. Principal place of business, City and County of San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Eighth day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alexander, J	52	50	$12 50
Cobblick, James	131	25	6 25
Comelins, W	174	490	122 50
Crocker, A E	142	5	1 25
Forrester, B	132	5	1 25
Forrester, B	147	25	6 25
Forrester, J	4	100	25 00
Harrop, Sarah	133	20	5 00
Hughes, Thos J	10	50	12 50
Larue, J	2	100	25 00
Strader, W	110	26	6 25
Strader, W	111	25	6 25
Strader, W	113	10	2 50
Strader, W	122	6	1 26
Strader, W	123	6	1 25
Washburn, C A		50	12 50

And in accordance with law, and an order of the Board of Directors, made on the 8th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 402 Montgomery street, Room No. 23, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. no29

Equitable Tunnel and Mining Company—

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the 7th day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Baker, Samuel D	5	200	$20 00
Brown, J W W	18	20	2 00
Burns, B J	274	25	2 50
Burns, B J	275	25	2 50
Carroll, James	139	40	4 00
Chapman, Mrs. Charlotte	790	150	15 00
Cohen, Jacob	464	50	5 00
Collins, Charles J	159	300	30 00
Collins, Charles J	369	20	2 00
Collins, Charles J	409	444	44 40
Collins, Charles J	484	236	23 80
Collins, Charles J	794	250	25 00
Cooper, H F	166	50	5 00
Daly, James	732	5	50
Delfa, Henry	113	10	1 00
Dinan, J B	326	50	5 00
Esten, John	176	10	1 00
Esten, John	177	10	1 00
Esten, John	178	10	1 00
Esten, John	179	10	1 00
Esten, John	180	10	1 00
Esten, John	181	10	1 00
Esten, John	182	10	1 00
Esten, John	183	10	1 00
Esten, John	184	10	1 00
Esten, John	278	10	1 00
Esten, John	289	10	1 00
Esten, John	443	100	10 00
Esten, John	444	50	5 00
Esten, John	445	50	5 00
Esten, John	447	50	5 00
Esten, John	448	50	5 00
Esten, John	449	50	5 00

Names.	No. Certificate.	No Shares.	Amount.
Esten, John	450	50	5 00
Esten, John	451	50	5 00
Esten, John	491	10	1 00
Esten, John	492	10	1 00
Esten, John	493	10	1 00
Esten, John	494	10	1 00
Esten, John	495	10	1 00
Hayes, Henry G	613	20	2 00
Hayes, Henry G	731	25	2 50
Higgins, J F	48	50	5 00
Higgins, J F	791	1000	100 00
Higgins, J S	407	1833	183 30
Higgins, J S	488	10	1 00
Higgins, J S	490	20	2 00
Higgins, J S	601	317	31 70
Higgins, J S	676	234	23 40
Higgins, J S	797	83	8 30
Hix, Jennie	160	50	5 00
Hoffman, Mrs. G R	10	100	10 00
Hodge, A	403	10	1 00
Howard, F	606	25	2 50
Jackson, Andrew	765	50	5 00
Jackson, Andrew	766	5	50
Kester, S B	31	100	10 00
Kester, S B	32	100	10 00
Kester, S B	33	100	10 00
Kester, S B	34	50	5 00
Kester, S B	35	50	0 00
Kester, S B	787	300	30 00
Mackley, J E	145	10	1 00
Marks, A	744	50	5 00
Marks, Bertha	122	25	2 50
Marks, Sol. L. Trustee	777	200	20 00
Michaelis, Henry	9	100	10 00
Modry, Marcus	136	10	1 00
Newhall, W. T	127	25	2 50
Parks, John C	343	10	1 00
Santiff, Nicholas	163	50	5 00
Savory, Edward	45	100	10 00
Savory, Edward	01	100	10 00
Sniffen, Elijah	19	50	5 00
Sniffen, Elijah	20	25	2 50
Sniffen, Elijah	21	25	2 50
Sniffen, Elijah	22	20	2 00
Sparrow, Wm. S	217	5	50
Spratt, Geo. S	54	25	2 50
Spratt, Geo. S	55	25	2 50
Spratt, Geo. S	56	25	2 50
Spratt, Geo. S	57	25	2 50
Spratt, Geo. S	58	25	2 50
Spratt, Geo. S	59	25	2 50
Spratt, Geo. S	60	25	2 50
Spratt, Geo. S	61	25	2 50
Spratt, Geo. S	74	00	5 00
Spratt, Geo. S	75	25	2 50
Spratt, Geo. S	76	20	2 50
Stege, John R	245	10	1 00
Trumbull, R. J	42	50	5 00
Ward, O	753	10	1 00
Werder, Max J	120	25	2 50
Wheeler, Elizabeth	133	160	10 00
Wheaton, H. B	126	13	1 30
Wood, Mrs E. A	077	100	10 00

And in accordance with law, and au order of the Board of Directors, made on the seventh day of October, 1873, so many parcels of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 35 New Merchants' Exchange, San Francisco, on Monday, the first day of December, 1873, at the hour of 11 o'clock A. M., of such day, to pay delinquent assessment thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California.

Great Blue Gravel Range Mining Company

—Location of Principal Place of Business, San Francisco, California. Location of Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of November, 1873, an assessment of Ten cents (10c.) per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on Monday the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

WM. H. WATSON, Sec'y.

Office, Rooms 5 & 6, No. 302 Montgomery street.

Gold Mountain Mining Company—Principal

place of business, San Francisco, California. Location of works, Lower Ranchería, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 31st day of October, 1873, an assessment of 25 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at No. 115 Leidesdorff street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the Fifth day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. AUG. KNAPP, Secretary.

Office, 115 Leidesdorff street, San Francisco, Cal. no8

Hayden Hill Mining Company—Location

of principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assesement levied on the 29th day of September, 1873, the several amounts set opposite tho names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Geo M Pinney, Trustee	10	500	$75 00
Geo M Pinney, Trustee	12	500	75 00
Geo M Pinney, Trustee	13	500	75 00
Geo M Pinney, Trustee	15	500	75 00
Geo M Pinney, Trustee	17	500	75 00
Geo M Pinney, Trustee	18	500	70 00
Geo M Pinney, Trustee	3	100	15 00
Geo M Pinney, Trustee	4	100	15 00
Geo M Pinney, Trustee	129	40	6 00
S A Raymond	1	100	15 00
H S Brown, Trustee	100	20	3 00
W H Gewley	19	000	70 00
W H Gawley	20	500	70 00
A W Blair, Trustee	38	50	7 50
A W Blair, Trustee	44	50	7 50
A W Blair, Trustee	46	100	10 00
A W Blair, Trustee	47	100	15 00
A W Blair, Trustee	48	100	15 00
A W Blair, Trustee	49	100	15 00
A W Blair, Trustee	51	500	75 00
A W Blair, Trustee	02	500	75 00
A W Blair, Trustee	64	000	75 00
A W Blair, Trustee	05	500	75 00
A W Blair, Trustee	66	500	70 00
A W Blair, Trustee	07	100	15 00
A W Blair, Trustee	68	100	10 00
A W Blair, Trustee	09	100	15 00
S A Raymond, Trustee	77	250	37 50
S A Raymond, Trustee	78	250	37 50
S A Raymond, Trustee	79	250	37 50
S A Raymond, Trustee	80	250	37 50
S A Raymond, Trustee	81	100	15 00
S A Raymond, Trustee	82	100	15 00
S A Raymoud, Trustee	83	100	15 00
S A Raymond, Trustee	84	100	15 00
S A Raymond, Trustee	85	100	10 00
S A Raymond, Trustee	86	100	10 00
S A Raymond, Trustee	87	100	15 00
S A Raymond, Trustee	88	100	10 00
S A Raymond, Trustee	89	100	15 00
S A Raymond, Trustee	91	3000	450 00
S A Raymond, Trustee	93	50	7 00
S A Raymond, Trustee	99	660	99 00
Louis R Lull	73	100	15 00
W F Dorrance	132	50	7 50
W H Knight	75	100	10 00
A F Brown, Trustee	101	100	15 00
A F Brown, Trustee	102	100	15 00
A F Brown, Trustee	103	100	15 00
A F Brown, Trustee	104	100	15 00
A F Brown, Trustee	105	100	15 00
A F Brown, Trustee	106	100	15 00
A F Brown, Trustee	107	100	15 00
A F Brown, Trustee	108	100	15 00
A F Brown, Trustee	109	100	15 00
A F Brown, Trustee	110	100	15 00
A F Brown, Trustee	111	100	15 00
A F Brown, Trustee	112	100	15 00
A F Brown, Trustee	113	100	15 00
A F Brown, Trustee	114	100	15 00
A F Brown, Trustee	115	100	15 00
A F Brown, Trustee	116	100	15 00
A F Brown, Trustee	117	100	15 00
A F Brown, Trustee	118	100	15 00
A F Brown, Trustee	119	100	15 00
A F Brown, Trustee	120	100	15 00
A F Brown, Trustee	121	000	75 00
A F Brown, Trustee	122	500	75 00
A F Brown, Trustee	123	500	75 00
A F Brown, Trustee	124	500	75 00
A F Brown, Trustee	125	500	75 00
A F Brown, Trustee	126	500	70 00
A F Brown, Trustee	127	200	30 00
A F Brown, Trustee	128	60	9 00
Jas A Pritchard, Trustee	130	6250	937 50
O P Warren	131	50	7 50
W H Knight, Trustee	134	24920	3738 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 331 Montgomery street, room 18, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessmont thereon, together with costs of advertising and expenses of sale.

WM. H. KNIGHT, Secretary.

Office—331 Montgomery street, San Francisco, California. no29

Ida and Rhoda Lewis Consolidated Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Directors of the above named Company, held on the 27th day of October, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room No. 12, Express Building, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 29th day of November, 1873, will be delinquent and advertised for sale at public auction, and, unless payment is made before, will be sold on Wednesday, the 24th day of December, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale C. J. EATON, Secretary.

Office, Room 12, Express Building, San Francisco, Cal. San Francisco, October 27, 1873.

Land Purchasers Association—Office, No.

425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of this corpornion, held on the 19th day of November, 1873, an assessment of ten dollars per share (being the 36th monthly installment on the subscription to the stock) was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent, and advertised for sale a public auction, and unless payment is made before, will be sold on the 13th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

Office, No. 425 Kearny strsst, San Francisco, California. C. S. WRIGHT, Secretary.

Lady Esten Tunnel and Mining Company.

Location of principal place of business, No. 35 New Merchants' Exchange, San Francisco, California. Location of works, Alta City, Little Cottonwood District, Utah Territory.

NOTICE.—There are delinqnent upon the following described stock, on account of assessment (No. 5) levied on the seventh day of October, 1873, the several amounts set opposite the namee of the respective ebarsholders as follows:

Names.	No. Certificate.	No. Sharee.	Amonnt.
Bennett R K	15	100	$10 00
Collins Chas J	392	500	50 00
Collins Chas J	393	500	50 00
Colline Chas J	413	1000	100 00
Cooper J B	120	100	10 00
Eade George C	329	100	10 00
Eade George C	330	100	10 00
Eade George C	331	100	10 00
Eade George C	332	100	10 00
Eade George C	333	100	10 00
Eade George C	409	1000	100 00
Eade George C	410	1000	100 00
Higgins J T, Trustee	421	100	10 00
Higgins J T, Trustee	422	40	4 60
Higgins Jas S, Trustee	318	667	55 70
Higgins Jas S, Trustee	348	10	1 00
Higgins Jas S, Truslee	353	10	1 00
Santiff Nicbolae	63	00	0 00
Thompson R E	87	10	1 00
Wheeler Elizabetb	1	100	10 00
Wheeler Elizabeth	220	100	10 00

And in accordance with law, and an order of the Board of Directors, made on the seventh day of October, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the company, No. 35 New Merchants' Exchange, San Francisco, on Monday, the first day of December, 1873, at the hour of 11 o'clock, A. M., of such day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

CHAS. S. HEALY, Secretary.

Office, No. 35 New Merchants' Exchange, San Francisco, California. no15

Mina Rica Mining Company—Office of the

Mina Rica Mining Company, No. 320 California Street, Room No. 5, San Francisco, California. San Francisco, Nov. 26th, 1873.

In accordance with a recolution adopted at a meeting of the Board of Trustees of the Mina Rica Mining Company, held this day, a special meeting of the Stockholders of said Company is hereby called; the same to be held at the office of the Company, No. 320 California street, Room No. 5, San Francisco, California, on Monday, the 29th day of Decemher, 1873, at two o'clock P. M., of said day, to take into consideration and decide upon the proposition to incresse the Capital Stock of said Company, from one million dollars, ($1,000,000) divided into ten thousand shares, of the par value of one hundred (100) dollars each, the present Capital Stock, to Two Million ($2,000,000) Dollars, divided into twenty thousand (20,000) shares, of the par value of one hundred (100) dollars each.

C. F. GIFFIN, J. H. H. WILLIAMS, } Trustees.

Ophir Copper, Silver and Gold Mining

Company—Location of works, Ophir, Placer County, State of California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November,, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 4, Duncan's Building, 411½ California street, San Francisco, California.

Any stock upon which this assesmsnt shall remain unpaid on the 13th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 5th day of January, 1874, to pay the delinqnent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

O. H. BOGART, Secretary.

Office, No. 411½ California street, San Francisco, California. no15

Ohio Consolidated Gold Mining Company.

Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Ecker, Geo C	13	100	$15 00
Ecker, Geo C	14	100	15 00
Ecker, Geo C	15	100	15 00
Ecker, Geo C	17	100	15 00
Ecker, Geo C	184	000	75 00
Ecker, Geo C	185	500	75 00
Wayman, W G	46	150	22 50
Knapp, W A, Trustee	236	100	15 00
Knapp, W A, Trustee	237	100	15 00
Bash, Henry	81	100	15 00
Bash, Henry	214	50	7 50
Dore, B, Trustee	288	50	7 50
Dore, B, Trustee	291	50	7 50
Scarles, J W	207	100	15 00
Wood, J H, Trustee	225	100	15 00
Wood, J H, Trustee	334	100	15 00
Wood, J H, Trustee	350	100	15 00
Wood, J H, Trustee	351	100	15 00
Knapp, W A, Trustee	248	800	120 00
Knapp, W A, Trustee	152	100	15 00
Knapp, W A, Trustee	264	50	7 50
Knapp, W A, Trustee	271	00	7 50
Knapp, W A, Trustee	275	100	15 00
Knapp, W A, Trustee	324	50	7 50
Knapp, W A, Trustee	345	300	45 00
Knapp, W A, Trustee	347	50	7 50
Knapp, W A, Trustee	352	100	15 00
Knapp, W A, Trustee	353	100	1 100
Knapp, W A, Trustee	354	100	15 00
Wood, S H	356	400	60 00
Knapp, W A, Trustee	365	100	15 00
Knapp, W A, Trustee	367	100	15 00
Knapp, W A, Trustee	372	100	15 00
Knapp, W A, Trustee	374	100	15 00
Fisher, E, Trustee	379	100	15 00
Wood, J H	380	100	15 09
Wood, J H	381	100	15 00
Wood, J H	382	100	15 00

And in accornsance with law and an order of the Board of Directors, made on the 14th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the company, on the 8th day of December, 1873, at the hour of one o'clock P. M., of said day, to pay said delinqnent assessment thereon, together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Sec'y.

Office—116 Leidesdorff St., cor. of Halleck, San Francisco, Cal. no22

Pacific Asbestos Mining and Mannfacturing Company—Principal

place of business, San Francisco, Cal. Location of works, Placer County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 17th day of November, 1873, an assessment of Six Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874 to pay the delinquent assessment together with costs of advertising and expenses of sale. By order of the Board of Directors.

H. B. CONGDON, Secretary.

Office, No. 306 Montgomery street. San Francisco, Cal.

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 27th day of October, 1873, an assessment (No. 5) of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary. Any stock upon which this assessment shall remain unpaid on the 29th day of November, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 22d day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, Cal. nov1

San Francisco Co-operative Land and

Building Association.—Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described shares on account of monthly installments up to and including the month of September, 1873, as provided in the By-Laws of said association, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Shares.	Amount.
James Adams	0	$30 00
Frank E Brown	1	14 00
H G Bloomer	3	42 00
Mrs Mary D Barnes	5	20 00
Thos Boyce	5	65 00
F G L Edwards	2	4 00
Henry Egan	2	14 00
Henry Horstman	2	26 00
Carsten Joost	0	05 00
Geo E Lane, Jr	10	90 00
F J Maynard	10	30 00
Chris Mordaunt	2	26 00
E C Newboff	8	18 00
F Ortman	2	20 00
Cleveland Rockwoll	5	35 00
Thos S Russell	2	12 00
Dr B J Smith	1	13 00
Miss C Smith	1	18 00
Mrs Aug Smitb	1	13 00
S K Thornton	10	120 00
D W Wbite	5	40 00

And in accordance with law, and an order of the Board of Directors, made on the 7th day of Novemher, 1873, so many shares of each percel above specified as may be necessary, will be sold at public auction, to the highest bidder for cash, at the auction salesroom of John Middleton & Son, No. 310 Montgomery street, San Francisco, Cal., on Tuesday, December 2d, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquont installments, together with fines, costs of advertising and expenses of sale.

H. B. CONGDON, Secretary.

Office, 306 Mongomery street, San Francisco. San Francisco, California, Nov. 15, 1873.

Thompson Coal Mining Company—Principal

place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, State of California.

Notice is hersby given, that at a meeting of the Board of Directors, held on the 8th day of October, 1873, an assessment of Two and one-half Conte per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco, California. Any stock upon which this assessment shall remain unpaid on the first day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 29th day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. H. PARSELLEY, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, California. no1

Umpire Tunnel and Mining Company.

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood, Salt Lake County, Utah.

NOTICE.—There are delinquent upon the following described Stock, on account of assessment No. 2, levied on the 21st, day of October, 1873, the several amounte set opposite the names of the respective shareholdere as follows.

Names.	No. Certificate.	No. Shares.	Amonnt.
John T Lynch, balance	217	50	$1 50
John T Lynch, balance	218	100	3 00
John T Lynch, balance	219	100	3 00
John T Lynch, balance	220	100	3 00
T A Brawley, balance	221	100	3 00
T A Brawley, balance	222	100	3 00
T A Brawley, balance	223	100	3 00
T A Brawley, balance	224	100	3 00
T A Brawley, balance	225	70	2 10
J W Finch, balance	226	100	3 00
J W Finch, balance	227	100	3 00
J W Finch, balance	228	100	3 00
J W Finch, balance	229	100	3 00
J W Finch, balance	230	100	3 00
J W Finch, balance	231	100	3 00
J W Finch, balance	232	100	3 00
J W Finch, balance	233	100	3 00
J W Finch, balance	234	100	3 00
J W Finch, balance	235	100	3 00
J W Finch, balance	236	50	1 50
Saml Edgerly, balance	237	100	3 00
Saml Edgerly, balance	238	100	3 00
Saml Edgerly, balance	239	100	3 00
Saml Edgerly, balance	240	100	3 00
Saml Edgerly, balance	241	100	3 00
Saml Edgerly, balance	242	100	3 00
Saml Edgerly, balance	243	100	3 00
Saml Edgerly, balance	244	100	3 00
Saml Edgerly, balance	245	100	3 00
Saml Edgerly, balance	246	100	3 00
Saml Edgerly, balance	247	100	3 00
Saml Edgerly, balance	248	100	3 00
Saml Edgerly, balance	249	100	3 00
Saml Edgerly, balance	250	100	3 00
Saml Edgerly, balance	251	100	3 00
Saml Edgerly, balance	252	100	3 00
Saml Edgerly, balance	253	100	3 00
Saml Edgerly, balance	254	100	3 00
Saml Edgerly, balance	255	100	3 00
Saml Edgerly, balance	256	100	3 00
H A Gaine, balance	257	40	1 20
Saml Edgerly, balance	50	20	60
Saml Edgerly, balance	01	20	60
Saml Edgerly, balance	54	20	60
Saml Edgerly, balance	59	20	80
Saml Edgerly, balance	61	20	60
Saml Edgerly, balance	62	20	60
Saml Edgerly, balance	63	20	60
Saml Edgerly, balance	64	20	60
Saml Edgerly, balance	65	20	60
Saml Edgerly, balance	66	20	60
Saml Edgerly, balance	67	20	60
Saml Edgerly, balance	68	20	60
Saml Edgerly, balance	72	20	00
Saml Edgerly, balance	75	10	30
Saml Edgerly, balance	70	10	30
Saml Edgerly, balance	77	10	30
Saml Edgerly, balance	79	10	30
Saml Edgerly, balance	80	10	30
Saml Edgerly, balance	81	10	30
Saml Edgerly, balance	82	10	30
Saml Edgerly, balance	83	10	30
Saml Edgerly, balance	91	50	1 50
Saml Edgerly, balance	104	100	3 00
Saml Edgerly, balance	110	100	3 00
John Rumels	199	10	60
J D Dunsetb	201	130	7 80

And in accordance with law, and an order of the Board of Directors, made on the 21st day of Octoher, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the Auction Sales Rooms of John Middleton & Son, No. 310 Montgomery street, San Francisco, Cal., on Monday, the 15th day of December, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

Virginia Consolidated Mining Company.

Location of principal place of business, San Francisco, State of California. Location of works, Kearsarge Mining District, Inyo County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Sharee.	Amount.
R M Shuey	7	1364	$68 20
R M Shuey	83	151	7 55
Georgo Hearst	11	4090	204 50
George Hearst	64	454	22 70
Edward Moban	53	224	11 20
Edward Mohan	54	910	40 00
Edward Mohan	55	450	22 75
Edward Mohan	55	1355	08 20
Edward Mohan	57	450	22 70
Edward Mohan	72	378	18 90

And in accordance with law, and an order of the Board of Directors, made on the 13th day of October, 1873, so many sharce of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 317 Montgomery street, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 12 o'clock M. of said day, to psy said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street (Room No. 13), San Francisco, Cal. n22

Washington Mining Company—Principal

place of businees, San Francisco, State of California. Location of works, Mariposa County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of October, 1873, an assessment of One Dollar per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 318 California street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 8th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 31st day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, Room No. 13, No. 318 California street, San Francisco, Cal. no8

Wyoming Gold Mining Company—Location

of works, Nevada County, California. Location of principal place of business, 410 Montgomery street, San Francisco, Cal.

NOTICE.—There are delinquant upon the following dcscribed stock, on account of assessment (No. 1) levied on the 13th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
S Hass	177	100	$25 00
J E Legge	97	100	25 00
Mrs Martha Mann	55	100	25 00

And in accordance with law, and an order of the Board of Directors, made on the 13th day of Septemher, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal., on Monday, the 8th day of Decemher, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expense of sale.

W. J. GUNN, Secretary.

Office, 410 Montgomery street, San Francisco, Cal.

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

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IRA P. RANKIN, A. P. BRAYTON,
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Steam Engines and Boilers,

MARINE AND STATIONARY,

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Mining Machinery of Every Description,

And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

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N. B.—Sole Agents for sale of HUNTOON'S CELEBRATED PATENT GOVERNOR.

18v20-3m GODDARD & CO.

FULTON

Foundry and Iron Works.

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MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

nyes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

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THE RISDON

Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
SAN FRANCISCO.

Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

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Joseph Moore, Jesse Holladay, C. E. McLane,
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James D. Walker.

WM. H. TAYLOR.....President
JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

UNION IRON WORKS,

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ROOT, NEILSON & CO.,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

OROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

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Rolling Mill Company,

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Established for the Manufacture of

RAILROAD AND OTHER IRON

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Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

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HAMMERED IRON

Of every description and size.

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☞ The highest price paid for Scrap Iron.

Miners' Foundry and Machine Works,

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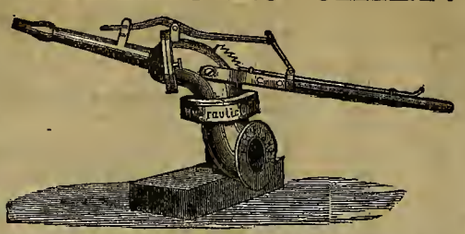
Machinery and Castings of all kinds.

HYDRAULIC CHIEF.

FISHER'S **KNUCKLE JOINT** AND **NOZZLE**

IS THE

Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

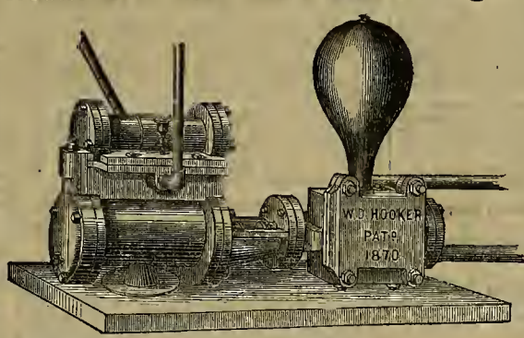
CAMERON'S

MINING STEAM PUMPS.

DAVID STODDART,

114 Beale Street, - - - - - - - - - SAN FRANCISCO.

Hooker's Patent Direct Acting Steam Pump.



SIMPLE, CHEAP AND DURABLE.

Adapted for all purposes for which Steam Pumps are used. Manufactured by the inventor and patentee, at *Hooker's Machine Works, No. 13 Fremont st., San Francisco*

☞ SEND FOR CIRCULAR.

N. B.—Also manufacturer of Hooker's Deep Well and Double-Acting Force Pump. Received the Silver Medal awarded at the last Mechanics' Fair in San Francisco. 18v27-2sm3m

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SACRAMENTO FOUNDRY,

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Steam Engines—all Kinds of Mining Machinery.

SHIP, AGRICULTURAL, STOVE, RANGE AND HOUSE CASTINGS.

Iron Railings and Ornamental Work of every description

At the Lowest Rates.

13v27-1y WM. GUTENBERGER.

CALIFORNIA BRASS FOUNDRY,

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

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IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the **Hepburn Rolling Pan** and **Callahan Grate Bars**, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

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LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

Brittan, Holbrook & Co., Importers of Stoves and Metals, Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 178 J St., Sacramento. mr.-1y

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Friel's Patent Paragon Vapor Stove.

PATENT GRANTED MAY 20, 1873.

The Great Labor Saver of the Household.

ECONOMY, CONVENIENCE AND SAFETY COMBINED.

JUST THINK OF IT—No Wood, no Coal, no Coal Gas, no Stove Pipe, no Chimney, no Smoke, no Ashes, no Dirt, no Wood Boxes, no Coal Scuttles, no Kindling Wood, but a Friction Match, and the

Fire in Full Blast in Half a Minute!

OVEN HOT IN TWO MINUTES.

Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment And the house unheated! It has no rival in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it; a little Child can operate it, and

All Recommend It.

Prices from $5 to $25, according to size. Manufactured and sold by WM. FRIEL, 69 and 71 Fourth street, San Francisco.

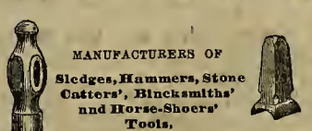
N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will be sent as sample.

22v25-2amly

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel.



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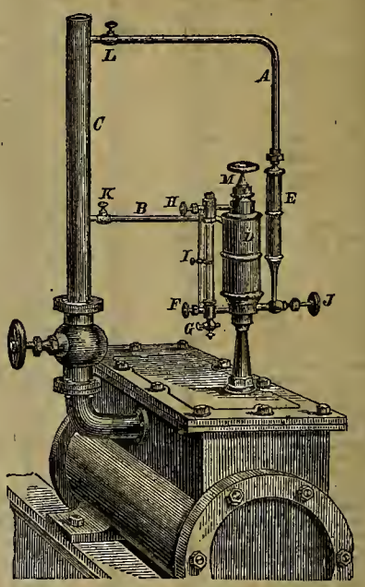
N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; I, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

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TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

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Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

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For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

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This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

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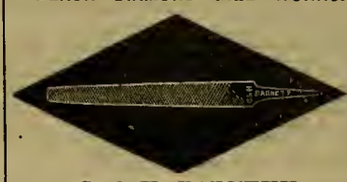

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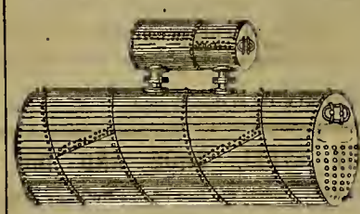

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SAN FRANCISCO METAL MARKET.

WEDNESDAY M., Nov. 26, 1873.

Iron for building purposes is in request, as much is being taken up for that purpose The general Metal market remains quiet. Quicksilver is steady at $1.10, with little prospect of a change.

Scotch Pig Iron, ₱ ton	$52 50	@	— —
Whits Pig, ₱ ton	52 50	@	— —
Refined Bar, bad assortment, ₱ lb	— —	@	— 3½
Refined Bar, good assortment, ₱ lb	— —	@	— 4
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06½	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 29	— 6	@	— 7
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 6	@	— —
Other Irons for Blacksmiths, Miners, etc.	— 5	@	— —
COPPER.—			
Brazier	— 35	@	— 38
Copper Fin'd	— 50	@	— —
O.Nie's Pat	— 55	@	— —
Sheathing, ₱ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₱ lb	— 40	@	— 42½
STEEL.—English Cast, ₱ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
ZINC	— 9¾	@	— 10
Zinc, Sheet	— —	@	— 10
NAILS—Assorted sizes	— 5¾	@	— 8
QUICKSILVER, per lb	—	@	1 10

LEATHER MARKET.

[Reported for the PRESS by Dolliver & Bro.]

WEDNESDAY, M., Nov. 26, 1873.

The market is quiet. All imported Kips are strong. Wax Lsather is in light supply, bnt there is no inquiry for it.

City Tanned Leather, ₱ lb	26@29
Sante Crnz Leather, ₱ lb	26@29
Country Leather, ₱ lb	25@28
Stockton Leather, ₱ lb	26@29
Jodot, 8 Kil., per doz	$50 00@ 54 00
Jodot, 11 to 19 Kil., per doz	66 00@ 85
Jodot, second choice, 11 to 16 Kil. ₱ doz	55 00@ 70 00
Cornellian, 12 to 16 Ko	57 00@ 67 00
Cornellian Femoles, 12 to 13	60 00@ 64 00
Cornellan Femoles, 14 to 16 Kil	66 00@ 74 00
Beaumorville, 15 Kil	60 00@ — —
Simon, 18 Kil., ₱ doz	61 00@ 63 00
Simon, 20 Kil. ₱ doz	65 00@ 67 00
Simon, 24 Kil. ₱ doz	72 00@ 74 00
Robert Calf, 7 and 9 Kil	35 00@ 40 00
French Kips, ₱ lb	1 00@ 1 35
California Kip, ₱ doz	40 00 to 80 00
French Sheep, all colors, ₱ doz	8 00@ 15 00
Eastern Calf for Backs, ₱ lb	1 00@ 1 25
Sheep Roans for Topping, all colors, ₱ doz	9 00@ 13 00
Sheep Roans for Linings, ₱ doz	5 50@ 10 50
California Russett Sheep Linings	1 75@ 2 50
Best Jodot Calf Boot Legs, ₱ pair	5 00@ 5 25
Good French Calf Boot Legs, ₱ pair	4 00@ 4 75
French Calf Boot Legs, ₱ pair	4 00@ — —
Harness Leather, ₱ lb	30@ 37½
Fair Bridle Leather, ₱ doz	48 00@ 72 00
Skirting Leather, ₱ lb	34@ 37½
Welt Leather, ₱ doz	30 00@ 50 00
Buff Leather, ₱ foot	19@ 22
Wax Side Leather, ₱ foot	17@ 19
Eastern Wax Leather	—@— —

LUMBER MARKET.

WEDNESDAY M., Nov. 26, 1873.

Receipts are full, and are speedily taken up at standing rates, for building purposes. Cargo prices for Oregon Pine are $16@18 for rough and $26@28 for dressed; Laths, $3@3.25. Sugar Pine is quiet at 35@45; Cedar, $12.50, $32.50 and $22.50 for the three qualities

CARGO PRICES OF REDWOOD.

Rough, ₱ M	$20 00
Rough refnee, ₱ M	16 00
Rough clear, ₱ M	32 50
Rough clear refuse, M	22 50
Rustic, ₱ M	35 00
Rustic, refuse, ₱ M	24 00
Surfaced, ₱ M	32 50
Surfaced refuse, ₱ M	22 50
Flooring, ₱ M	30 00
Flooring, refuse, ₱ M	20 00
Beaded flooring, ₱ M	32 50
Beaded floor, refnse, M	22 50
Half-inch Siding, M	22 50
Half-inch siding, ref. M	16 00
Half-inch, Surfaced, M	25 00
Half-inch Surf. ref., M	18 00
Half-inch Battens, M	22 50
Pickets, rough, ₱ M	14 00
Pickets, rough, p'ntd	16 00
Pickets, fancy, p'ntd	25 00
Shingles, ₱ M	3 00

PUGET SOUND PINE —Retail Price.

Rough, ₱ M	25 00
Fencing and Stepping, M	37 50
Fencing, 2d quality, ₱ M	30 00
Fencing, ₱ lineal foot	1c
Flooring and Step, ₱ M	30 00
Flooring, narrow, ₱ M	32 50
Flooring, 2d quality, M	25 00
Laths, ₱ M	3 50
Furring, ₱ lineal ft	¾

REDWOOD—Retail.

Rough, ₱ M	25 00
Rough refuse, ₱ M	20 00
Rough Pickets, ₱ M	18 00
Rough Pickets, p'd, M	20 00
Fancy Pickets, ₱ M	30 00
Siding, ₱ M	27 50
Tongued and Grooved, surfaced, ₱ M	35 00
Do do refuse, ₱ M	27 50
Half-inch surfaced, M	40 00
Rustic, ₱ M	42 50
Battens, ₱ lineal foot	1c
Shingles ₱ M	3 50

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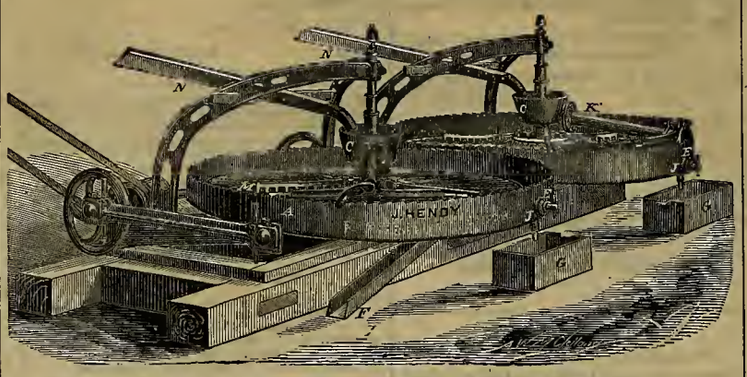

Can be seen at the Manufactory, 32 Fremont Street, San Francisco.

SAN FRANCISCO, April 27, 1872.

JOSHUA HENDY, ESQ.—*Dear Sir:*—As a practical miner and millman, I take pleasure in recommending the use of your Concentrators in all mills where gold or silver ores are reduced. No mills should be without them for the following reasons:

1st. They are good sizers (no perfect concentration in pulverized ores can be effected without first sizing).
2d. The best Concentrator I have ever known—(the concentrated stuff only containing 5 per cent. of sand).
3d. They are good amalgamators, light (feathery) particles of amalgam and particles of coated gold, by attrition are brightened, and from their specific gravity and the action of the pan, fall to the bottom and adhere.
4th. They require but little power and attention to run them, and with ordinary care will last for years.

I have been familiar with the workings of your Concentrators for four years past; have run them myself in the North Star Mine, Grass Valley; am familiar with their practical workings on the Empire Mine, Grass Valley; St. Patrick, Placer Co.; St. Lawrence, El Dorado Co.; Oaks and Reese, Mariposa Co., and most cheerfully give you this testimonial. For further information you are at liberty to refer to,

Yours respectfully,
JAS. H. CROSSMAN, M. E.
409 California street, or Cosmopolitan Hotel.

BLANKETS VS. CONCENTRATORS.—The Keystone Consolidated Mining Co., located at Amador, Amador county, Cal., have recently taken out the blankets in front of the battery and substituted twenty of Hendy's Concentrators. Sixteen of the Concentrators take the tailings direct from the batteries and the remaining four re-concentrate the pulp from the sixteen. The latest report from the mine is that they do away with the labor of six or seven men who were formerly employed with the buddles and blankets, and in addition the concentrators save about half a ton of sulphurets daily.—[Mining and Scientific Press, Sept. 6th, 1873.

References:

Reference is made to the following mills, some of which have had HENDY'S CONCENTRATORS in use for over four years:

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NORTH STAR M. & M. CO. (8 Concentrators).....Grass Valley, Nevada County.
VULTURE CO. (8 Concentrators).....Prescott, Arizona.
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CAUTION—All of HENDY'S PATENT CONCENTRATORS are marked thus: "J. HENDY, Patented April 17th, 1866, and May 19th, 1868."

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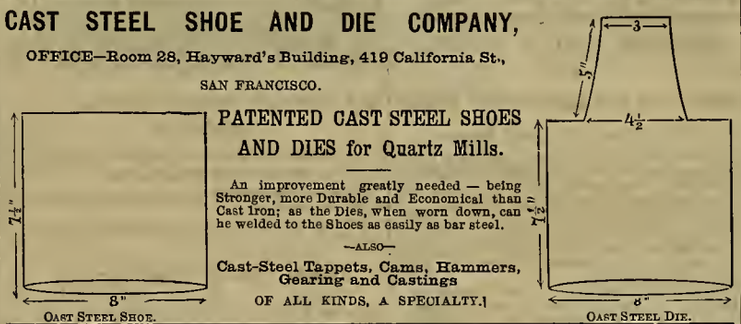

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GIANT POWDER, NO. 1,
For hard and wet Rock, Iron, Copper, etc., and Submarine Blasting.

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For medium and seamy Rock, Lime, Marble, Sulphur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, etc.

Its EXCLUSIVE use saves from 30 to 60 per cent. in expenses, besides doing the work in half the time required for black powder.

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MILL AND MINING PROPERTY
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Proposals for the purchase of the Mill, Furnaces and Mines of the Mendba Silver Mining Company, situated at Highland, (near the town of Piocho) Lincoln county, State of Nevada, either as a whole or separately, will be received by the undersigned, at their office, Room 21, 411½ California Street, San Francisco.

HENRY C. HYDE,
W. A. SCOTT, JR.,
Assignees of the Mendha Silver Mining Co., Bankrupt.
Dated San Francisco, Nov. 14, 1873.

THOMAS O'BRIEN. JOSEPH M. KINLEY.
KINLEY & O'BRIEN,
Attorneys-at-Law—712 Montgomery Street.
☞ Questions pertaining to Mechanics' and Inventions receive especial attention.

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HALLIDIE'S
Patent Endless Wire Ropeway.
Covered by Numerous U. S. Patents.
IMPORTANT TO
Mining Companies, Civil Engineers, Contractors, Etc.

The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN - My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get ont of order—nothing to wear ont. While ours requires hnt about two thonsand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be donbled or qnadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 23, 1872.

T. M. MARTIN, ESQ.—SIR: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully, L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
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An Illustrated Journal of Mining, Popular Science and Progressive Industry.

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SAN FRANCISCO, SATURDAY, DECEMBER 6, 1873.

VOLUME XXVII. Number 23.

Concentration of Ores.—California Mills in Europe.

The jigger as represented in Fig. 2, in our last issue, has two sieve compartments, but there may be three or four in one combination and so arranged that each sieve should be placed one inch and a half higher than the preceding one. The jiggers, if continuous, like those represented by Fig. 2, require a good deal of water. As soon as the pistons are set in motion, the ore is allowed to run on the first sieve, *a*; the short and pulsive action of the water in very quick succession lifts the ore above the sieve which sinks in the next moment, but is thrown up again before it can fall through the sieve; the heavier particles, however, find their way through and sink on the funnel-like lower part. The lighter particles keep on the surface of the mass and are carried by the flow of the water over the partition on the next lower sieve, *b*. The process here is the same as on *a*. The valve, *d*, is kept shut till a certain amount of concentrated ore accumulates, or if there is an abundance of water the valve may be opened but only as much as the proportion of concentrated stuff admits. A better result is obtained, if coarse concentrated ore from other jigging operations is spread upon the sieves two or three inches high before the fine ore is admitted. The coarse ore, about ¼ of an inch in diameter, is of course much larger than the holes in the sieve and prevents the fine ore from reaching the sieve too soon. By this means the small but heavy ore particles penetrate the coarse strata and fall through the sieve, while the earthy light stuff is kept above the coarse ore from the start.

The introduction of the jiggers in Pribram in place of the continuous percussion tables is a great improvement in concentration, first, because a jigger is a great deal cheaper to build than the table, and the concentration itself is more perfect and requires much less attention. The loss is now considerably reduced by the use of jiggers for fine ore, so that nearly 90 per cent. is obtained from galena ore if everything is properly attended to.

A corresponding progress in the line of crushing is not observed in Pribram. The old fashioned wooden stamps are still in use and the only thing that may be considered an improvement, is in the iron guides on each stem running in an iron groove on the wooden cross beam, which we term here the "guide." The iron guide improvement is exactly the same as was fixed on wooden stamps at Mount Ophir, Mariposa county, in 1857. But the most singular fact, is that about six years ago a battery was tried with rotating iron stamps after the California style, and compared with a wooden one, weight of stamps, lift etc., being equal in both; although the discharging was a little in favor of the iron stamps, as well as the wear of the shoes, after the trial was over, the iron battery was condemned as "not recommendable." With the report appeared a drawing, like Figs. 1 and 2, shown on this page, for illustration. The reason the battery was condemned was "that the cam in course of action, during the lift attacks the tappet with a constantly decreasing face till at the end of the lift, as Fig. 2 shows. The tappet hangs only on one part of the cam by which shape it is rapidly changed; also the tappet and screw of the stem wear out in a short time so that the expense of keeping such a battery in order, and the higher cost of construction would counterbalance the advantage in crushing."

This conclusion is somewhat startling to people familiar with our quartz mills. If the gentlemen had paid more attention to published particulars of the construction of our mills they might have appreciated them better. If they had noticed the description of California stamps in the Freiburg *Berg und Hüttenmanische Zeitung*, in 1864, with detailed drawings, they would have found different results; fastened the tappet with the jib in place of the expensive and stamp-weakening screw. They would have made the tappet with both sides alike so as to use the upper part after the under side was worn out. They would also have cut off the obstructive points of the cam according to the end of the tappet and would have constructed the cams so as to place the shaft much nearer to the stem. Inexperience and prejudice deprived Pribram of a great advantage in crushing as compared with their primitive rattletrap, at a point where circumstances were in favor of their seeing their mistakes.

The California stamp mill is almost universally conceded to be the best contrivance known for crushing ores. The people on this coast

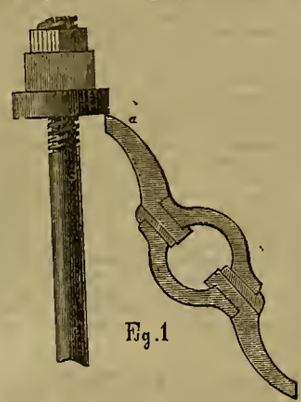

Fig. 1

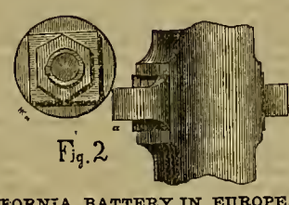

Fig. 2

CALIFORNIA BATTERY IN EUROPE.

have had abundant experience in milling operations and have taken advantage of every improvement possible to perfect their mills. We do not doubt that if some of these Pribram sharps were to walk into a first class mill somewhere on this coast, they would be considerably astonished to find out how far they were behind the age.

The miners who went from Julian city, San Diego county, to the Japa mines in Lower California, have nearly all returned. They state that with the present scarcity of water the miners cannot make more than "grub." Lower California is a pretty hard country.

G. F. Kelloog, retiring foreman of the Crown Point mine, was last week presented by the employés of the mine with a set of diamond sleeve buttons and shirt studs worth $1,000. It's a good thing to be a good foreman of a good mine.

A Committee from House Carpenters' shop No 3, to confer with others from the different associations in this city as to the best plan to bring about the establishment of public drinking places, has been appointed.

The Washington Telescope is now being mounted in the National Observatory at Washington. The object glass is twenty inches in diameter.

The Comstock mines ship about 90 car loads of ore daily by railroad to the various mills.

The Hoosac Tunnel.

The completion of the cutting in the Hoosac tunnel on the 17th ult. opens a new through route from the Hudson river to Boston, having its western terminus at Troy. The tunnel is four miles and three quarters long, twenty-four feet wide and twenty-six feet high. The Mont Cenis tunnel is about seven miles long, but the refractory rock in the Hoosac made it a much more difficult job to finish. The latter was begun in 1850, but was temporarily abandoned and recommenced several times, until in 1869, a contract was awarded to complete it within five years. Since then no interruption in the work has occurred. Steam and air drills and improved explosives have much facilitated matters, but the work has nevertheless cost the State of Massachusetts some $12,000,000.

The blasting agent used was principally nitroglycerine — made on the spot were used. The drilling has been effected by the Burleigh drill, and the power used was the atmosphere, compressed to a pressure of from fifty-three to sixty-five pounds on the square inch, serving the double purpose of working the machinery and supplying oxygen to the hundreds of men employed in the work. From their commencement under the present contractors, the works have been carried on without interruption (save the twenty-four hours of Sunday), night and day, each day being divided into three "shifts" of eight hours each. The width of the tunnel will admit of the laying of a double track. Three shafts were dug, and work was carried on on several faces at once. The central shaft is 1,030 feet deep.

The Mount Cenis tunnel is seven miles long. The St. Gothard tunnel will be nine miles long, and the contractors at work on it are under heavy penalties to complete it in nine years. The Sutro tunnel, to tap the Comstock lode, in Nevada, is to be 19,790 feet, or about three and three-quarter miles in length. This is a mining tunnel, and already upwards of 5,400 feet have been completed. The work is progressing rapidly.

Where the Lumber is to Come From.

The *Wisconsin Lumberman* wishes to know how the future demand for lumber is to be supplied. The Atlantic States are already nearly bare of forests, and the great prairie States, with no lumber at all, are rapidly filling up with a great population, that will require immense quantities, and to supply all this, there are only the comparatively scant timber lands of Wisconsin and Michigan, and the writer thinks that in consequence of the rapid manner in which the lumber of these States is being used up, that not a dozen years will be passed before there will be a scarcity, and that a hitch in the increase of the rates of manufacturing must ensue. Now, our brother of the northwest forgets that there will be some other lands to supply than those within the United States; he reckoned not of the fertile prairie of the Saskatchawan, which will be filled by an industrious race of agriculturists, and he forgets the existence of the pine woods of Canada. But more than all, he forgets that within the United States, there could be sufficient lumber grown to build all the houses and fences that shall be ever needed in the Union. Nay, the forests of the Sierra Nevada and the Coast Range, for 3,000 miles in length, can furnish lumber for the whole continent for untold centuries. California, Washington and Oregon will henceforth supply the wants of the United States, and instead of making 300 million ft. yearly, in a dozen years they will need to make three thousand million feet, and our city will derive as much benefit from its lumber trade as has done Chicago.

Our Mining Laws.

The United States mining laws of May 10th, 1872, have naturally made a great difference in the method of location of claims, and the change does not please everybody. The clause which gives 1,500 feet in length on a vein to any one man, together with 300 feet of ground on each side of said vein, was manifestly inserted for the benefit of poor miners. There is considerable doubt whether this clause has worked as beneficially as it was expected to do. It is perfectly certain that it tends to retard the development of the country to a great extent. In almost all the new districts, the first men who come locate their claims and really hold the mineral land in ranches, so to speak. This puts the ownership of the district into a very few hands. The tracts are 1,500 feet long and 600 feet wide, and it takes very few men to cover a whole district.

Whenever a new district is struck, the nomadic prospectors must go there immediately, in order to get possession of ground. The first arrivals locate all the ground, and leave no more for others. By this means men are induced to travel around from one place to another, more than used to be the case, although the custom always has been a bad one. They do not want to wait now to have a district prove itself worth something; the simplest assertions of richness are enough to excite droves of miners. There are hundreds of men now rushing to the San Juan country in the dead of winter, so as to get possession of all the land they can, before the crowd comes in the spring. Many of these will pass a hard winter, and be disappointed in the end.

Of the miners who locate a broad tract in a district, not one in a thousand is able to develop the ground to any extent. Men will not prospect on the ground on either side of a located ledge, and the owners having one vein and a title to the area on each side are never in a hurry to prospect outside the discovery claim. The whole system, will, without doubt, eventually lead to considerable litigation.

The "tunnel site clause" also comes in for its share of abuse. It encourages wholesale grabbing and retards development. As the law now stands, when one company locate a tunnel site at the bottom of a hill, they virtually take possession of the hill and all its ledges. Miners will not prospect across the line of a proposed tunnel, and not one tunnel in twenty is ever finished. They do work enough to cover the law, and if any hapless miner strikes a lead they will push their hole ahead of them and gobble his claim. The miners know what to expect and dodge hills with tunnel locations upon them. There is certainly fault in a law which keeps the miners from prospecting and gives so much power to one man or company of men. The complaints are not confined to any particular district, but are wide spread; the newly discovered districts being the worst off. Monopolies of all kinds are objectionable, but when a few men can keep ten times as many from equal rights, and have the law on their side at the same time, that law wants changing. The worst feature is, however, that the system as at present pursued discourages prospecting and retards mineral developments.

The Yellow Jacket and Crown Point works are being connected with the large cistern on the hill, overlooking Crown Point Ravine, by a six inch pipe, as a precaution against fire.

Hill's Separating Works.

As statsd in onr brisf sketch of Monday evening, Gilpin county is now fairly entitlsd to the prestige of hsving the only works on the American continent cspable of treating the product of our ores known as copper matte, by which is meant the powsr to extract therefrom the precious metals—gold and silver. Aftsr two months of preparation, Prof. Hill, through the assistancs of Richard Pearce, Esq., late of Swansea, Wales, than whom there is no more skillful opsrator in this complex businsss in the world, has complsted his extensive establishment, and is now conducting, in oonnection with his smelting furnacss, the process of ssparating the results thereof into thrse distinct parts—gold, silver and copper. Hitherto these results could only be obtained in England, and therefore the matte has been shipped there for thst purnoss. Owing to ths lsts heavy advances in the cost of cosls snd skilled lsbor abroad, compelling a corresponding increase of rates for treatment, it was deemed advisable to attempt the construction and opsration of similar methods here upon our own soil. By this means, the experiment having proved more successful than its sanguine projectors had ever predicted, the enormous returns of bullion annually taken from ores hy the Boston & Colorado company will be passed to our credit by the compilers of statistics, instead of heing entirely lost or left to conjecture. The first return was made on Monday in five bars of pure silver, weighing 5,480 ounces. For the trial test, material of the lowest grade was selected from the large stock on hand. So perfect was every part of the intricate machinery arranged by Mr. Pearce, that from the moment of starting every department has performed its work without alteration, and to the infinite satisfaction of the builders.

The motive power is supplied by a fifteen horse power engine. This with the boiler attached occupies the extreme northern wing of the building. Thence, under the guidance of the Superintendent, we were ushered into the pulverizing room, where the crushed matte is reduced to an impalpable powder by means of a revolving cylindrical machine filled with iron balls, and with which all our resident readers are familiar. The material is thrown into the hopper, whence it is conveyed to the pulverizer, which, for the preservation of dust and the comfort of the workmen, is hermetically sealed within a square box of sufficient dimensions. From the point of discharge the powder is put through the process of calcination in two large reverberatory furnaces for the purpose of converting the sulphides into sulphate of silver readily soluble in water. After remaining subject to a steady heat four or five hours, the charge is spread out on the floor of a brick-lined cooling room preparatory to its transfer to the tub room and the process of precipitation. The capacity of the calciners is six tons per day. Ample dust chambers of hrick are attached for the reception of such particlea as may be carried off by the draft.

After cooling, the calcined matter is removed to another apartment, where it is thrown into a series of tuhs, wherein the sulphate of silver is dissolved out of the oxides of copper and iron, by the use of water jets. The precipitation is effected in large tanks filled with fragments of copper plate. The product is then boiled with sulphuric acid in an apparatus pattented by Mr. Pearce for the separation of any traces of copper that may adhere to it. The precipitated silver is then taken to another room, where it is placed in drying pans, whence it is melted and converted into bars of pure metsl.

Thus far ouly the one metal above named has been obtained. The residues, containing a certain percentage of silver in combination with the gold and copper, are transferred to a room reserved for their use, there to await the crection of other apparatus especially designed for gold extraction.

The separating capacity of the present works is three tons of matte per pay. Mechanics are now engaged in enlarging it to the extent of six tons per day, so as to enable the company to meet all contingencies that may arise through the shipment of material from other mining countries, large receipts heing anticipated from the South Park, Salt Lake and tributary districts. They now have 150 tous on hand at the yard, as much more in Boston, sent there for shipment to Swansea, but which is to be returned here for treatment; a constant supply from their furnaces in the Mount Lincoln mines, the entire yields of the works on Clear creek under the management of Mr. Pearce, with the probability of that which is produced by the English company operating on Spanish Bar.

It may, therefore, be safely asserted upon the foregoing facts that within thirty days from this time Prof. Hill will send, through Wells, Fargo & Co's Express to New York, from twenty to thirty thonsand ounces of pure silver every wesk. When the machinery for gold extracting is added, sixty days hence, his shipments alone will be more than double the largest sggregates shown by our bullion records for the past ten years. By this last crowning addition to his facilities for the treatment of ores and matte, he has placed himself in a position to command extensive patronage from all the mineral regions of the trans-Missouri conntry, and hy his success in a field of enterpriss in which he has hut three contemporariss in Christendom, he has achieved ths imperishable prestigs of hsing the first to estsblish a new and importsnt industry in this Western Hemisphere.—*Colorado Register.*

County Aid to Mining Interests.

A correspondent of the Helena (Montsns) *Gazette* says: My attsntion has been attracted by ssvsral letters written from this city in regard to ths production of the mines in this and adjoining counties. The writer shows that there are in our nsighborhood over twelve minss that are now paying from ore that can be shipped east or worked at the smelter here sufficient to pay labor and grub, leaving on the dumps tons (he estimstes them at 1,000) of milling ors thst will not pay shipment and are not fit for smelting, but which sssay, on an average, over $50 per ton—running from $30 to $100. The question is asked how this large amount is to be released from the dumps, looking to the fact that until railroads reach us the capitalists from abroad vsnture not amongst us. Ths writer recommends the counties intsrested being authorized to loan their credit for this purpose. The suggestion is made that our county loan, say $100,000, and Madison, Deer Lodge and Bea-Head the same. I am inclined to think the plan feasible. Of course, the loan should he guarded as strongly as possible. It should be placed in the hands of commissioners who will look well to its investment.

There are, in many of our mining districts mills that could be easily arranged for the reduction of our silver ores, but the owners have not the capital to erect the furnaces, etc. From examination I feel well assured that if a mill and a Stedtefelt furnace were erected—one on Ten Mile and one at Jefferson city—this coming year, they would add such an impetus to mining operations that I can hardly estimate it. Such also would be the case in Madison county, if mills and furnaces were erected at Brown's gulch and Chery creek. In many cases a loan could be made to works already up and secured on them and the additional works to he erected, adding value to what is now an unused thing. From the fact that no railroad will reach us for years, a suggestion that promises to relieve a community that you may well call "Poor Montana," is of importance. And do yon not see in this an additional inducement for the capitalists to build the railroad? We talk of our mines—of their richness and their number—but they avail but little if we show no result; but let one of these works be estahlished in each county, and show as they undouhtedly would, favorable results, a new incentive would be given to a road being built. I am a miner and interested in that interest; bnt I think I know what I am writing about, and I do hope that this subsidising the miners will at least be discussed. Our wise men at the capital will know how, or should know how, to pass the bill.

Iowa Hill Canal.

For many years the divide lying between the North and Middle forks of the American river, has been, comparatively speaking, almost worthless for mining purposes, from the fact that there has been no adequate means provided to obtain a supply of water, an element equally as essential in mining as the precious metal itself. During the past twenty years numerous projects havo been commenced to supply this deficiency, hut have all failed; some from the lack of means to carry out so stupendous an undertaking, and others from the fact that the result would not be remunerative.

Last spring several of the hard-fisted miners in conjnnction with the husiness men of Iowa Hill, determined that the project of bringing in a supply of water from the head branches of the North Fork of the American river was feasible, and that they had waited long enough, Micawber like, for something to turn np. They accordingly formed themselves into a company, incorporated under the laws of this State, fixing their capital stock at one $1,000,000 divided into one thousand shares of $1,000 each. The present officers of the compauy being: J. W. Chinn, President; C. F. Macy, Secretary; and William Van Vactor, Superintendent. The Trustees are, W. H. Kinder, J. W. Chinn, William Van Vactor, D. W. Spear and C. F. Macy. On the first of June the company had three hundred men at work and have about completed all of the ditching from the head of Indian cañon to Tadpole cañon, a distance of twenty-five miles, and if fair weather continues for three or four weeks longer they will have completed all of the fluming on that portion of the canal. The last half mile, before reaching Tadpole cañon, will be by far the heaviest work on the route, the side of the cañon heing very precipitous, requiring a large amount of blasting to enable them to get a foundation for their flume.

The company have procured a portable steam saw mill, which is at present located at Secret Springs, and it is turning out about ten thousand feet of lumber per day. Men are now at work putting in the fiume, the principal portion of which will be at Pioneer gap and Tadpole cañon. The canal is seven feet on the bottom, nine on top, and four feet deep; the flumes are seven feet wide and four feet deep. The reservoir of the company is locsted on what is known as the Fish and Brown ranch, ahout five milss from Iows Hill, is said to he one of the finest pieces of work in the State. The embankment at ths hottom is one hundred aud fifty feet wide and is about forty on top at the prssent time. The towers in which the gate frame works are fifty-fivs fest high. The trunk snd gate were made at the Union foundry in San Frsncisco; the trunk is one hundred and fifty feet long and thirty inches in diametsr, and msde of No. 12 iron, heavily coatsd with asphaltum. The rss-ervoir as at present constructed, covers an area of sixty-five acres at an average dspth of twenty-two feet. Nsxt year the embankmsnt will bs raised teu feet higher, and it will then cover one hundred acres, at an average depth of tweuty-seven and one-half feet. The total amount of money expended up to the present time is ahout $60,000.

This is ths rssult of energy, perssrverance aud dstsrmination on ths part of a few resolute men, and we trust that thsy may bs snabled to meet with the liberal reward they hsve so well msrited and that their exsmple may he followed by others, so that ere long we msy he enabled to truthfully say that Placer county is second to none in the State, in the systematic and thorough devslopment of her mineral rssources. —*Placer Argus.*

Tallow-Cheese.

Since "dips" have gone out of fashion "good plain cooks" have been apprehensive of the fall of kitchen-stuff to so low a figure as not to be worth the trouble of "making." However, they need be under no misgivings. A Surrey gentleman has patented a process for making "cheese of rich quality" from skim-milk and tallow, provided the latter be not too highly flavored. The two are beaten into an emulsion, then treated with rennet in the usual way, and the outcome is fine Cheshire. The plan is not new, but this is the first time it has been made "patent" to the public. To our simple mind there seems some anomaly in granting this gentleman a patent, and denying one to the genius who some years ago made a machine for casting imitation coffee-berries from chicory, though it did not prevent the process being adopted. For our part, we prefer the genuine article under any circumstances; bnt we do not for an instant assert that tallow-cheese is not worthy to be placed alongside Battersea butter, kiln-dried bacon, lie tea, starch sugar, and the thousand and one factitious articles which now-a-days constitute an Englishman's *cuisine*. It is well know that the finer kiuds of foreign tallow never see a wick, and that a goodly proportion of it is burnt in children's stomschs under the omnigenous term of "dripping;" still the question remains whether the petty purveyor of "vulgar fractions" of cheese, under the name of "'arf-quart'ns," will be compelled to label the new compound as a "mixture," or, under cover of Her Majesty's Letters Patent, be able, like quacks, to baffle the law and defy the analyst.—*Iron.*

A Success.—The White Pine *News* says: We have mentioned the tailings mill, situated at Shermantown, in previous issues, and have been certain of its successful operation, but, with the racketty old machinery employed to run the pans, did not imagine it would hold out for so long a time as seems the case now. We are informed that the product of amalgam continues to be as large as ever and that an average of $300 per day is now the given proceed. This result alone is a matter of congratulation to the Eberhardt & Aurora company, who own the works and to whose enterprise and perserverance the county is indebted. Mr. Gumbinner is still in charge of the mill and deserves much praise for the manner in which he has conducted affairs since his assumption of the duties of Superintendent.

Rumored Sale.—We have heard rumors (and rumors are pretty close to news items these times) that parties are negotiating for the purchase of the Edgar mine, of the Ward Beecher Consolidated. We sincerely and earnestly trust there may be truth in this. Any change from the present selfish management of this property by which its destinies might be ruled hy other than the present parties, would be to the iuterest of all concerned. With the Edgar and some other claims on Treasure Hill consolidatsd, under energetic management, a marked change for the better would soon be apparent; as it now stands, the property will never benefit this community.—*White Pine News.*

The London *Lancet* reprehends the filthy custom of pasting one wall-paper over another till a thickness of an eighth of an inch or more is accumulated; it is too common, and is attended with the worst consequences. This was the cause of the puzzling offensive smell at Knightsbridge Barracks, London, that recently threatened the whole establishment with fever. The examination of the drains and taking up of the floors revealed nothing, while the introduction of increased means of ventilation left the evil as it was. At last an exsmination was made of the wall-papering, when it was found that one paper was pasted over another till a thickness was accumnlated amounting in one case to fourteen layers. Between these layers there was rotten paste, in which fungi and even maggots germinated; while the wall being hollow, the stench spread into the passage and over the establishment.

Robinson District.

Last wesk we noted the encouraging prospects which seemed to be opening up before this district. Since thst time we have had renewed assurances from rsidents as to the continued successful operation of the Watson company's mill, and most tangible proof of ths existence of the precious metal in bars of bright silver bullion, which have besn produced there during the last run. Nearly if not quits $600 per day has been the product of ten stsmps, and ths ore is being worked as high as 70 and 75 per cent. The energy and psrseverancs of Superintendent Elmore, under adverse circumstsnces, is a subject of general remark, and ths people of that whole section join in in his praise. We remember some noted miners and educated mill-men who said that the ores of Robinson district could not be trested successfully hy any known process, declaring the country a "bilk," which declaration they did not attempt to conceal from any one. It is certainly a victory over such wiss-acres, who are so confident in their own opinion to produce rssults from impossibilities. We suppose, if asked why the ores could not be worked, they would answer, as the school-boy does, "hecause they can't." Parties from Robinson inform us that everybody there is highly elated at the prospects before them, and those who have stuck to it through thick and thin, have only themselves to thank for persistency. Truly this instance is suggestive of what downright hard work and energy, assisted by a firm helief, will accomplish. During several years efforts have heen made to bring to a success the working of ores in this district. The Canton Mining Company purchased the Aultman and other mines, some time ago, and concluded the ores could best be treated by the smelting process, but, after several trials the attempt was abandoned, and they now contemplate building a mill. The successful operation of the Watson mill must induce others to invest in this district, and we predict for Mineral City an importance second to no other place in Eastern Nevada in a very short time. Not only are the silver-bearing properties numerous and rich but they show heyond a doubt the most essential worth of a mine, that of "going down." It is also a remarkable fact that ores whioh wsre hasc at the surface have changed their complexion to that of almost free milling ore at the distance of fifty and one hundred feet down. Then again the silver-producing rock is not the only intersst, in a mining sense. Immense bodies of high-grade copper ore exist all over the district, which have been developed in several instances to be of great value aud extent. The main and almost insurmountable difficulty has been heretofore the total absence of capital among the owners of copper claims, and their consequent inability to develop their mines, or to realize profit from the sale of ores. We trust, however, this drawback may be soon removed, and their extensive interest he made remunerative to all concerned.—*White Pine News.*

A New Steam Engine.—A small motor, suitable for sewing machines, has been invented by Frederick Siemens, in Dresden. It is described as a steam engine, which has neither cylinder, nor piston, nor guide bars, nor crank, nor valves, but only a boiler, which is at the same time the moving part. The machine works always with one and the same quantity of water. The steam passes through a cycle something like what is seen in nature; the aun evaporates water on the earth's surface; in the upper strata this again becomes liquid, and returning to the earth does a large amount of mechanical work. The machine is .01 horse power, needs little alteration, and is quite safe, the tension of the steam being low. If heated by gas, it consumes twenty-five cubic meters per hour. The cylinder-shaped boiler is expanded conically at the upper part. It stands at an angle of forty-five degrees, and turns on supports, while a beveled wheel arbor changes the motion into a horizontal or a vertical.

An electric apparatus has been devised which records music while the instrument to which it is attached is being played. The movement of the keys makes and breaks the connection, and the notes sounded are indicated hy indentations in paper, as in the eimple telegraphic recorder. The device will prove of service to composers.

The finest specimen of Brussels lace is so complicated as to require the labor of seven persons on one piece, and each operative is employed at distinct features of the work. The thread used is of exquisite fineness, which is spun in dark, underground rooms, where it is sufficiently moist to prevent the thread from separating. It is so delicate as scarcely to he seen, and the room is so arranged that all the light admitted shall fall upon the work. It is such material that renders the genuine Brussels ground so costly. On a piece of Valenciennes not two inches wide, from two to three hundred bohbins are sometimes used; and for a larger width as many as eight hundred on the same pillow.

New Hoisting Works.—The Woodville mining company have commencsd the erection of new hoisting works a short distance above the old works. The frame work of the building over the new shaft is already up and will shortly be enclosed.

SCIENTIFIC PROGRESS.

Vaseline; A New Product of Petroleum.

There acems to he no end to the uses to wbich petroleum is to be pnt, or at least for which it is to he tried, and the number of different forms in which it may be put or of substances to he extracted from it by the chemist, aeem also practically nnlimited.

The latest achievement of this sort is the production of a substance known as Vaseline, wbich seems snited to fill a vast number of requirements in both medicine and the arts. This article may be described as a refined and concentrated petroleum. It is of a bright amber color, and nearly free from odor, and of varying consistency, according to tho nees for which it is intended, as the manufactnrer can make it to remain fluid or to partially solidify at almost any given temperature. Its vaporizing or ovaporating point can also be changed, though it is usually put at 400° Fahrenheit. The method used in tbe manufactnre of this new candidate fer favor may be broadly stated as comprising the concentration of crude petroleum and the refiniug by filtration of the concentrated substance, no acids or alkalies being nsed in the process. This is an important point, as will be seen. The uses to which such an article as we have indicated may be put are almost innumerable, hut before enumerating them it may he well to glance at the nature of petroleum, the source of this prodnct.

Petreleum may be chemically described as a hydro-carbon, and as respects its position may be stated as between tha oils on the one hand and the alcohols and ethers, tha great solvents for oils, on the other. Its first and most obvious property is its resemblance to oil, and hence it is not at all remarkable that in the centuries during which it has been known it has been regarded as a natural oil. Not to go back to the ancients, it has heen knowu and sold iu this country for years nnder the various names of "Seneca Oil," "Rock Oil," "Indian Oil," and the like, and a heavy petroleum nnder the name of Barbadoes Tar has held a place in the ohsrmacopeia ver since there has been ona. As nas been said, the relation of petroleum to the ›ils is apparsnt enough, but its connection with the ethers is not at first as apparent. That t exists is, of course, apparent enough to the chemist, bnt it is not so apparent at the first glance to the ordinary observer.

Proofs of its existence, however, are common enough if not always noticed. Ite vapor, like that of ethers, chloroform, etc., is exceedingly volatile, and produces the same effect on the animal economy. Men have become dizzy from standing over vats of the crude oil, have tumbled in and were drowned; persons taking over-doses of kerosene, benzine, or the crude oil exhibit the symptoms of poisoning by chloreform. The medicinal virtues of petroleum depend on both these qualities, its oily quality making it a capital lnbricant, while to its analogy to the ethers is undoubtedly due the reputation which it really merits as a soother of pain. Heretofore the use of petroleum in medicine has been restricted by its odor, which is inteneely disegreeable to most persons, and which is not removed bnt rather intensified by the ordinary methods of refining. From what has been said, therefore, it will be seen that the uses of Vaseline, if its productien on a large scale of standard purity he kept up, will become very extansive. Having no affinity for oxygen or moisture, it ought to make an excellent preservative, and to be better as an application to burns, chafes, etc., than any other oils or glycerine. It should also, when sufficiently concentrated, make an excellent excipient in the preparation of cerates and unguents, and properly perfumed, could readily he made available on the toilet table. In short, any apothecary or physician will readily see the exceeding value of such an article. But this substance promises to be not less useful in the arts than in medicine. As it can be made, as has been stated, of any consistency, and eo as to be fluid at any given temperature, it promises to come extensively into use for the pnrpose of lubricating machinery. To use petroleum for this purpose has long been a favorite scheme with inventors and oil men, but there have always been obstacles in the way. The natural oil without being filtered contains too much impalpable grit to be adapted to fine machinery, and the refined as ordinarily made product has been found too thin, and is also injured by the acids and alkalies with which it is treated.—*Paint and Oil Trade.*

An improved method to produce hydrogen at a cheap rate has been proposed by Giffard. He passes steam over scrapa of red-hot iron; the iron decomposes the steam, is oxidised, and as the hydrogen escape through a cooled coil in which the undecomposed steam condenses. When no more gas comes out of the coil, he passes carbonic oxide gas over the red-hot iron. This at once robs the iron oxide formed by the steam of its oxygen, changing itself into carbonic acid. As soon as the amount escaping by the latter becomes small, the steam is again admitted. Giffard claims that in this way he can make 70 cubic feet of hydrogen per minute.

In the course of his experiments, M. Béamp found that he was able to detect an appreciable quantity of alcohol, as a physiological product of the liver.

Astronomical Notes.

In Italy a spectroscopic society has been formed, in order to unite several co-laborers to tha accomplishment of results unattainable by individual efforts. One of tho objects proposed to be executed first is observations on the sun from minute to minute, following the solar erruptions, in order to study all their phases; to draw day by day details of the photosphere, and arrange them on strips of paper; to represent and study the daily changes, whether great or small, going on in the spots and faculæ visible on the solar surface; every day making a spectroscopic chemical analysis of the chromosphere, and recording systematically the elements ejected by the continual erruptions; also to make frequent correct measurements of the diameter; and finally, to watch the perturbations of the compass-needle and the auroras, in order to determine how far they are under the immediate control of tha gigantic disturbances continually going on in the central globe of our planetary system.

In regard to tho nature of comets, which, according to the estimate of Arago, traverse our planetary system to tha number of 17,000,000, Zoellner thinks that they consist of nuclei too small to be separately distinguished, even by the strongest telescopes, and that the nuclei are surrounded by their own vapor of low tension, as we know that fluids such as water or mercury, and even nearly all kinds of solids, give off such vapers. If the mass of such nuclei be too small to manifest sufficient gravitation toward the common center of attraction, so as to condense the gaseous envelop, and cause a pressnre checking further evaporation, the whole mass is finally changed into a very rarified vapor, which the spectroscope has proved to be hydro-carbon, (petroleum!) Zoellner supposes this vaper to be hot, and charged with electricity, by the action of which the sun, which is also electric, attracts or rejects some portions of this vapor, and so causes the tails to be formed, which sometimes are repelled and sometimes attracted, and when the comet comes near enough, entirely absorbed by the sun. This appears the most rational theory on the nature of comets yet advanced, as it perfectly agrees with their behavior and the well-known properties of positive and negative electricity. That all the members of our planetary system mey be thus charged, is probable from the fact that the mess of our earth is always negatively electric, and as the planetary space ie so far a vacuum as to be a non-conductor of electricity, these cesmical bodies must retain their charges, it being practically proved that a real vacuum is utterly incapable of conducting electricity.

The large planet Jupiter is always drawing toward himself scores of comets and meteorites, which flutter arennd it always nearer and nearer, as moths toward a candle. They are continually increasing in size, and have done so perhaps for millions of years, at the same time retarding the cooling of this red-hot planet. So the latest observations and deductions have taught us.—*Manufacturer and Builder.*

The rings of Saturn have always heen an enigma to astronomers. La Place showed that if they were solid, and of the same thickness throughout, they would seon fall down on the planet and be destroyed. He therefore supposed them of irregular density. Not many years ago, Professer Pierce found that the same catastrophe would occur even in this case, and he and Bond have concluded that they are fluid. It soon became doubtful whether a fluid ring would be any more stable, and Professor Pierce hence conceived the idea that it was held up by the attraction of the satellites. Mr. Hirn, a French physicist, has lately presented a paper to the French Academy, in which he maintains that the ring is neither solid nor fluid, hut is a swarm of small particles, which looks solid owing to the great distance at which we see it. The idea is not new, as it was developed mathematically more than ten years ago by Mr. J. C. Maxwell, of England; but Mr. Hirn adduces some new arguments to its support. One of these is that when the ring is seeu on its dark side, which is presented to us on very rare occasions, it does not seem absolutely black, a little light shining through.

Purity of Water.—On the much vexed question of purity of surface waters, we are favored with a rather sweeping observation by Prof. Newberry, of the Columbia college School of Mines. He says: "There is much apprehenaion iu the public mind in regard to the purity of the water of streams which drain the surfaces of our own and other countries. Water in itself is a diainfectant, and a large volume of water, when exposed to the air, so rapidly 'fines' itself, by the oxidation of its organic impurities, that when cooled and settled or filtered to remove its suapended ingredients, the water of most of our streams is even more palatable and wholesome than that taken from wells." While tho Professor is undoubtedly right as regards the streams of the open country, hia remark does not apply to waters in thickly populated districts. Our own idea has ever been that thia very disinfecting property of water—that ia, its power of taking np impurities from the air and earth—is what makes it a vehicle for decomposing organic matter. In time, of course, thorough aeration and light have their influence.

Rusting.—Prof. Calvert says that pure, dry oxygen does not cause the oxidation or rusting of iron. Moist oxygen has only a feehle action. Dry or moist pure carbonic acid has no action, hnt oxygen containing traces of carbenic acid acts rapidly on iron, producing first a protoxide, then a carbonate of the same oxide, and lastly a mixture of protoxide and hydrated sesqnioxide. The phenomena of rusting are not well understood generally. Theories differ. In this connection we may again refer to the piano wire used in soundiug from the Tuscarora which, after long usege at all depths, was perfectly free from rust.

Varying Intensity of Solar Light.—It has long been believed by many that the light emitted by the sun is less intense near the edges of its disk than at the center. Vogel has devoted some time to actually measuring this difference, and finds that the light from the center is to the light from a point three-fourths of the soler radius from the center, as 48 to 35. How he obtained these figures, however, we are not told.

Mr. Cowie, of Shanghai, has observed the passage across the sun's disk of an object which he thinks is a planet nearer to the sun than Mercury. Prof. Kirkwood, by comparing Mr. Cowie's observations with other recorded dates of similar phenomena, concludes that they indicate the exietence of an interior planet, whose year is 34 days, 22 hours and 32 minutes.

The lima in calcareous waters is said to form an insoluble soap—or salt of the soap order—with the suint of wool, and this interferes with the effects the dyer wishes to produce. This is the case, especially, when fustic, madder or cochineal are used.

MECHANICAL PROGRESS.

Car-Coupling.

The *Railroad Gazette*, remarking upon the worthlessness of the great majority of car-coupling devices, and the lack of information on the part of inventors as to the practical requirements of the case, says:

It is, of course, poesible that some invention may be provided by which cars may be coupled without incurring any danger in doing it, but we believe that in this case much more can he immediately accomplished by improving the exieting forms and methods of construction than by attempting to introduce more sweeping reforms.

In a few minutes' conversation with almost any intelligent brakeman one can learn which kind of car is considered meet difficnlt end dangereus to couple. The reason for this opinion can also usually be traced ont. It will often be found, however, that while the opinions of such men are sonnd, the reasons they give for holding them are not. Their opinions and impressions are the result of observatione and the daily training which practice gives them, but their reasoning is often mere prejudiee. In other words, such men are experienced in the art of coupling cars, but very inexperienced in the use of the reasoning faculty. It is not, however, very difficult to discover with the aid of such the peculiarities in the construction of cars which makes them dangerous. As an example, let us take the construction of the ordinary wrought-iron draw-head. Usually the space allowed betweeu the buffer-beam or dead-wood and the coupling-pin is so little, that if the draw-head is forced back by contact with the adjoining car, the hand of the person attempting at the same time to draw the coupling-pin, will he, and often is, crushed between it and the dead-wood. Now, obviously the cure for this would be, either to allow more space between the pin and the car, or else put a stop of some kind to prevent the movement of the draw-head farther than a certain point, and thus allow room enough for a man's hand. It will also be found that on many cars blocks of wood or iron castings are placed in such positions that a man cannot reach the coupling-liuk or pin without aesuming a very constrained and awkward position, or exposing some portion of his body to the danger of crushing in case the collision of the cars is at all violent, as it often is. In other cars, there is too little room allowed between the platforms or buffer-beams for a man to stand when both draw-heads are compressed. In others, bolt-heads and sometimes the side-sills are allowed to project so that a man is liable to be caught between them, especially on sharp curves. We mention these only as examples of dangerous forms of construction. Our list is not intended to be at all complete, but only to indicate how, by getting the experience of the men who are exposed to these dangers, their cause may be discovered. Much information could also be gained, if on through lines, over which cars from other roads are run, a careful record were kept of such accidents and of the kind of cars which caused them.

Carefnl investigations of the accidents which now occur would, we believe, inevitably show that a large number of them are praventable by improved forms and methods of construction, and these improvements could be made without departing materially from the present way of building cars. If, however, any practicable invention will make it possible to couple cars without going between them, that invention will be the means of preventing an immense loss of life, and of saving incalculable suffering. What we want to make as clear as we can, is first, that cars of the ordinary method of construction can *certainly* be made safer, and that to make them so it is only necessary to exercise ordinary intelligent observation; and, second, that some invention *may* be practicable which will aliminate almost entirely the danger from coupling cars. At the last convention of the Master Car-Builders' Association, a committee was appointed to report upon this subject. If they do nothing more than collect statistics of the number of people injured from coupling cars, they will do a great service, as they will thus draw public attention to a subject that sadly needs it. They can, however, do much more than this; they can get tha results of the observation of most of the members of the association, who for years have had opportunities of learning the causes which make coupliug cars so dengerous.

Sbeuld the committee undertake to investigate the merits of inventions for coupliug cars, their task, we fear, will not he an enviable one. To say nothing of the magnitude of the undertaking, it would, we think, be a very serious matter to be ohliged to listen to all the patentees of such devices who would want to recommend their inventions. The respensibility of this committee is very great, as they have it in their power to stop in a measure the great waste of human life and limb which each year are sacrificed because so little effort is made to prevent it. Seldom is such an eppertnnity of being nseful to our fellow-creatures afforded to any of us.

The Rights of Inventors.

The New York *Graphic*, in alluding to an assertion now made, which, if true, deprives the late Elias Howe, Jr., of the honor of being the inventor of the sewing-machine, expresses some doubt as to whether a man is really antitled to a patent on an invention. The reasen advanced is that "as a rule a man's invention is not the invention of himself alene, but of other men who have preceded him, and whose work has inevitably led to the invention." Granting thie, we hold that the man who supplies the idea whereby a practical result is reached, ne matter how far the way toward that result may have been paved by circnmstances, or by the labors of others, has a right to his invention which is undeniable, and which ought to be protected. The electric telegraph for instance was not the iuvention of Benjamin Franklin. Yet Franklin demonstrated possibilities which, developed by other men, are availed of in the telegraph. The man who was firet to make a practical nse of electric currents for purposes of communication was the inventor of the electric telegraph, and to him was given the honor, and with it the profits of his invention, or adaptation, whichever peeple may choose to call it. Further still, every improvement any other man may make in the science of electrical communication is that other man's inventien, the result of his laher, his thonght, his investigation of existing poeeibilities, and of results already attained to. Deny a man's right in this respect, and at once the incentive is removed which leads to the inveutions and improvements which have become neeessities of the age.

When a mechanic, toiling at his hench day after day, perceives a possibility of improving the teol with which he is working, or of makiug a machine which will shorten the work he is doing, he sses before him the prospect of an improvement in his worldy position; and inspired by that prospect his energies are aroused and his acuteness quickened for the followiug out of the hint which has dawned npon him. Why sheuld he employ his leisure memeuts, exert his skill and expend his little savings in the perfection of an invention in which he will have no salable right, and which will not help him teward a competence any faster than his pledding day-work or piece-work helps him now? He is one of a class of men who in benefitting themselves benefit others; and so far as the law in regard to patents protects him in his claim to a mercantable right in ideas which he has applied in the invention or improvement of any article which is useful to his fellow-men, just so far as that law is equitable, wise, and in a measnre, the protector of general intereets.—*Boston Journal.*

Regulator for Car Lubricators.—M. L. Becker, constructor at Offenbach, has introduced a regulator for car lubricators in which oil is used, allowing the latter to act in the usual way when the train is in motion, but stopping the supply of oil with the stoppage of the train. The regnlator consists of an elliptical vessel, funnel-shaped, which is fixed by means of a screw on the top of the oil-box, and within it is a small ball which when the train ia not in motion falls to the bottom, closes the orifice there againat the air, and arresta the flow of oil; when the train begins to move, the ball rotates aronnd the hole, which is thus left free. Six months' trial have proved that the ball acts with perfect regularity, and that heing always greasy it does not show any perceptible wear. The effect wns shown by placing one of these regulators on one side of a locomotive, and it was found that the conaumption of oil waa 35 per cent. less than at the other end of the same axle, not ao provided. The new regulator does not interfere with the replenishing of the box, but with the oil chamber may be made large enough to require filling only once a day; it also keeps the wick and oil remarkably clean. These little appliances cost from 23 to 33¾ francs per dozen.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Dec. 3, 1873.

NAME OF COMPANY.	FEET IN MINE.	SHARES IN MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co	300	6000	38	35	.....	1/2
Alpha Consolidated	3600	.....	.....	.....	.....	.....
Alta	.....	30000	5	4 1/2	.....	.....
American Flat	1900	18000	1 7/8	1 1/4	.....	5/8
Arizona & Utah	65	24000	.....	.....	.....	.....
Bacon Mill & Mining Co	.....	54000	.....	5/8	1/8	.....
Baltimore Consolidated	1040	104000	90 3/4	86 1/2	2	.....
Belcher	224	22400	19 1/2	16 3/8	2 1/4	.....
Bowers	20	5000	1 3/4	1 1/4	1/4	.....
Buckeye	.....	16000	1 3/4	1 1/4	1/4	.....
Bullion	2500	25000	17 1/2	17 1/2	.....	2 1/2
Caledonia Silver M. Co	6000	20000	21	18	1 1/2	.....
Central	150	10800	13 3/4	13	3/4	.....
Central No. Two	100	20000	10	10	3/8	.....
Chollar-Potosi	2800	28000	60 1/2	53 1/2	2 1/2	.....
Confidence Silver M. Co	130	24980	8	7 3/4	.....	.....
Cons. Gold Hill Quartz	34 1/2	20000	.....	.....	.....	.....
Consolidated Virginia	1160	108000	60	57 1/2	1	.....
Cook & Geyer	1600	24000	.....	.....	.....	.....
Crown Point G. & S. M. Co	600	100000	102	95	4 1/2	.....
Daney	2000	24000	2	1 3/4	.....	3/4
Dardanelles	1200	24000	1	1	.....	.....
Eclipse	70	25000	5 3/4	5	.....	3/8
Empire Mill & M. Co	75	50000	5	4 1/2	3/8	.....
Exchequer	400	8000	18 1/2	16 1/2	.....	1 1/2
Fairmount	.....	.....	3 1/8	2 3/4	.....	1/8
Flowery	3000	12000	.....	.....	.....	.....
Franklin	.....	.....	.....	.....	.....	.....
Globe	.....	20000	2	1 3/4	.....	.....
Gould & Curry S. M. Co	1200	48000	16 3/4	15	2 3/4	.....
Hale & Norcross	400	16000	39	38 1/2	1/2	.....
Imperial	181	100000	6	5 3/4	.....	3/4
Indus	.....	.....	.....	.....	.....	.....
Insurance	2000	30000	.....	.....	.....	.....
Jacob Little	.....	.....	.....	.....	.....	.....
Julia Gold and S. M. Co	2000	30000	4 3/8	4 1/8	1/8	.....
Justice	3000	21000	7 3/8	7	.....	1/2
Kentuck	95	20000	14 1/2	12 1/4	.....	2 1/4
Knickerbocker	1200	24000	5	4	2	.....
Lady Bryan	.....	.....	.....	.....	.....	.....
McMeane	3600	36000	.....	.....	.....	.....
Mint Gold & S. M. Co	1800	50000	.....	.....	.....	.....
Nevada	3000	40000	2	1 3/8	.....	.....
New York Consolidated	3600	36000	3/8	3/8	.....	1/8
Occidental	800	10000	2	2	.....	.....
Ophir Silver Mining Co	1400	16800	84	77	.....	.....
Overman Silver M. Co	1200	12000	49	33 1/2	12	.....
Phil. Sheridan	1200	24000	.....	.....	.....	.....
Plotou	2000	20000	35c	30c	.....	.....
Rock Island	.....	24000	90c	7/8	.....	.....
Savage	800	16000	67	57	5 1/2	.....
Segregated Belcher	160	16000	85	69	5 1/2	.....
Segregated Caledonia	.....	10000	.....	.....	.....	.....
Seg. Rock Island	.....	.....	1/4	1/4	.....	.....
Senator Silver M. Co	.....	24000	1/2	1/4	.....	.....
Sierra Nevada	.....	20000	20	18 1/2	.....	.....
Silver Hill	.....	54000	10	9 3/4	.....	.....
Sontb Comstock	.....	.....	.....	.....	.....	.....
South Overman	.....	24000	1	3/4	.....	.....
Snocor Mill and M. Co	7600	22800	4	3 3/4	.....	1/2
Sutro	.....	24000	3	3	.....	3/4
Trenoh	20	50 0	.....	.....	.....	.....
Tyler	2200	33000	3/4	70c	.....	.....
Union Consolidated	803	20000	2 1/4	2	.....	.....
Utah	.....	20000	1 1/2	1	1/8	.....
Woodville G. & S. M. Co	1400	28000	1 1/8	1	.....	.....
Yellow Jacket	1200	24000	64	60	1	.....
NEVADA.						
Adams Hill	.....	50000	1/2	1/4	.....	.....
Alps Silver Mining Co	800	30000	80c	80c	.....	7 1/2c
Amador Tunnel & M. Co	.....	.....	.....	.....	.....	.....
American Flag M. & M	.....	30000	6	4 1/4	.....	1/2
Arkansas	300	30000	.....	.....	.....	.....
Belmont	.....	.....	26	22 1/2	1	.....
Bowery	.....	30000	40c	35	.....	10c
Chapman Mill & M. Co	.....	30000	.....	.....	.....	.....
Charter Oak S. M. Co	1000	30000	.....	.....	.....	.....
Chief of the Hill	.....	30000	2	1 3/4	.....	1/2
Chief East Extension	.....	36000	15c	15c	.....	5c
Columbus M. & M. Co	10000	50000	1	1	.....	.....
Condor	.....	25000	15c	15c	.....	.....
El Dorado South	.....	.....	5 1/2	4 1/2	.....	1/8
Eureka Consolidated	.....	50000	9 3/8	9 1/2	1/8	.....
Excelsior	.....	12000	.....	.....	.....	.....
Harper Silver Mining Co	.....	30000	3	3	.....	.....
Hayes	.....	.....	2	1 3/8	.....	1/4
Hermes	1000	30000	3	3	.....	.....
Home Ticket	.....	.....	.....	.....	.....	.....
Huhn & Hunt S. M. Co	3600	30000	2	1 3/4	.....	1/8
Ingomar Silver M. Co	1000	40000	3/4	30c	.....	2 1/2c
Ivanhoo	.....	30000	.....	.....	.....	.....
Jackson	.....	50000	1 1/2	2	.....	.....
Josephine	.....	.....	2 1/4	2	.....	.....
Juniata Consolidated	5000	50000	.....	.....	.....	.....
K. K. Consolidated	.....	.....	.....	.....	.....	.....
Kentucky Gold & S. Co	1000	30000	5 1/4	3 1/4	2	.....
Kinston	1000	30000	.....	.....	.....	.....
Lehigh	1000	30000	.....	.....	.....	.....
Lillian Hall	1000	15000	.....	.....	.....	.....
Louise	2400	30000	40c	40c	.....	5c
McMahon	1000	30000	.....	.....	.....	.....
Marion	.....	30000	.....	.....	.....	.....
Meadow Valley	24023	67500	1 5/8	1 1/2	.....	1/8
Mocking-Bird	1200	30000	.....	.....	.....	.....
Monitor-Belmont	.....	6	5 1/4	1	.....	.....
Murphy	2000	60000	.....	.....	.....	.....
Newark Silver M. Co	800	32000	3	2 3/4	.....	3/4
Pacific Tunnel & M. Co	.....	.....	.....	.....	.....	.....
Pare & Panaca S. M. Co	2400	40000	3	1 1/2	1 3/4	.....
Peavine	1000	30000	30c	21c	.....	5c
Phoenix	.....	50000	65c	60c	.....	5c
Pioche Silver Mining Co	1000	20000	6	5	1	.....
Pioche West Extension	.....	35000	.....	.....	.....	.....
Pioche-Phoenix	.....	40000	.....	.....	.....	.....
Portland	.....	.....	.....	.....	.....	.....
Raymond & Ely	5000	30000	72	57 1/2	11	.....
Rye Patch	.....	.....	7 1/2	6 3/4	.....	1/2
Silver Peak	.....	30000	1 1/2	1 1/4	.....	1/8
Silver West Consolidated	.....	.....	.....	.....	.....	.....
Standard Mill and M. Co	.....	.....	.....	.....	.....	.....
Star Consolidated	18000	50000	.....	.....	.....	.....
Starlight	6300	25000	.....	.....	.....	.....
Sterling	.....	30000	.....	.....	.....	.....
Spring Mount	.....	35000	.....	.....	.....	.....
Spring Mountain Tunnel	.....	20000	.....	.....	.....	.....
Ward Beecher	.....	.....	.....	.....	.....	.....
Washington and Creole	200	30000	5 1/2	4 3/4	.....	1
Watson	.....	.....	4	3	.....	1/2
Yellowstone	.....	.....	.....	.....	.....	.....
CALIFORNIA.						
Alpine	1200	12000	.....	.....	.....	.....
Bellevue	6000	20000	.....	.....	.....	.....
Calaveras Gold M. Co	3200	20000	.....	.....	.....	.....
Cedarberg Gold M. Co	.....	24000	6	5 3/4	.....	.....
Consolidated Amador	.....	.....	35	35	.....	4
Cottonwood Creek	.....	20000	.....	.....	.....	.....
Dunderberg M. & M. Co	.....	.....	.....	.....	.....	.....
El Dorado Ind. Quartz M	.....	.....	.....	.....	.....	.....
Eureka Gold Mining Co	1680	20000	19	19	.....	1
Gillie	.....	24000	.....	.....	.....	.....
Independent Gold M. Co	1800	25000	3 7/8	3	1 3/8	.....
Keystone Quartz	.....	10000	.....	.....	.....	.....
Mt. Jefferson	1500	25000	.....	.....	.....	.....
Oakville Quartz M Co	.....	.....	.....	.....	.....	.....
St. Lawrence M. & M. Co	.....	.....	.....	.....	.....	.....
St. Patrick	1800	20000	8	6 3/4	1 1/2	.....
Tecumseh	3000	30000	.....	.....	.....	.....
Twin Gravel	400	10000	.....	.....	.....	.....
IDAHO.						
Empire	.....	25000	4	3 1/2	1/2	.....
Golden Chariot	750	30000	22	20	1	.....
Ida Elmore	1300	10000	4 3/8	4	.....	.....
Mahogany G. & S. M. Co	220	10000	1	5/8	.....	.....
Minnesota Gold & Silver	1070	20000	.....	.....	.....	.....
Red Jacket	.....	.....	3 1/2	1 3/4	.....	.....
South Chariot	660	20000	10 1/2	9 1/2	1 1/2	.....
War Eagle	1000	10000	.....	.....	.....	.....
WHITE PINE.						
General Lee	1000	20000	.....	.....	.....	.....
Mammoth Silver M. Co	1800	36000	.....	.....	.....	.....
Noonday	1000	20000	.....	.....	.....	.....
Orig. Hidden Treasure	800	21333	3 3/4	3 3/8	.....	1/8
Silver Wave	.....	.....	.....	.....	.....	.....
Ward Beecher	.....	24000	.....	.....	.....	.....
UTAH.						
Deseret Consolidated	2400	30000	.....	.....	.....	.....
Wellington	.....	50000	.....	.....	.....	.....
OREGON.						
Virtue	2309	20000	.....	.....	.....	.....

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thursday from Advertisements in the Mining and Scientific Press and other S. F. Journals.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining officee.

ASSESSMENTS.—Stocks on the Lists of the Boards.

Company.	Location.	No.	Amt. Levied.	Deling'nt.	Sale.	Secretary.	Place of Business.
Arizona & Utah M. Co	Washoe.	7	50	Nov 11	Dec 15	Jan 3	J. Magnire.	419 California st
Alpha Cons M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis.	419 California st
Bowers Cons. M. Co.	Ely District.	4	50	Nov 5	Dec 16	Jan 9	C. E. Elliott.	419 California st
Baltimore Cons. M. Co.	Gold Hill.	4	1 00	Nov 18	Dec 23	Jan 14	D. T. Bayley.	401 California st
Caledonia S. M. Co.	Washoe.	6	3 00	Nov 12	Dec 18	Jan 8	R. Wegener.	414 California st
Caroline M. Co.	Ely District.	3	30	Nov 11	Dec 22	Jan 15	C. E. Elliott.	419 California st
Daney G. S. M. Co.	Washoe	7	50	Oct 9	Nov 14	Dec 15	G. R. Spinney.	320 California st
Dardanelles M. Co.	Cal.	1	00	Nov 4	Dec 8	Dec 29	J. L. King.	434 California st
El Dorado South Cons. M. Co.	Nevada	2	1 00	Oct 13	Dec 18	Jan 12	Wm Wilds.	419 California st
Gould & Curry S. M. Co.	Washoe.	20	1 50	Nov 13	Dec 16	Jan 7	A. K. Dearborn.	Merchant's Ex.
Globe M. Co.	Gold Hill	4	50	Oct 14	Nov 17	Dec 8	Joseph Maguire.	419 California st
Ida Elmore M. Co.	Idaho	11	3 00	Oct 14	Nov 20	Dec 15	Wm. Willis.	419 California st
Julia C. & S. M. Co.	Washoe	16	1 00	Oct 13	Nov 17	Dec 6	A. Noel.	419 California st
Knickerbocker M. Co.	Am. Flat.	7	1 50	Nov 16	Dec 13	Jan 2	H. Boyle.	Stevenson's Bldg
Mammoth S. M. Co	White Pine		10 cts	Oct 22	Dec 1	Dec 22	J. L. King	434 California st
Mint G. & S. M. Co.	Washoe.		10	Nov 28	Dec 31	Jan 23	D. A. Jennings.	401 California st
New York Cons. M. Co.	Gold Hill		25	Oct 13	Nov 17	Dec 8	H. C. Kibbe.	419 California st
Ohio Cons. G. M. Co.	Calaveras Co., Cal		15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp,	116 Leidesdorff st
Ophir Copper S. & M. Co.	Cal.		10	Nov 12	Dec 13	Jan 5	O. H. Begart.	411½ California s
Pictou S. M. Co.	Washoe.	4	25	Oct 28	Dec 1	Dec 18	S. Phillips.	408 California st.
Phoenix S. M. Co.	Eureka, Nevada	13	50	Oct 14	Nov 19	Dec 10	J. Maguire.	419 California st
Pioche S. M. Co.	Ely District.	5	1 00	Oct 30	Dec 10	Jan 6	C. E. Elliott	419 California st.
Rye Patch Cons. M. Co.	Nev.		1 00	Nov 7	Dec 15	Jan 6	D. F. Verdenal.	409 California st
Silver Hill M. Co.	Washoe.	2	2 00	Nov 14	Dec 16	Jan 5	W. E. Dean.	419 Californis st
Sierra Nevada S. M. Co.	Washoe.	37	2 50	Nov 14	Dec 22	Jan 12	R. Wegener.	414 California st
Senator S. M. Co.	Washoe.	9	50	Nov 26	Dec 29	Jan 19	Henry Boyle.	Stevenson's Bldg
Trench Gold Hill M. Co.	Nevada	1	1 00	Oct 17	Nov 21	Dec 11	J. Marks.	Merchants' Ex
Union Consolidated	Washoe.	4	50	Oct 20	Nov 20	Dec 8	J. M. Buffington	Merchants' Ex.
Virtue O. M. Co.	Oregon	3	75	Oct 4	Nov 12	Dec 15	C. F. Balcom	426 Montgomery st
Virginia Cons. M. Co.	Inyo Co., Cal		5	Oct 13	Nov 17	Dec 15	T. R Wingard.	318 California st
Washington & Creole M. Co.	Ely Dist		1 00	Oct 15	Nov 17	Dec 9	F. D. Cleary	Merchants' Ex
War Eagle M. Co.	Idaho.	3	1 50	Nov 18	Dec 24	Jan 15	L. Kaplan.	Merchant's Ex
Wyoming G. M. Co.	Nevada Co., Cal		25	Sept 13	Nov 13	Dec 8	W. J. Gunn.	410 Montg'y st

Other Companies (not on the Lists of the Boards.)

Alpha Cons. M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis.	419 California s
Auburn G. M. Co.	Placer Co.	6	50	Nov 17	Dec 23	Jan 13	R. Wegener.	414 Californir st
Bunker Hill Q. M. Co.	Amador Co.	12	10 00	Nov 12	Dec 20	Jan 12	W. L. Palmer.	19 Fir st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6	6	Oct 6	Dec 5	Jan 5	A. Noel.	419 California st.
Black Mountain Coal M. Co.	Cal.		2½	Oct 8	Dec 1	Dec 29	W. H. Parshley.	602 Montgomery st.
Commercial Coal M. Co.	Santa Cruz Co		25	Oct 8	Nov 17	Dec 15	S. B. Hanson.	402 Monge'y st
City Paving M. Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firderer.	513 Montg'y st
Cunel & Tiger S. M. Co.	Arizona.		20	Oct 25	Nov 26	Dec 20	C. J. Eaton.	Express Building
Columbus M. & M. Co.	Esmeralda Nev.		50	Nov 26	Dec 31	Jan 26	B. B. Minor.	411½ California st
Belinse Winters & Plato Cons. M. Co.	Nev.	1	50	Oct 20	Nov 20	Dec 10	J. Marcus.	Merchants' Ex
Eureka M. & S. Co.	Eureka, Nev.	3	25	Nov 11	Dec 13	Jan 2	T. F. Beach.	217 Sansome street
Esta Buena Cons. M. Co.	Nye Co. Nev.	3	50	Dec 3	Jan 8	Feh 7	A. Noel.	419 California st
Gold Canon Cons. M. Co.	Gold Hill.		5	Nov 21	Dec 20	Jan 19	A. A. Pardow.	420 California st
Granite Tunnel M. Co.	Cal.		5	Oct 9	Nov 15	Dec 6	W. G. Holmes, cor. Wash. & Battery
Great Blue Gravel R. M. Co.	Cal.		10	Nov 20	Dec 22	Jan 12	W. M. Watson.	302 Montgomery st
Gold Mountain M. Co.	Amador Co Cal.		25	Oct 31	Dec 13	Jan 5	W. Aug. Knapp,	116 Liedesdorff st
Hayden Hill M. Co.	Cal	1	15	Sept 29	Nov 14	Dec 15	W. H. Knight.	Montg'y st
Ingomar S. M. Co.	Ely District.	6	25	Nov 6	Dec 6	Jan 8	C. S. Neal.	419 California st
Independence Con. M. Co.	Grass Valley		10	Nov 3	Dec 9	Dec 28	F. J. Hermann.	418 Kearny st.
Knickerbocker M. Co	American Flat.	7	1 50	Nov 10	Dec 13	Jan 2	Henry Boyle.	Stevenson's Building
Lady Franklin M. Co.			50	Oct 14	Nov 22	Dec 15	J. S. Luty.	507 Montg'y st
Moreau Machine Mfg. Co.	S. F.	4	10	Dec 3	Jan 17	Feb 9	W. B. Isaac.	304 Pine street
N. S. F. Homestead & Railroad Assn.			2 00	Dec 1	Jan 3	Jan 26	A. D. Smith.	314 California st
North Bloomfield Gravel M. Co.		28	1 00	Oct 17	Nov 24	Dec 15	T. Darby	320 Sansome st
North Spark M. Co.	Plumas Co. Cal.	1	1 00	Nov 7	Dec 11	Jan 3	A Martin.	Sacramento City
Newark S. M. Co.	Ely District.	5	1 50	Dec 1	Jan 8	Feh 4	D. T. Bagley.	401 California st
Parific Asbestos Co.	Placer Co. Cal.		6	Nov 17	Dec 22	Jan 12	R B. Congdon.	300 Montgomery st
Revenue Cone S. M. Co.	Arizona	1	25	Oct 11	Nov 12	Dec 10	R. H. Barney.	113 Leidesdorff st
Rising Star M. Co.	Nevada Co. Cal.	6	10	Oct 27	Nov 29	Dec 22	J. M. Buffington.	Merchants' Ex.
South Chariot M. Co.	Idaho.	8	1 00	Nov 14	Dec 12	Jan 14	Frank Swift.	419 California st
St. Lawrence M. & M. Co.	Placer Co.	4	25	Dec 1	Jan 5	Jan 22	R. B. Noyes.	411½ California st
Thompson Coal M. Co.	Cal.		2½	Oct 8	Dec 1	Dec 29	W. H. Parshley.	602 Montgomery st.
Umpire Tunnel and M. Co.	Utah	2	6	Oct 21	Nov 24	Dec 15	P. A. Tukins.	230 Kearny st
Washington M. Co.	Mariposa Co. Cal.		1 00	Oct 30	Dec 8	Dec 31	T. B. Wingard.	318 California st
Woodville G. & S. M. Co.	Gold Hill Nev.	4	1 00	Nov 12	Dec 16	Jan 5	A. Noel.	419 California st
Wonder G. M. Co.	Cal.	1	10	Nov 5	Dec 15	Jan 5	H. C. Howard.	332 Montgomery st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Challenge Cons. M. Co		W. E. Dean.	419 California st.	Annual.	Dec 8
Condor S. M. Co.	Ely District.	Geo. T. Grimes.	240 Montgomery st	Special.	Dec 15
Coe G. M. Co.	Grass Valley	A. Treadwell.	531 California street	Annual.	Dec 17
Gould & Curry S. M. Co.	Washoe.	A. K. Durbrow.	Merchants' Ex	Annual.	Dec 22
Empire M. & M. Co.	Nev.	G. R. Spinney.	320 California street	Annual.	Dec. 17
Hope Cons. M. Co.	Utah	J. S. Paxson.	317 California st.	Annual.	Dec 15
Golden Sun M. Co.		W. B. Lake.	611 Washington st.	Annual.	Dec 8
Gold Canon Cons. M. Co	Nev.	A. A. Pardow.	420 California st.	Annual.	Dec 11
Independence Con. M. Co.	G. Valley	F. J. Hermann.	418 Kearny st	Annual.	Dec 8
Ophir S. M. Co.	Washoe.	Jos. Marks.	Merchants' Ex.	Annual.	Dec 17
North Bloomfield Cravel M. Co.	Cal	Thos. Dorby.	320 Sansome street	Annual.	Dec 20
Piute C. M. C.		A. F. Benjamin.	420 California st	Annual.	Dec 22
Peninsula M. Co.	Lower Cal.	J. A. Jennings.	401 California st.	Special.	Dec 1
St. John M. Co.		J. A. Pritchard.	401 California st.	Special.	Dec 22
War Eagle M. Co.		L. Kaplan.	Merchants' Ex.	Annual.	Dec 8

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Cliver.	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	P. B. Cornwall. Cor.	Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe.	419 California st.	4 00	Nov 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot.	419 California St.	3 00	Nov 10
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50	Feb. 8
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Montgomery St	1 00	Nov 10
Derby M. Co.		F. Cunningham.	304 Montg'y st	50	Nov 25
Diana M. Co.		N. C. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener.	414 California st	1 00	Nov 7
Eastport Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 1
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan.	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor.	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey.	312 Montgomery st.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis.	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn.	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Dec. 5
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

THURSDAY EVE, Dec. 4, 1873.

Stocks have been pretty lively during the past week and a good business has been done at rising figures. Best & Belcher has been making quite a stir this week. The supposed reason for this is based upon indications found in the drift running from the 1,165-foot level of Gould & Curry through Best & Belcher gronnd into Consolidated Virginia. It is reported that the ledge developed in the Consolidated Virginia, like all the ore bodies of the Comstock, is pitching south, and hids fair to make a fine mine of the Best & Belcher. There have been rumors on the street for several days to the effect that those in control of the Consolidated Virginia were quietly buying up the stock of their neighbor, and for that purpose were keeping the drift on the 1,500-foot level closed to outsiders.

The suit of the Raymond & Ely vs. Kentucky has been decided against the latter, the Kentucky having failed to prove the identity of their location with the Raymond & Ely lode. Over $5,000,000 was involved in this suit. The Raymond & Ely shipped on the 29th $23,221 making a total of $114,370 that far in November.

The Chollar Potosi mine last week sent to the mill 754 tons of ore assayiug $30.40 per ton.

The report of the Superintendent of the Enreka, Grass Valley, for the week ending Nov. 29 says: "Onr cleau up for the last six days' run of 15 stamps is 1,300 ounces of amalgam. The bottom east drift is in 500 feet from main shaft; the ledge is 20 inches wide and regular, but looks poor. The gronud in the shaft is hard, which makes slow sinking. The ledge in the stopes is split up in places, but the quartz is of fair quality. No change in other portions of the mine."

The Golden Chariot (Idaho) shipped $11,945 on the 24th, the product of the mine for one week.

The Chariot (San Diego county) mine, a new corporation, received $5,120 this week. They propose paying dividends in January.

The Belcher mine will turn out $1,000,000 this month.

The Monitor-Belmont mine has announced a dividend this month of 50 cents per share, aggregatiug $25,000. This is the third dividend of the company, the other two having been paid in February and March.

Dividends last month were as follows: Belcher, $4 per share, $416,000; Black Bear Quartz, 20 cents, $6,000; Consolidated Amador, 50 cents, $15,000; Crown Point, $3 per share, $300,000; Derby, 50 cents per share, $15,000; Enreka (Grass Valley), $1 per share, $20,000. As compared with the same month last year, the mines turned ont in 1873 the sum of $772,000, and in 1872 it was only $225,100, while in 1870, the sum of $294,000 was paid. Last year the Raymond & Ely paid $210,000; Cederherg, $12,000 and Providence $3,100.

The production of hullion in the Washoe mines continues very large, and does much to commend mining operations. The proceeds of the mines of Storey county for the quarter ending September 30th, were as follows:

NAME OF OWNER.	Tons Extr'd	Gross Yield	Net Yield	Amount Tax.
Belcher	34,044	$2,252,219 73	$1,341,718 38	$20,125 78
Crown Point	30,092	1,762,735 33	1,057,214 98	14,358 22
Chollar Potosi	8,821	154,553 63	30,913 13	463 70
Caledonia	4,559	63,826 00	12,765 20	191 47
Empire	3,300	30,800 00	3,080 00	46 20
Gould & Curry	2,955	35,216 96	3,521 70	52 82
Imperial	424	5,342 23	3,054 34	45 81
Justice	1,450	16,384 00	1,638 40	24 58
Occidental	1,478	10,752 31	1,075 22	16 13
Silver Hill	5,175	42,555 75	4,255 57	63 84
Sierra Nevada	5,454	42,086 05	4,208 60	63 13
Woodville	300	2,648 31	264 83	3 97
Hale & Norcross	6,104	115,546 97	23,509 39	352 64
TAILINGS.				
Parker & Bowie	11,300	80,264 87	8,024 49	120 40
O. C. Stevenson	350	2,100 00	1,750 00	26 25
Union M. & M Co	5,700	4,375 00	2,137 50	32 06
	121,206	$4,616,650 16	$2,389,163 74	$35,987 45

NEW INCORPORATION.—The White Mountain Mining Company filed its certificate of incorporation in the County Clerk's office, on the 3d inst. The location of works is in Lower Rancheria, Cal. Trustees—Wm. T. Henson, C. J. Pilsbury, Isador Charles, D. M. Hosmer and Gustave Meyer.

THE YAKIMA MINES.—Reports from these mines lately received, are not so encouraging as those first sent down. The *Spirit of the West* says: The stampeders who rushed from this section to the Yakima when the gold discovery was first roported, are returning almost as fast as they went. Their opinious confirm our assertions made last week, that there is gold there, but not in paying quantities.

RICH GOLN discoveries are reported in the new mineral district known as Gold Hill, some ten miles from Boulder, Colorado. The veins are unusually wide, and show plenty of free gold.

THE Raymond & Ely mining company has wou its suit against the Kentucky, the decision having been given at Pioche this week.

THE Spring Valley Canal & Mining Co. have sent another large gold orick to this city, worth $65,000.

COAL of good quality has been found at the head of Tres Pinos, Santa Clara county.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

MINING MATTERS.—Alpine *Chronicle*, Nov. 29: The mines are in much the same condition in this immediate vicinity as they were one week ago. At the M. & N. Co.'s mill, preparations are going on for some changes so as to adapt the mill to wet crushing and raw amalgamation. Lumber for tanks is being delivered there, and other evidences of activity are noticeable. In the Silver Glance work goes steadily on, and indications, both in the shaft and deeper levels, as well as in the west drift, continue very flattering. Mr. Hunter of the Schenectady has finished crushing, but had not at this writing commenced to clean up. He has some good looking amalgam and abont 176 ounces of bullion that indic

as the plan of operations has been heretofore, however, we learn that work is to be conducted upon a scale of greater magnitude than ever during the coming winter. New mines are to be opened and facilities provided for working to better advantage and greater effect. The water—of which twelve hundred inches will be used—is to be conducted to the claims in three iron pipes, the largest being twenty inches in diameter. Some idea of the enormous force of the hydraulic can be obtained when it is understood that the water has a pressure of between two and three hundred feet. Seven streams will be thrown, an admirable system of converging ground sluices conducting the water and gravel into a main flume. Everything is in readiness for the commencement of washing, and as soon as the rains set in work will be continued day and night.

Wolverine.—The damages to the machinery of the Wolverine mine have been repaired and work resumed. We understand that no more labor will be expended in the levels until the sinking of the shaft to a depth of 500 ft. is concluded.

Chispa.—Mr. Schlaud of our town showed us a nugget of gold, one day this week, that weighs $116. The strangest thing about it is that the *chispa* was picked up on the surface of the ground. It was found by a Chileno while hunting quail.

Railroad Flat District.—The wonderful strike in the Sanderson mine not only continues but is gaining rapidly in bulk. The face of the south level shows no decrease in size of ore or richness. In the south level alone, which is now 50 ft. in length, the most magnificent body of ore ever seen lies uncovered. The ore, taken in bulk, is certainly the most valuable in free gold ever brought to light. But average samples of sulphurets, after carefully separating the free gold, assay over $900 per ton. A raise which is being run up in the south level yields masses of sulphurets which are not alone of immense quantitative value, but also attract attention by their peculiar beauty. The depth of this body, above the 200-ft. levels, is nearly 100 ft. Longitudinal extent not ascertained as yet. The Prussian Hill is developing finely under the able management of its Superintendent, Mr. Macnevin.

EL DORADO COUNTY.

New Ditch.—El Dorado *Republican*, Nov 29: Work upon the new ditch is progressing rapidly, and we understand that at least 150 to 200 hands will be kept at work all winter, and that early in the spring 500 hands will be employed, and that by another fall the work on the entire line will be completed. The work done this winter will ensure a greatly increased supply of water for next season, so that everything in that direction looks hopeful.

FRESNO COUNTY.

Copper.—*Expositor*, Nov. 29: Notwithstanding the tight condition of the money market the Ne Plus Ultra Copper Mining Company are enabled to sell their ores at a fair figure. With all the disadvantages of working, and the great costs of freight, the mine pays more than expenses.

INYO COUNTY.

Piute District.—For some months prospecting has been steadily going on on several of the locations in Pinte district, situated in the mountains opposite Old Owensville, notably the Luello, Buena Vista and Golden Era. Samples of the ore just taken out leave no question as to the richness of the mines. The mines are grouped in a series of gold and silver veins, the lumped assays of which range from $230 to $686 per ton. The gold ledges show ore carrying sulphurets and iron pyrites, said to be as easily reduced in arastras as the Fish Spring rock, by a process somewhat peculiar to that locality. The silver rock is a study, containing the metal in a half dozen native states, with frequent colors of gold visible.

KERN COUNTY.

Bright Star Mine.—*Miner*, Nov. 29: From Mr. H. Bahten we learn that they are now working on a ledge at the lower level that pays big. The mine is now in an almost perfect condition. Levels, drifts and cross-cuts have prospected the mine so well, that the owners consider it worth $25,000 more this year than last. Ten more stamps will soon be added to the mill.

Limestone Ledge.—W. J. Grant, of South Fork, has discovered a rich limestone ledge. It is about 16 miles from Havilah, and has an average width of forty feet. Col. Strong has tried a ton of it, and the workmen represent it as being first rate. Mr. Grant has burnt considerable of the stone and has a large quantity for sale.

MARIPOSA COUNTY.

Rumored Sale.—Mariposa *Gazette*, Nov. 28: Negotiations are on foot for the sale of that valuable and celebrated property situated at Hite's Cove, and known as the Hite mine. The reported purchasers are represented to be an English company with an immense amount of cash. It is one of the richest mines in the State of California.

NEVADA COUNTY.

New York Hill.—Grass Valley *Union*, Nov. 26: This mine has been working successfully for many months past. A good test is now about to be made of the value of the ore. Yesterday the mine began to send quartz to Perrin's mill to be crushed, and in a few days we shall know what the ore yields by mill process.

John Schmidt's quartz ledge, Nevada City, appears to be very rich. It is yielding $200 quartz.

The stamps of the Orleans mill began a few days ago to drop on ore from the Magenta mine.

Magenta Mine.—Nov. 27: The west drift of the Magenta mine took another big start yesterday, and yielded rock and dirt which gave at the rate of $200 to the pan. The crushing at the Orleans mill is progressing satisfactorily and the amalgamators show that a good clean up will be made. The Magenta will be able, if the trustees so will it, to make a handsome dividend ont of the first crushing.

PLACER COUNTY.

Rising Sun Mine.—Grass Valley *Union*, Nov. 27: The Rising Sun is proving to be a good little mine. Its clear profits last month were about $6,000, and about the same will be cleared this month. The mine is working at the depth 400 ft., and developments are being made for another level.

SIERRA COUNTY.

Bonden. — *Messenger*, Nov. 22 : The Bald Mountain Gravel claim, at Forest City, has been bonded for $450,000, the present owners to retain possession until the first of next April, in case of sale.

Gold In Sierra Valley Wells.—On Saturday last an old '49er, George Hyde, while digging a well on a ranch adjoining the residence of Aaron Davis, brought up some gravel which proved upon washing to contain gold in such quantities as to cause quite an excitement, and the staking ont of claims all about the vicinity.

TUOLUMNE COUNTY.

What a Quartz Mill will do for a Town.—*Independent*, Nov. 29: As an example of the benefit resulting to a community by the development of a good quartz mine, we may instance the Golden Gate which has been opened the past year, and with a fine ten-stamp mill is waiting for water to yield up its golden wealth. The sum of $20,000 has been paid by the company, thus far, in improvements, labor and other expenses, all in Sonora, and coming from outside the county. When the water comes, the mine will give employment to a large force, and a great portion of the yield will necessarily be expended here, benefiting directly or indirectly every branch of business. When our numerous quartz veins are properly opened and intelligently wrought for the gold they contain—and not for speculative purposes—our county will prove to be one of the most prosperous in the State, and our farmers find a home market for all they can produce.

Work is progressing rapidly in the south shaft of the Soulsby mine, and the miners will be getting out ore tho latter part of the coming week. The damage by the late fire was not so great as at first supposed.

Items.—The workmen in Spring Gulch mine have struck a rich chute of ore about 18 inches in width, which will pay about $500 per ton. The Chaparral quartz vein is three feet in width, and shows gold all through the vein. In the tunnel, 150 ft. from the surface is the rock, and will probably pay about $50 per ton. The ten stamp mill on the Buchanan mine will start up in a few days. Superintendent Tulloch has 200 tons of rock on the dump which is supposed to pay from $20 to $30 per ton. The lead at a depth of 175 feet is ten feet wide and gold can be seen from one side to the other, and rock enough in sight to keep a 20 stamp mill running for twelve months.

Nevada.

WASHOE DISTRICT.

Consolidated Virginia.—Gold Hill *News*, Nov. 29: There is no particular change to report in the different ore-breasts and stopes. The ore-breasts are yielding the regular daily supply of ore of good quality. The winzes are still advancing downward in ore of similar character to that heretofore described. The south drift, on the 1,000-foot level, is carried forward in ground of a very favorable nature. Sinking the main shaft is making rapid progress, the ground penetrated being easily excavated. The various prospecting operations in the different sections of the mine are carried on with unrelaxed energy.

Crown Point.—Daily yield of ore, 400 tons. Connection has been made with middle winze on the 1,400-foot level, thereby securing excellent ventilation. The 1,400-foot level has been entirely freed from water, and is now dry as a powder house. The work of draining the 1,500-foot level is being prosecuted vigorously, though, owing to the large flow of water, the pumps are taxed to their full capacity.

Europa.—Some very good ore prospects were obtained from this mine, in its early workings, and now, after a long season of rest, it is being reopened and worked with a view to practical development.

Argent.—A few weeks since work was resumed under the superintendence of Mr. E. E. Rice, of San Francisco. The old shaft has been cleaned out and repaired to the depth of 77 ft., and it is the intention to commence the extraction of ore as soon as the level is reached from which the ore was extracted in early times.

Caledonia —No ore is being extracted for the present. It will take nearly a week yet to complete the work so as to be able to resume work in shaft and mine. A drain tunnel has been started 10 ft. lower down than the old Caledonia tunnel. It will tap the shaft at a depth of 225 feet from the surface, and will be, when completed, 1,025 ft. in length.

Baltimore Consolidated.—Sinking the shaft is making rapid progress, the ground in the bottom working finely. It is now down 83 ft. below the third station. There is still a steady improvement in the quality of the ore at the first station. Nothing else new to report.

Justice.—Daily yield 55 tons of ore. The main north drift on the 400-ft. level is still driven ahead. The west cross-cut from this drift, 200 ft. north of the shaft, is daily expected to cut the ledge. The winze in the main south drift on the 400-ft. level is making good progress downward, the prospects of good ore developments in this portion of the mine being steadily on the increase. The raise from the north drift on the 300-ft. level is making excellent progress and will soon connect with the level above.

Ophir.—The prospecting drifts on the 1,300-ft. level have developed no change of importance during the week. The main south drift on the 1,700-ft. level has shown considerable improvement.

Hale & Norcross.—The drifts being run on the lower levels are still advancing through the same character of rock as we have heretofore described. Sinking the incline continues uninterruptedly, good progress being made. The ground passed through by the incline continues of a soft character.

Gould & Curry.—The prospecting drifts on the 1,500, 1,600 and 1,700-ft. levels are driven ahead with the usual rapid progress. There is to change to note in any of the workings on the 1,600-ft. level. The east drift on the 1,500-ft. level is now in softer ground, undoubtedly a species of vein matter. From this drift a considerable volume of water of a high temperature is flowing.

Sierra Nevada.—Quite a force of men has been employed during the week in blasting off and leveling the surface of the ground for the new hoisting works. Sinking the new shaft has been commenced and is making good progress. The erection of temporary hoisting works for the winter will soon be completed.

Julia.—The water in the shaft has been reduced to within 24 feet of the 1,000-ft. station. The main southwest drift, at the 900-foot station, is pushed vigorously ahead, the indications in the face being excellent for good ore developments soon. The west cross-cut from this drift is expected to cut the ledge in a very short time.

Arizona, Utah and Globe.—The cross-cuts south from the bottom of the incline are still in fine looking quartz, which gives assays of $5 to $10 per ton. The main west drift at the 400-foot level is still pushed vigorously ahead, the face in porphyry with occasional streaks and stringers of quartz.

Challar-Potosi.—Daily yield, 160 tons of ore, the assay value of which is $33 per ton. The progress of the main southwest drift at the third station has been considerably retarded by the swelling nature of the ground passed through, making repairs to timbers and drift almost continually necessary.

American Flat.—The quality of the ore found in the main southwest drift at the third station shows a decided improvement during the week.

Jacob Little.—Driving the main tunnel as usual, with no change of value to report.

Overman.—Prospecting on the 1,000 ft. level is still prosecuted with vigor, and no changes of interest to report. The main west drift on the 1,200 ft. level is making fine headway, the rock in the face working finely.

Belcher.—Daily yield, 500 tons of ore, principally from the 1,000, 1,200 and 1,300 ft. levels. The main incline is down 184 ft. below the 1,300 ft. level. The drift on the same level running southward from the Crown Point line is in 490 feet, still in ore. The winze from the 1,200 ft. level is down 111 ft.

Savage.—Sinking the main incline is making better progress, the rock in the bottom working much softer. The east cross-cut from the main north drift near the Gould & Curry line is still driven to the eastward without change of interest to note.

New York Consolidated.—The connections between the new boilers and the engines are completed. The old pump has been taken out and the new one is being put in.

Sutro.—The main west drift is in 120 ft., the indications of good developments of ore being excellent, whenever cross-cutting the ledge shall have been commenced.

Silver Hill.—Owing to the striking of a heavy flow of water in the main south drift, at the second station, work in the shaft has been suspended for a greater part of the week. Prospecting in the north drift, at the second station, is still proving more conclusively the great extent and value of the ore deposits already developed.

Succor.—The east on the line of the ledge from the small shaft in the cañon, east of the mill, is still driven vigorously ahead, following the ore vein, which is about 6 ft. in width of fine ore.

Yellow Jacket.—The company are cross-cutting on the 1,400 and 1,500-foot levels; also sinking the main incline, which is now down 40 feet below the 1500-foot level.

Alpha.—The north drift from the 1700-foot level is still pushed steadily ahead following the west wall of the ledge, without change of interest during the week.

Daney.—Sinking the shaft is making the same rapid progress. The machinery is working to perfection.

Arizona.

Mining Items. — Arizona *Miner*, Nov. 18: Willard Rice was at Head & Co.'s one day last week, with about $300, the proceeds of six tons of Cornucopia ore, just crushed in his arastra at Bowers' ranch.

The arastras on Kirkland Creek are running on Rainbow ore. Mr. McAteer informs us that a big run on rich Vesuvius ore will shortly be made.

Mr. Ballou, of Lynx creek, reports quartz and placer miners doing well over there.

Mr. Goodwin brought in several ounces of gold from Bradshaw district, this week.

Bill Smith's mill, near Wickenburg, is crushing between 110 and 115 tons of ore, every week. The mill is paying well.

Colorado.

Lake District—*People*, Nov. 22: Silver Star Lode, 4 ft. thick, assays from 76 to 150 ounces to the ton; Mammoth Lode, 7 ft. thick, assays from 120 to 136 ounces to the ton; Champion Lode, 3 ft. 4 inches thick, assays from 16 to 100 ounces to ton; Major Lode, 4 ft. thick, assays from 60 to 2,100.

The Major Lode contains also a streak of gray copper, 4 to 15 inches thick, running through its center.

Animas District.—Green Mountain Silver Lode, 1 ft. thick, assays from 200 to 1,300 ounces to the ton; Little Giant Gold Lode, 1 ft. thick, assays from $125 to $4,000 to the ton; Shenandoah Silver Lode, 8 ft. thick, assays from 60 to 220 ounces to the ton—the Shenandoah yielding also from $16 to $175 in gold to the ton of ore.

Should any one be surprised at this statement, as many undoubtedly will be, or should any person be inclined to doubt its accuracy, we simply say that we state the facts as they were given us by Mr. B. F. Newgent, of this place, and just returned from Del Norte.

Idaho.

The Rescue Mine.—Mr. A. Leland in a letter to the Lewiston *Signal* says the hoisting works' for the Rescue mine have been shipped from San Francisco, and a portion of the machinery is on the road from Wallula, but thinks it will be too late to pack the machinery in to the mine this fall, in consequence of the blocking up of the trails with snow.

Banner.—*Avalanche*, Nov. 15: Messrs. J. F. Hill and Jesse R. Bradford, after two weeks' run on the claim on the south side of Mooro creek, near Idaho city, cleaned up the boxes a few days ago and took out about $3,000. Ore from the Banner mine is literally filled with silver. Ores from the mines at Silver city are now being sent to Winnemucca for working.

Boise County.—Idaho *World*, Nov. 6: Mr. P. B. Laraway, an old pioneer of the Basin, returned from Loon creek a few days ago. He reports mining operations in no way prosperous in that section, and says that only about twelve white men will winter in that camp, although quite a number of Chinamen will remain there.

Mr. Jacob Phillip has completed the removal of the machinery for Plowman's quartz mill to the site selected in Illinois gulch, and work has commenced excavating for a site for the mill.

Mr. M. Hutchinson, who is a member of the company that recently purchased the sulphurets of the Gold Hill mill, informs us that their machinery, now on the road from Winnemucca, would arrive in about two weeks, when no time would be lost in putting it in place to commence operations as soon as possible.

Montana.

CLANCY DISTRICT.

Legal Tender. —*Gazette*, Nov. 19: They have only 26 feet to go to finish their great tunnel of 784 feet. When the connection is made it will be the best developed mine in the Territory. They are taking out more high-grade ore at the present time than ever before.

The Porter Bros.' mill at Lewiston continues to keep pounding away. It is now running on ores from the Rumley, Calumet, Legal Tender and Mammoth mines, all of which give satisfactory results.

Drifts are being run on the Mammoth mine both east and west from the main shaft, and ore is being taken out for the Porter mill at Lewiston. The vein looks well and the ore is of high grade.

The Saint Patrick lode is being well developed by I. I. Lewis, of Legal Tender fame, and Capt. Turner. They have lately erected a fine hoarding house, blacksmith shop and whim house, and are now timbering the main shaft in a first-class manner. The ore taken out is of high grade; the vein is twelve inches, and the crevice 2½ feet.

Utah.

LITTLE COTTONWOOD DISTRICT.

Shipments.—Salt Lake *Tribune*, Nov. 26: The shipments during the week were not as large as last week, on account of teams being unable during the snow storm to reach the mines from which they were hauling the ore. The Emma shipped about 80 tons, the Flagstaff 400 tons, the Grizzly 100 tons, the Davenport about 50 tons, and the Vallejo 50 tons.

The Emma's shipments have not been quite as large as the week before, on account of a new pump being put in the mine, which prevented the raising of the usual amount of ore out of the mine. The foundation for the new boiler is being laid and will be finished some time next week. It is placed alongside the old one for the purpose of getting the water out of the mine a little easier than was done last spring.

The Davenport mine is looking well and improving daily. A vein of rich ore was struck yesterday, with every indication of striking a large and extensive body of ore in a day or two. This mine seems to develop itself as a valuable piece of property, and will continue to rank among the leading mines of our district.

The Flagstaff continues to work, and is said to be looking well.

Egan Canon, Cherry Creek, Ruby Hill and Robinson.

A corrsspondent of the Wbite Pine *News* writes of the abovs msntioned districts as follows: Work has been recommsnced on ths property of ths San José Mining and Milling Company at this place. Ths Superintendent, Mr. Leach, was engaged in placing two pumps in position to dry out the Gilligan mine, which is ths principal mine of the company. Tbis mine had hsen sunk to a depth of nearly 600 fset, soms eighteen months past, when owing to ths inadequacy of ths pump then in uss, and an unusual flow of water, the work had to bs discontinued, to await increased pump capacity. The work now in progress was heing done nnder ths immediate supervision of the managing director of the company, M. J. O'Connor, of San Francisco, assisted by Gensral Rosencrans, as consulting and advising engineer. These gentlemen have coms to Egan determined to pump the oncs famous Gilligan mine dry, and see for themselves what prospscts and promise of a paying mine are to be fonnd in the loweet developmsnts thereof.

There ie no doubt, but what, nndsr ths management of these gentlsmsn, with ths remarkably fins prospects, not to say the grand resulte, which ths Gilligan hae at all times given, and yisided thrnugh ths little 5-stamp mill in days of yore, it will soon again hs contrihuting very largely to the bullion products of Eastern Nevada. Arrangements are being made to have the 20-stamp mill at this place started up on or about December 15th next, on orss from the mines of Cherry Cresk district.

The 5-etamp mill at the Rye Patch company, at the month of Egan oañon, ie running constantly on ore from the Exchequer mine, Chsrry Cresk, which the company purchased in August last. The gross yield psr day was $1,000.

Cherry Creek.

Ths general outlook of this camp is good. The prospects are sxtensive, so far as surface indications go, aud a very large amcunt of money is evidently in view. The development of the district is indeed insignificant, and affords no opportuuity of forming any opinion as to psrmanence or continnity. Judging from surface indications the pay mstal will be found in bonanzas, or chimneys, at intervals along the courss of two very extensive quartzite helts which run northeast aud southwest across the sast facs of the mountains, accompanying which, on ite upper undsrlay, ths precious metals of silvsr and gold are found in regular quartz gangus. Outside thsss two zones or belts of quartzite, no appreciable amount of pay metal has thns far hsen found. The sxtent of them, linsally, is about sight miles, and their dip westerly, or into ths mountain. Ths minss so far opened, and from which several lots of high grads ore have been extraoted, much of which has been sent to Eurska for reduction, ars the Gensva, Teacup, Wanderer, Pine Nut, Gray Eagls, Bsttie, Chance, Victoria, Flagstaff, Star and Silver Glance. The ores of these minee, as samplsd in the large way and not from specimens, give iu silver from $100 to $480 per ton, and in gold, from traces, to $20 psr ton.

Ths orss of the district are of the stromeyerite, or silver copper glance class, and are susceptible of heing rcduced to at least 75 per osnt. hy the uuroasted procese or free amalgamation, but should be crushed dry, for reaeone wsll known to all practical mill men. I am of the opinion that 80 psr cent. of tbess ores can he obtained by raw working. There is already quite a lively little town built np on the crsek from which the district and towu ars named, distant from the mines four or six miles. Thors is a good lodgiug houre or two, storss and restaurants, with a few ealoons, not more, I think than a dozen, and an A 1 livery stable, kspt hy Martin & McPbsrson, where visitors can be accommodated with all manner of conveyancee, whether to visit ths mines, or take a drive for pleasure to the hot springs adjacent.

Ruby Hill.

I paid a business vieit to this place, and found that certain of the minee were indeed possessed of merit. After making examination of such ae it wae my duty to investigate, the first thing that struck ms was the fact of thess minee lying idle. Here I found prospects, which if situated in any of the innumerable districte it has been my lot to pass through, would he in the hande of msn more inclined to work than to litigate such valuable propsrty. On inquiry, I found ths company were at loggerhsads and in law with the vendor, while the poor men who worked for them in the mines were still unpaid, and many others, who rendered ssrvices of various kinds, had sued and attached the property; yet "chloridere" were digging out the ore, hauling it to Eureka, a distance of some 130 miles, and when they got their samples assayed and settlemente made at the Richmond works, found the ore had gone from $900 to $1,500 per ton. Had the prospect I speak of heen limited, and hut little ore in sight, I should not have notic ed it thue, but I must say it ia very extensive, and showe a largs amount of money in sight. It is only one mors of the many really good prospects of the country frittered away by bad managemsnt.

Robinson District.

As my stay was hut hrief, so shall my notes be also, for the pressnt, intsnding, as I do, to do this camp justics, by a more thorough study of its prospects, which on first sight, havs very much excited me, from the immense amount of ore to he met with on every side, as one traverses the mineral belt of this wonderful district. I, however, in the course of my travels, accompanied hy Messrs. Cranley, Cahill and Gleason, during a tour of six hours' duration, had an ampls opportunity of forming some opinion of the district. After visiting ths Hayes mine, as well under as over ground, the Kate Hayes, Hicks, Cliff, Badlam, Georgs Lamb, Emmet and Norfolk mines, I had a pretty good opportnnity to form a general opinion of the prevailing characteristics of the camp. The general outlook of these properties, with the result of the samples I had taken and tested from all the mines vieited, gives sufficient assurance of ths merits of Robinson District, to enable me to say tbat it will do to stick to if properly handled. The ores, I find to he in value of precious mstals, from $45 to $75 psr ton, giving an averags of $60; this applies to a certain grade of ore, of which there ars tens of thousands of tons, and, which, liks the ores of the grsat Comstock, must he treated in large mills, aud at ths minimum cost of rsduction; but, unlike the Comstock, the ores of Robinson must he crnshed dry instead of wet, a differencs I will yet explain. Let friend Elmore crush dry, increase his stamps from ten to twenty, or forty, and Rohinson is all right. Ths real good smelting ores of Rohinson are few, and smelting, sxcept to a limited extent, muet ever he a failure there. But lst ms say, or rather euggest, that I think ths Maker of ths Univsrse placed all those silvsr and gold bearing iron ores in Robinson, eimply to have them hauled to White Pine as a flux for the refractory ores of the latter district, which ars without limit thsre. Samples of gold and silver bearing ore from Rohinson, with $45 to $80 psr ton of these metals, gave me from 35 to 50 per csnt. of oxide of iron. This is the identical flux your unbounded resourcee of White Pine hase metal orss in silicioue gangue, require to flux them; gét a proper and profitable ssparation of the bass and precious metals, and make White Pine what it should hs, what it will bs when taken upon thie basis. Bring Robinson iron ore of 40 per cent, and $40 gold and silver, per ton, to Wbite Pine, and mix one ton to two of your base ores, aud thsy will emelt like metallic lead. Tbs grsat want of White Pine has been the deficiency of iron in ths hass orss, whils the grsat euccess of Enreka has been in the sxcsss of iron contained in her lead oree propsr.

A Valuable Invention.

Ths Boston calamity has bronght into prominence an invsntion which has been tried with great succsss in Chicago. It consiets of an iron shaft, extsnding sither over a single window, or the entire length of the huilding and on all eides, as may he desired, and eecreted in the cornice, entirely hiddsn from view. Upon ths shaft are coiled flexible wire rope ladders, of sufficient length to reach the gronnd. Iu this drum, upon which the ladders are coiled, is a sheave, through which passes a single wire rope, with hooks at each end, which unfolds with the ladder, hoth ends reaching tbs ground. To operate thie machinery, a box similar to the fire alarm boxes is placed in any part of the buildiug on tho outside, where a policeman can have access (fire alarm box keys fitting their hoxes), or in the offics of a hotel. When an alarm of fire is given, the hox is opened and the lever presenting itself is pulled. This releases the break that holds the shaft, and tbs ladders descend slowly in front of every window in that house; so that in cass of fire tbs occupant of a room in the eighth story of a building may step from his window on to the ladder, with his back to the wall, and dsscsnd in safety to ths ground. The fire department arrives upon the ground; ons end of the wire rops is hooked to the hose and the other to the hoee cart, and in lees than five minutes' tims the hose ie on ths top of the houss; ths firsmen asosnd the ladder to the roof, or to either story, as the oass may require, and play their stream on the fire, without waste of time or water. And this may he done from the ontside of the huilding, without opening a door or window on the ground floor. The laddsr remains intact and ssrviceabls as long as the walls stand. For eaving life and valuables this machine is sspecially adapted. As the laddsr and shaft will sustain a weight of from 7,000 to 50,000 pounds, anything from a piano to the smallest article can be lowered upon it. In hotels, or huildings occupied for officee or slseping rooms, a stout web etrap is provided to be strapped around the breast under the arms — of an invalid or timid person, unwilling to dsscend the ladder, to which is fastened one of the hooks in the end of the hose elevator — whils the other is held and controlled hy parties on the ground helow. — *Am. Manufacturer.*

A Miners' Association has been formed at Alta city, Utah, having for its ohject the protection of miners in the mattsr of wagss. They want to keep minere' wages at a standard price of $4 per day, when they hoard themselves, or $3 per day and hoard. It is proposed that the league extend all over the Territory.

The Eagle Mine at Morris Flat, turned ont a gold apscimsn worth $600 the other day.

Geological Report.

Ths biennial report of J. D. Whitney, ths State Gsologist, has been forwarded to the Govsrnor, and the Sacramento *Union* furnishes the following summary: Ths last report was dated November, 1871, and defined the state of ths work at that date. The first thing which sngaged the attsntion of the gsologist and his assistants thereafter was the complstion of ths "map of Central California," which is embraced in four sheets. The southwest quarter had been previously finished, and the eoutheast quarter was in the sngraver's hands. The northeast quarter was nearly all drawn in the spring of 1871, but thsre remain a few hundred equare miles ahont ths heads of the Carson rivsrs, which had not beeu mapped, as well as a narrow strip in Calaveras and Alpine countiss, which rsquired a more detailed examination than it had received. To do this the gsologist crossed ths mountains through Walksr's Pase early in the spring of 1871, and while on the eastern elope passed through Owen's valley and sxamined the effects of ths Inyo earthquake of ths preceeding March. The work was dslayed by the prsvalence of enow on the mountains until July. It was complsted by H. Craven before the end of July. The drawing of the map wae then taksn in hand by Hoffman. The second, or southeast qnartsr was finished during ths summsr of 1873, and ths third or northeast quarter, is now in the sngravsr's hands. Two sheets ars therefore now on sale and ths third will he in about thrse months. The line work of ths fourth ehest is also engravsd, so far as ths same has been drawn. Thsre still remaine oue summsr's work to hs done bsfore ths sheet oan be completed. The whols of the map can bs finished by February, 1875. Thns the great work which has engaged ths dspartment sincs 1862 can be completed. This does not, however, embrace all ths work that has hssn dons, ae Hoffman has heen engagsd in the projection of another map of the southern part of the State, embracing considerabls work in the Coast Range, and including the valuahls explorations of the Southern Pacific Railroad Company hy Butlsr Ives, aud tbat of other surveyors. The "map of ths vicinity of San Francisco" has been carefully corrected, inoluding the changes in mnnicipal townships, ranch boundaries and railroad lines. The Stats map, on a scals of 18 milee to the inch, has bssn completsd. This map also includes a map of the Stats of Nevada. The novslty and beauty of ths map has bsen rsmarked by those who have had an opportunity to inepect it. A smaller map, on a scale of 36 miles to the inch, has also bsen engraved. For ths want of msans but little has been done within ths last two years in the way of new gsological work. Two objects have been kept in view during this psriod—one, tbe coloring of the map of ths whole State, and the other ths completion of the geological map of a portion of the mining rsgion. Ths map of the principal mining countise hae not been completed for want of means. But a map of the region emhracing ths moet important hydraulic mines has bsen completed hy Hoffman from the surveys of Bowman, Pettss and Goodyear, and from information obtained from the surveys of ths Central Pacifio Railroad Company. It is in the sngraver's hands. Soms smaller diagrams havs also besn finiehed and sngraved. Certain important haromstrical observations have also been mads. Considerable geological work has also been done by Goodyear and Cooper in the southern part of the State, commencing at San Diego. A map has been made from the engraved plats furnisbed hy the Coast Survey, which is in ths engravsr's hands. Dr. Cooper hae been engaged on the geology of tbe region about the bay, and a map mads and colored geologically, which ought to he published. A geological map of the whols State, not yet pnblished, has also heeu made. To ohtain matsrial for a new *Yosemite Guide-Book*, Whitney, Hoffman and Craven visited the bigh Sierrae in Mariposa and Tuolumne counties. It would bs very convenient to travelere if a horss trail could be constructed through ths whole of Tuolumns cañon. The numher of pleasurs travslers is conetantly increasing, as is also the dsmand for the *Guide-Book*. Ths botanical work is well advanced toward publication. E. S. Watson, Professor Brewer and Dr. Gray havs been employed on this work. The cutting on wood of illustrations of ornithology is progressing slowly. The collection of fossils has heen placed in ths hands of Lesquereux for examination and description. Ae eoon as his work ie completsd it will form ths third volums of the paleontological eeries. But little that ie nsw can be reported of the volums of icthyology and conchology. A number of illustrations in gsology have hssn cut on wood or lithographed. On account of the unwillingness of the Legislature to appropriate sufficient meane the Stats Geologist has determined to close his oficial connection with the State as soon as the mape and volumee now in progress have heen completed, certainly hy June 30th, 1875. He hopes, therefore, that the means will bs furnishsd early in the sssion to finish the six additional volumes, with the atlas of maps with ections sngraved, illustrations, etc.; and unless an appropriation is made hsfore the end of Jannary the moet of the work now in progress mnst he stopped. He will at once deliver to the State University the collectione in hie possession: Not less than $100,000 will be required to complete the work already hegun and in processs of publication, which will include the ssvsral maps and ons volume on physical and general geology, ons volume on economical geology, one or two volumes on ornithology, one or two volumes on hotany and one on fossil plants. On no pretense will he ask for another appropriation from the Stats. If these works are finished by 1875 the proceeds dsrived from their sale would insure the completion of othsr important works within ths following two years. For this extra work he will give his supervision free of charge.

Sugarie Closed.

Aftsr au sntirely successful ssason's run, the Sacramento Sugarie closed out its last ton of hests on Friday, Nov. 21st. We wsrs prssent the day before its stopping, when they were driving it to its fulleet capacity in order to make a closing up that week. To say tbat the company has fully demonstrated ths entire practicahility of beet sugar making ou ths Pacific coast is telling but half the story of its euccess. Here we have a eugarie with ths best, improved machinery for sugar making, with a rated working capacity of 50 tons of bssts in 24 hours, actually turning off 75 tone of besta in 24 houre, and in ssveral instances, whers ths size of the beets wae favorahle, as many as 80 tone. Now it ie clear to any ons who can maks figures, that this power to work np ths raw best into sugar call for an immense quantity of bsets to keep snch a sugarie in operation for six months of the ysar, and the sxperience of this ysar has fully established this fact; for though it was believed ths company had sufficient material to kesp the sngarie in constant operation till February at least, they find themselves already out of beete, with at least two more of the best monthe of ths ysar hsfore them in which to make sugar.

Here is an error of management now clearly ssen, and ons which will be mst and remsdied another year, by a largely increassd acreage of beets. To posssss a sugaris with the capacity that this one hae, for the successful manufacture of sugar of the vsry finset quality, eqnal in all its higher grades to the hsst cane augar, and tben run it only four out of the six months of ths regular sugar campaign, where so large a capital ie invested, ie not the kind of managsment to insnre the fullest success. Hsrstofore the full capacity of the machinery has evidently been underrated, or a supply of bssts would have bsen secured eqnal to the need. There is csrtainly land enough on the lines of the sevsral railroads that csntsr at Sacramento, to furnish all ths bests the sugaris may need for a full working season, and it has bsen demoustrated that thsy can be deliversd by rail from a distance of 20 miles ae chsaply as hy teams a distance of one mile. We predict the fullest success to the future of heet sugar making in California; and now that the Sacramento sngarie has finished ite work for the season, we may look for the usual rise in ths prics of eugare incident thereto.

Practical Use of the Carbonic Acid Resulting from Fermentation.—E. Pfeiffer has devised a plan for economizing the waste carbonic acid reculting from ths fermentation of wort, the manufacture of vinegar from champagns vats, and ths like. Ths fermenting veesele are coversd, and, hy msans of exhausters, the air is drawn off and is found to oontain from twenty to twenty-five per cent. carhonic acid. This can servs for ths manufacture of bicarbonates, and, if ths gas were to be condsnsed, could be converted into a motive powsr, employed in the manufacture of eoda water, or used for artificial refrigsration. At any rate, there would appear to he no reasonable exense for wasting so much carbonic acid. If somebody would only deviss a practicable plan hy which the enormous amount of carbonic acid, produced by gas burners or exhalsd from the lungs of large audiencee in our churches, theaters, and public halle, could hs drawn off, got out of the way, and devoted to some purpose more useful than suffocating and poisoning multitudes of people, he would confer a great hoon on mankind, and would be cordially welcome to any remuneration hs could make ont of it. In other words, why cannot somehody deviss a system of vsntilation that will be accepted at once as feasible, and thus put a stop to oomplaints on this subject?

Mr. P. Brotherhoon, of Notting Hill, England, has lately patented an improvsd application of steam power, hy meane of which hs applies the steam directly to centrifugal and other rapidly revolving machines, without multiplying gear. Three eteam cylindsre are arranged with the axse intersecting at angles of 120°, so that their pistons act on one crank within a cavity containing eteam which pressss constantly on one side of the piston. The crank drives a rotary slids, by which steam is successfully admitted to, and allowed to escape from, each cylinder, whereby continuous rotary motion at high epeed is imparted to ths crank ehaft. The crank shaft is coupled or attached to the revolving hasket of a centrifugal machine, the driving apparatue being placed either under or ahove the centrifugal machine, and arrangemente are described for allowing for shake or eccentricity and rslieving tbe weight of the rotating parte. Similar apparatus is applied to driviug other rapidly rotating machines, such as fane, circular sawa, threshing machinee, rotary pumps and propsllers, and the like, hy extending the driving shaft, so that its extensiou constitutss the shaft of the machins to be driven, or hy connecting the two ahafts by any known coupling.

Good Health.

Phosphorus as a Nerve Tonic.

In the course of a papsr npon the results of overwork, read beforo the London Medical Socisty, Dr. Ronth said: The symptoms of metal dscay rosomble the gradual change that comss over old people, and yet arc very similar to those induced hy vsusreal excesses. In both cases, the tendency is to the productiou of idiocy from softening of the brain and insanity. He said there was reason to believs that tho immediato causo of these symptoms was deficienoy of phosphorns in the brain, aud endeavored to prove this by oonsidering *seriatim* the following points: 1st. It is proved chemioally that a man grows older and mentally weaker, or becomes idiotio, as the hrain contains less phosphorus; this is showu hy the analysis of Hontier. 2d. The solidity of the brain is in a measnre dependent upon protagon, a phosphorized compound; and those foods which were richest in phosphorus were found hy experienco to renovate most speedily weakened hraiu-power, sach as shell-fish and fish generally. 3d. The assertion made hy some that phosphorus could only he assimilated by previons conversion into phosphoric acid, was ormbated, the effects of the two heing shown to he perfectly different; phosphoric acid producing, in large doses, fatty degeneration of the heart, liver, and kidney, whereas phosphorus produced necrosis of the jaw-hone, and excited the nervous and sexual systems. The opinion of Dr. Von Bibra was slso quoted in evidence of this. Phosphorus also redaced or removed congestion of the brain. 4th. Dr. Roath next showed that those diseases produced by softeniug of nervons matter were precisely those which were cured sometimes by the internal administration of phosphorus—namely, some forms of paralysis, eczema, aud other skin affections, cerebral congestions, with great debility and insomnia. The aathority of several writers was cited on these points—Delpech, Prof. Fischer, of Berlin, Dr. Eames (in the *Dublin Journal*), Dr. Bargess, and Dr. Hammond, of New York. 5th. The special treatment indicated in these cases was next considered: 1st. Complete rest of mind, especially abstention from all occnpations resembling that npon which the mind has been overworked; 2d. The encouragement of any new hobby or stndy not in itself painfnl, which the patient might select; 3d. Tranqaility to the senses, which expressly give in these cases incorrect impressions, putting only those objects before them calculated to soothe the mind; 4th. A very nourishing diet, especially of shell-fish; 5th. The internal administration of phosphorus, whether in its allotropic form, or as the "Solutio Phosphori Medicati," prepared according to Dr. Hammond's formula.

Hygienic Properties of Hard Water.

The *Journal of Applied Chemistry* remarks upon the popular prsjndice that hard water is dangeroas to the health, and on that account we are constantly warned by physicians to beware of it, bnt in England, one of the leading authorities on this subject, Dr. Letheby, after devoting many years to an investigation of the properties of the water introduced into English cities, and to a study of the sanitary reports on the snbject, comes to the conclusion that moderate hard water is safer and healthier than soft water. Hard water is not only clearer, colder, more free from air, and conseqnently more agreeable to the taste than soft water, hut is less likely to absorb organic substances, to sustain the life of zymotic organisms, or to exert solvent properties npon salts of iron or apon leaden conducting pipes. The lime salts exert a beneficial inflnence upon the animal economy, and even protect the system from dangeroas outward influences. Dr. Wilson of Edinhargh has also collected mnch valnable material on the subject, and comes to the same conclasions as Dr. Letheby. He takes the ground that the human body reqnires for its nourishment and support a supply of certain mineral salts, among which carhonate and phosphate of lime play an important part in building up the compactness of the bones and in other fnnctions. We usnally obtain phosphate of lime in our animal and vegetable food, bnt not from water we drink. Carbonate of lime, however, is not contained in adeqaate quantities in our solid food, but generally obtains in spring and well water.

It has heen incontestably shown that in mountainous districts, where the water is more or less hard, the inhabitants exhibit the best physical development. On the other hand, it is believed that in large cities the mortality is inversely as the hardness of water supplied to the inhahitants. A water which contains about six grains of carbonate of lime to the gallon is snitable for nse in all household purposes. As a drink and for cooking food, snch a water offers the necessary carbonate of lime for the support of life in the simplest, most natural and most easily digested form, and is at the same time more agreeable, fresh and sparkling. It is evident that oar preconceived popnlar notions on the snbject of hard water need revising, and that it may he better to nse such water than to have recourse to rain or ice water.

Advantage of Crying.—A French physician is out in a long dissertation on the advantages of groaning and cryiug in general, and especially during surgical operations. He contends that groaning and crying are two grand operations hy which nature allays anguish; that those patients who give way to their natural feeling, more speedily recover from accidents and operations than those who suppose it unworthy a man to hetray snch symptoms of cowardice as to either groan or to cry. He tells of a man who reduced his pulse from one hnndred and twenty-six to sixty, in the course of a few hours, by giving full vent to his emotions. If people are at all unhappy about any thing, let them go to their room and comfort themselves with a load hoohoo, as they will fsol a huudred per cent better afterward. In accordance with the above, the crying of children should not be too greatly discouraged. If it is systematically repressed the result may he St. Vitus' dance, epileptic fits, or some other disease of the nervous system. What is natural is always useful; and nothing can he more natnral than the crying of children when anything occnrs to give them either physical or mental pain.

A Discovery in Cancer Therapeutics.—The cancer has long heen a disease beyond the power of the physician. Its treatment has been empirical and unreliable. The remedies employed have been painful, dangerous and almost always unsuccessfnl. Under these circumstances, the discovery of a new method of treating cancer will be hailed with general satisfaction hy patients and physicians. At the last annaal meeting of the New York Medical University, Prof. Scott read a paper in which he stated that repeated experiments had demonstrated the marvellous efficacy of the application of chloride of chrominm incorporated into stramoniam ointment. This preparation, in a few hours, converts the tumor into perfect carbon, and it crumbles away. The remedy caases no pain, and is not poisonous. It promises to alleviate mnch haman misery, and we call the attention of the entire profession to the fact of its discovery. —*Druggists' Circular.*

Useful Information.

Strength of Cement.

Professor Baaschinger, of the Polytechnio School of Manchen, has lately made experiments (in the technical laboratory of that institution) with mortar of Perlmosen Portland cement and water lime. Cuhes of pare cement, as well as of mixtures of one part cement with sand or rubble ap to five parts, were snbmitted to pressure. The resistance of pure cement was found to be grsater than that of the mixtare in the proportion of 1:5; it diminishes very slowly, even if as mnch as three parts sand (even coarse rubble) are added. Cubes of water-lime and coarse rubble were found to resist pressure best, mixed in the proportions of 1:2 or 1:3, pure water lime offering the lsast resistance. The resistance to pressure in a mixtare of the proportion of 1:4 is nearly as great as in that of 1:1.

Cnbes of brickwork, made of common bricks and mortar of oae part lime-water and three parts of fine sand, after hardening for ninety days, were next tried, when it happened that the mortar remained firm, whilst the bricks were orushed.

Slahs of one part cement and two parts fine sand, ahout 1½ in. thick, also, after setting for ninety days, were likewise experimented upon, and the resalts showed that the strength per square unit increases with the dimensions of the cross section, but it is also determined by its form, and diminishes somewhat with the thickness of the slab. Similar experiments with cement prisms likewise showed that the strength of rupture of cement increases if it is mixed with sand in the proportion of 1:3, and even that of mortar mixed in the proportion of 1:4 is greater than that of pure cement.

In the trial with slabs made of one part cement and two parts fine saad it was found that they possess equal strength whether they rest on all fonr corners or only on two edges, and that the resistance was nearly proportional to the sqnare of thickness of the slabs. The slabs were tried after hardening for 105 days; the prisms after 90 days. Professor Baaschinger intend publishing an empirical formula as soon as a sufficient nnmber of experiments are available for the purpose.

According to M. Offret, in batswing burners it is found that, though the size of the flame diminshes with the amount of gas consumed, it is not in equal ratio. The cost of a large flame for each candle power per hour may be, for instance, 0·42 centimes, while with a small one, it will be 0·897 centimes. Or, again, the light of a large flame may be equivalent to fifteen candles, while that of two small ones together will be 7·4 candles. The cause of this is attributed to the complete combustion of the gas in the blue zone in the gas flame, which gives little or no light in either case, and has more favorable circnmstances for its occurrence relatively to the size of the flame in the small than in the large flame. Another more inexplicable phenomenon is that with a flat flame the intensity of the light is the same, whether the edge or the flat of the flame is tested. This points to the absolute transparency of the flame. The nse of cylindrical glass chimneys with ronnd jets (argand, etc.,) is concluded to he, on the whole, somewhat more economical than with flattened ohimneys, after a series of experiments to settle this point.

Wasp Trap.—It sometimes hecomes desirable to rid one's premises of the anpleasant presence of numeroas wasps, and here is a way to do it as suggested hy a cotemporary: Mount four panes of glass of equal dimonsions in tin framing (like a lantern), leavs the top and bottom open, cover the latter end with thick white paper well attached with strong water-proof glue, and the paper well oiled, and protected from damp or fire. In this make a hole about six inches in diamster, and then place this hole over a plate, on which three pieces of bricks are put; in this plate you will have pnt a mixture of beer, sugar and a little rum. On the top and you will have fitted in a glass pans, removable at pleasure, to clean the tray. Now prepare some long matches of stout paper dipped in brimstone; when your trap is "all alive" with captives, ignite a match and pnt it under the hole; they will soon suffocate. Each day empty out the contents for your pet toad's dinner. I once saw a most ingenious insect-catcher in Africa, invented hy some English artisan. There was a wire-work dome like a meat cover; just below it a roller covered with cloth; satarated in syrup, slowly revolved when the clock-work adjustment had been wound up. Into this "Syrens' cave" every flying thing tempted to settle on the sweet stuff was unconsciously drawn, and the cage was soon a museam of Diptera and Hymenoptera! There was a trap-door at which the suffocating operation was carried out (as in the first mentioned trap.) It was altogether a great success.

Home-Made Horse-Powers.—The cheapest way to make a horse-power for dairy and other light use, is to put a light dram on a center post, high enoagh to have the belt clear the horse's head. Attach a sweep ten or twelve feet long to the center post, so that the track in which the horse walks will be from twenty to twenty-four feet in diameter if possihle. Let the track be soft ground. The whole arrangement made he made of white pine, except the sweep, which should be hard wood. Let the drum be about ten feet in diameter and six inches face. Use a two-inch rubber belt. Make a small pulley from four inches to a foot in diameter, according as you want fast or slow motion. If you want the motion still faster, gear ap with a second belt and set of pulleys. The direction of the motion may he changed by a quarter twist in the second, or by passing the first belt over the idle palleys. This arrangement will be almost noiseless, while the clatter and jar of a circular platform wonld he enoagh to drive a sensitive or nervous person almost crazy. Besides it is much easier and safer to teach a horse to follow a circular path than to keep his balance on a revolving platform.

To Clarify Wine Intended for Vinegar.—The *Druggists' Circular* replies to an inqniry on this topic: Oar correspondent has some sonr domestic wiae he wishes to turn to vinegar, hut he wants to get rid of the coloring matter, lest it may interfere with the quality of the vinegar. It is hardly worth while to take that trouble, for the wine will of itself become clearer and clearer in measure as it turns into vinegar. The coloring principle of wine, being mnch less solable in acetio acid than in alcohol, will precipitate gradually when the acid is formed at the expense of the alcohol; so that, when all the alcohol shall have been destroyed, very little coloring matter will remain in solation—not enough at any rate to injare the appearance of the vinegar. If, however, white vinegar be desired, the liquid may be bleached easily by means of bone-black, previously washed with dilate muriatic acid and distilled water.

Water for Houses.—Speaking of water snpply and drainage, Mr. Roberts, in a paper read bsfore the Royal Institute of British Architects, stated that well drained clay is a better site for a house than gravel. The explanation is, that wells dug in clay soil contain purer water than wells in gravel, for the surface water will not soak through clay as it does in gravel. It is well known that wells in a gravelly soil are liable to contamination by soakage from the surface. But the healthfulaess of the honse, no less than the purity of the water, depends on thorough drainage of the clay. As regards rain water, Mr. Roberts recommends that instead of allowing it to run from the roof to the ground, and then pumping it back for nse in the house, the best way would be to construct a cistern on the roof, into which the rain water could flow of itself.

Removal of Gum from Silk.—Formerly raw silk was hoiled in bags, in a solution of soap, whereby its gloss was freqaently injured. Afterwards this process was modified by exposiag the silk to the action of steam after having been impregnated with Marseilles soap. The removal of the gum from raw silk has since then been still further simplified, and requires neither boiling nor steaming. The silk, snspended npon sticks, is moved about for a qnarter of an honr in a hot bath containing a quarter of a ponnd of soap for every ponnd of silk, and then treated in the same way in a second hath, containing only one-fifth poand of soap for a pound of silk. Simple as this proceeding is, it has nevertheless been found snccessfal in rendering the silk soft, smooth and of higher gloss.

Domestic Economy.

Washing and Bleaching.

It may sometimss hscome necessary or convenient to hloach a pisce of cotton cloth, though as a general thing it is bettsr to ohtain whits cloth already hlcached. Homehlsaching, moreover, is apt to injars the fabric more than the process in uss at the factories, espscially when manipulated, as it always is there, hy skilled hands. However, cloth may he hloached as follows: — To five pounds of cloth take twelve onnces of chloride of lime. Dissolve the lime in a qaantity of hoiling water; when oold, strain it into a suffioisnt quantity of water to cover the oloth. This must first be boiled fiftssn minutes in stroug soapsuds, and rinsed well in cold water. Then put it in the lime water from ten to fifteen minutes, airing it well by lifting it up and down. Rinse well in warm and cold water.

Dr. Artus says that flannel which has become yellow with use may be whitened by putting it for some time in a solution of hard soap, to which strong ammonia has been added. The proportions he gives are one and a-half pounds of hard curd soap, fifty pounds of soft water and two-thirds of a poand of strong ammonia. The same object may be attained in a shorter time hy placing the garments for a qnarter of an hour in a weak solution of bisulphite of soda to which a little hydrochloric acid has been added.

According to the *Moniteur Scientifique*, an excellent substance for washing linen, and one not possessing the destructive effect of soda and other washing powders, is prepared as follows:—Two poands of soap are dissolved in five and a-half gallons of nearly boiling water, and to this is added three large tablespoonfuls of ammonia and one of spirits of turpentine. In this the linen is to be soaked for three hours, when it is readily cleansed, reqniring hat little rubhing. Ammonia does not affect linen or woolen fiber as soda does.

And a writer in the *Western Rural*, on the same subject, says:—Pat yoar clothes in a good snds the day before washing; in the morning wash out of the water, warming it by the addition of hot water, if desirable; pnt into hoiling water, let them boil ten or fiftesn minutes; wash ont of the boil snds with the hands; rinse, hang ont and dry. I have washed in this way for some years and am always enccessfnl in having white clothes, and getting my washing ont early in the day.

A recipe for bleaching muslin is as follows: One ponnd chloride of lime to forty yards of muslin; soak the maslin in soft water over night, melt the lime in a pot of water; then strain it in a tub of soft water; then put the muslin in for half an honr; then rinse three times; soak in soft water over night; then hang out to dry.

To Preserve Grapes.—It is said the best manner of keeping grapes fresh for winter nse is the method pursued in Spain, namely, to pack the entire clusters in thick, open mouthed stoneware jars, laying dry, putting fresh hardwood sawdust between them so thickly as to fill ap all interstices; then to place the jars in a cool, even atmosphere, excluding all light. Some practice the following method: Cutting the clusters just before they are entirely ripe, dipping the eads of the stalks into a mixture of hot resin and sealing wax and suspending them in a cool, dry and dark atmosphere. It is not known to every one that the grape can be put up like other fruits for winter use. But try it and see. There is no fruit easier to manage this way, or that retains its natural flavor and excellence hetter. Make a syrup of a qaarter of a pound of sugar for one pound of fruit; pat the grapss whole into the scalding syrup and skim oat soon, and let them partly cool, and then can them as you would any other fruit. If yon wish to have the pulp clear of the seeds, yoa have only to run it through a colander. Nothing in the line of canned fruit makes a more healthy and palatable pie than the grape prepared in this way, or with less trouble.

How to Make Toast.—A dish of good toast is a rarity and is an enjoyment. For breakfast few things surpass it to those who are accustomed to that dish at that meal. It is light, digestible and reliable, and is not very expensive. A cap of good tea or coffee, with a baked Spitzenburg, or a dish of any other subacid in addition, will make a satisfactory meal to a reasonable man. In toasting bread the following rule should be observed: Warm yonr bread well, by changing the sides of the slice when heated through, brown as is desired —there should be rather little than mach browning, and the slices shoald be quite thin, say a quarter or three-eighths of an inch, no more. Bat do not scorch; avoid that in all cases. The philosophy of browning is to take yoar time nntil yon are done. Where the toast accumnlates keep a hot dish, but nse as soon as possible. What is desirable in toast is the rich color and flavor formed by changing the starch into dextrine or gum. Heat evaporates moisture in bread as well as elsewhere. The moisture that escapes from toast leaves the bread light, soft and porous inside.

Rice Pudding.—Half-pint of rice boiled; drain off the water and let the rice got cold; two ounces outter, four onnces sngar, one-qnart rich milk, five eggs beaten very light, a tablespoonfnl of nntmeg and cinnamon. Stir all together.

MINING AND SCIENTIFIC PRESS

W. B. EWER.....SENIOR EDITOR

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San Francisco:

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Legal Tender Rates.—S. F., Thurs., Dec. 3—buying, 91; selling, 91¾.

TABLE OF CONTENTS.

GENERAL EDITORIALS. — Concentration of Ores—California Mills in Europe; The Hoosac Tunnel; our Mining Laws, 353. San Juan Mines; California Gravel Mines in England; On His Own Hook; Hunt & Douglass Process, 360. Proposed New System of Wharves for San Francisco; Snow in San Francisco, 361.

ILLUSTRATIONS.—California Battery in Europe, 353. Map of the Proposed New System of Wharves on the Water Front, 361.

SCIENTIFIC PROGRESS. — Vaseline—A New Prodnot of Petroleum; Astronomical Notes; Purity of Water; Rusting; Varying Intensity of Solar Light, 355.

MECHANICAL PROGRESS. — Car-Coupling; The Rights of Inventors; Regulator for Car Lubricators, 355.

GOOD HEALTH.—Phosphorus as a Nerve Tonic; Hygienic Properties of Hard Water; Advantage of Crying; A Discovery in Cancer Therapeutics, 359.

USEFUL INFORMATION. — Strength of Cement; Wasp Trap; Home-Made Horse-Powers; To Clarify Wine Intended for Vinegar; Water for Houses; Removal of Gum from Silk, 359.

DOMESTIC ECONOMY.—Washing and Bleaching; To Preserve Grapes; How to Make Toast; Rice Pudding, 359.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 356.

MINING SUMMARY from various counties in California, Nevada, Idaho, Utah and Montana, 357.

MISCELLANEOUS. — Hill's Separating Works; County Aid to Mining Interests; Iowa Hill Canal; Tallow-Cheese; A Success; Rumored Sale; Robinson District; A New Steam Engine; New Hoisting Works, 354. Egan Canon, Cherry Creek, Ruby Hill and Robinson; A Valuable Invention; Geological Report; Sugarie Closed; Practical Use of the Carbonic Acid Resulting from Fermentation, 358. The Salmon Breeding Enterprise; The Belcher Mine; Cost of Materials in Various Manufactures; Giant Powder for Fishing, 362. Narcotics and Stimulants; Mining Decision; Platinum Bronze; An Important and Cheap Source of Potash, 363.

The San Juan Mines.

The San Juan mines continue to attract considerable attention and numbers of people are seid to be going there even at this time of the year, when every thing is frozen up. They probably think "first come, first served," but we are of the opinion that prospectors looking in that direction had better wait until spring. If there had heen any thing to he gained in the country during this winter, the people who were there would not have left to return next year. There are only a few hrush mioers' huts, etc., in the country as yet and as the roads are in no condition to travel over in the winter months, a residence at the miues can not he very desirable at present. If the country is half as rich as represented there will he plenty of room for miners early in the spring.

In this connection we notice a report in the Puehlo *Chieftain*, stating that the Little Anuie mine in the San Juan country has been sold for a large sum. The price stated for two-thirds of the mine is half a million of dollars. The mine was firet hought by a Mr. Adams, Indian Agent, from the original locators and he sold it to English capitalists for the amount mentioned. The *Chieftain* eaye: "The sale was made to European capitalists who are prepared to pay cash. Mr. Adams' venture in purchaeing mining property in southern Colorado has heen followed by happy results, and the whole transaction ehows that he ie a men of firm business tect, nerve and foresight. It shows also that he hae entire confidence in the San Juan country, as a mining section, aud his busineee relations with the Utes for the past few years has given him an opportunity to fully investigete the country and its mines. It is impossible to overrate the henefits that will accrue to the mining districts of southern Colorado, hy this important transaction."

THE OREGON Iron Works, of Portland, have olosed out busiuess and ths property of the oompany is to be sold.

California Gravel Mines in England.

We are very much pleased to see from our Englieh exchangee, that Celifornia hydraulic mines are in great favor with English investors. The shares elready on the market are in steady request, and investors are becoming alive to the feet that there is less risk in this class of miniug than in any other. The mines of gravel are generally well defiued and pey very regularly. The English papers state that the hydreulic mines "are the hest clese of Americen mining property yet introduced in this market." Sweetland Creek hes paid nine shillings and has another five shillings per share, ready to pey at the ond of this mouth as dividends. Birdseye Creek, which has done a great deal of "dead" and expensive work, paid three shillings during the year. Cedar Creek paid 12½ per cent. this year on its present price. The net profits for the seeon were £12,000, aud the tunneling and sinking done this year, not required next, wae very extensive. The two dividends of Cedar Creek this year amounted to £8,000, the gross yield of gold being £34,000. The mine was left in a very bed state hy the former owners, and it cost considereble money to put it in order. It ie proposed to run a tunnel 2,900 feet long, similar to the one which has been so euccessful at Sweetland oreek.

A new company hae recently heen incorporated called the Blue Tent Conealidated Hydranlic Gold Mine of California, with a capital stock of £150,000 in £5 shares. The property of the compeny embraces about 490 acres of auriferous gravel on the South Yuba river, about five milee from Nevada city. Tho consolidation is made up of ja number of smaller properties, formsrly held by various owners. On some of these smaller claims superficial workings have been going on for ten or twelve years hut on only a few of them hes hed-rock heen reached. The company embrace in this property the water rights now owned, and those within the command of the property. Aleo all tho improvements and explorations made upon the property consisting of sluices, tunnels, shafts, flumes, dumps, iron water pipee, hydraulic apparatns, derricks, tools, ehops, storehouses, hoarding housee, etc.

Profeesor Silliman has reported on the prospects for the English owners and computes thet the $770,000 worth of gold obtained from the severel claims was derived from washingdown 5,101,150 cubic yarde of gravel, much the larger part of which was top gravel, from 300 to 350 feet above bed rock. The eetimated value of such gravel ie placed at 10 cents per cubic yard. The general average by actual measurement gives 15 cente per cubic yard. He arrives at the data necessary to calculate the probeble time which the mass of gravel in this property will last, if worked at a certein rate. Thue:—5,101,150 cubio yarde worked, divided hy 2½, equals, 2,186,207 cubic yards, the quentity for one yeai's dividends on the company'e hasis, thereforo, 415,866,359 cubic yarde of reservee, divided by the above quentity, for one year, will give 190 years as the length of time which these reservas will last, if the rate of consumption estimated is maintaincd. But it will he remembered that as the waehinge approach the bed-rock the gold product increases, and the rate of washing becomes slower, beceuse the lower gravel is harder, so that the aotual time required to wash off the whole mass of gravel will probably exceed by several yeare the period now calculated.

Mr. G. D. M'Lean (Superintendent of the Sweetland Creek) etetes thet the gold-bearing gravel attaine a maximum thickness of 1,000 feet. The 490 acree comprising tbe area are almost entirely overlaid with alluvium, but in order to compensate for the exheusted pits, end any points where the survey may overlap the rim rock, we will lessen the area to 400 acree, ae a hasis of calculation, and the average depth to 225 feet. In 400 acree of gravel, 225 feet deep, there are 145,200,000 cubic yards, which including all of the richer under strata estimated at only 15c. per cubic yard, the average obtained from the 5,158,150 cubic yarde exhausted, gives $21,780,000 gross as the returnable oontents of the property. Suppose three monitore, under a preseure of 300 feet, to discharge each 1,000 in. of water, and to wash jointly 9,000 cubic yarde per day of 24 hours, aud to operate continuously for 10 months; over 53 years would be required to exhaust the property, whereae if the additional depth of the placer was estimated at 10c. per cubic yard, the amount returnable would bo over $33,000,000, and 94 years or more would he required for the displacement. The expense usually attending hydraulic operations is from one-fourth to one-tbird of the gross returns—the water belonging to the mine.

Owing, however, to the difficulty of obtaining any reliable data for estimating the value of deposits hy the cubic yard, a more satisfactory mode of computation of returns atteinable in working auriferous gravels is found in the net profits of a given quantity of water used; 30c. profit per inoh, or $300 for each 1,000 in., miners' measure, of water ueed for 24 hours may be sefely calculated upon from average gravel waehiugs. Upon thie plan of calculatiou, for safety, shorteuiug the water season to eight months, and limiting the supply to 3,000 in., we have a net profit from this property (supposing the washing to be contiuuous) of $216,000 per annum.

On His Own Hook.

The White Piue *News* says: "Mr. Ellis, owner of a mine near the old eite of Mount Ophir, has concluded to save the amount of monoy expended in carrying his ores to Eureka for crueh-ing, hy erecting a mill of his own. Our friend, John Foley, an engineer well known in this eection, informe ue thet with infinite trouble and pereistent effort, the neceesary adjuncts of hoiler, engine and other fixtures were obteined from various portions of the counry, and a 2-stamp mill put up near the mine. Mr. Ellie proposee to he his owu engineer, fireman and mill-men, crushing his own rock and making it into eelahle bullion. We are informed he has engioe and boiler power enough to run a 5-stamp mill, should he conclude to make eddi-tions to the present iustitution. We only hope he may soon run a 40-etemp mill and have ore enough in his mine to run the same during the remainder of his life."

We admire his pluck, and only wish it was possible for the custom to hecome more general of the miners having their own little mills, if only 2-stamp oues. Still they cannot always make milling their own rook pay, even if they can afford to put up the mill. Running a quartz mill successfully is not much eesier work than Mark Twain found it to feed a hattery at $10 per week. He asked for a "raise" of $400,000 e week, and some men oannot make a big quartz mius pay with that sum to back them every year. The hundrsds of idle quartz mills throughout this State fully attest that fact. Miners generally understend much more about sinking shafts, running tunnels and drifts, timhering, etc., than they know ahout milling or working rock, and when they come to try it "on their own hook" are apt to make a failure.

Woremember a ciroumstance whioh happeued to a certein California "gold camp" which will illustrate our meaning. The men struck a nnmher of small but rich ledges in a part of the district which had not heforo heen prospected. The eide of the cañou where they were sitnated was very precipitous and covered with thick hrush and loose piecee of slate, making travel difficult. There were no mills where they could conveniently haul tbeir rock and poor chances to build any roads. A creek ran along the bottom of the cañon, which gave pleuty of water for milling purposes but uot enough for power. Some eight or ten arastrae were made near the creek, the rock was sorted up on the mountain and the best of it packed down on donkeye to he crushed. The rock was first burned and theu suddenly cooled in water, which greatly assists the crushing. Some of the arastras were run hy one horee and some by two. The men who owned the ledges were in parties of four to eix and with the crude way they worked their rock they made from $50 to $100 clear per week apiece—very handsome wages.

This went on for several months, when the men thought they ought to have regular quartz mills so as to get more rock through. Accordingly three five stamp mille were built, one of them, however, with wooden stamps. Five or six months after not one of these mille was running. The men who owned them hegan to run in deht as soon as they started up, and were in the end oompelled to sell their mills. True, when the ledges widened out they were not as rich as on the surface, nor was the rock sorted. Expensive roads were built and operations considerably extended. While going on in a modeet way they made money; when they were owners, mill men, contractors and all together, they made a failure of it.

This, however, is no argument that every body cannot run a mill, for in the same camp there are to-day two small mille running which were built hy mine owners and they have mede a profit out of them. The trouhle with small companies is the same as with large onee, they are generally in too muoh of a hurry to build their mills, aud often do so hefore they know whether they have any mines or not. Every old miner on this coast knows thet this is one of tho great drawhacks to mining operations and has done much to hring them into disrepute. When, however, a man sees his way olear to huild a small mill and run it himeelf we like to see him do it. It gives more of an air of permanency to any district to see a numher of mills, and when mine owners have their own, they are more liable to he permanent citizens, than when they depend on cuetom mills to do their work.

THE Mineral Hill Mining Company are employing some 30 or 40 Indians, and paying them at the rate of $30 per month.

The Hunt and Douglass Process.

We gave some time since a detailed description of the Hunt & Douglass, or "Regenerative" process of extrecting copper from its ores. The advantages of this over other wet processes are claimed to he ae follows: 1st. With it, neither acid nor common salts ie requir-ed to dissolve the copper. In the ordinary wet process the oxidized copper ie dissolved in hydrochloric or sulphuric acid, or the ore is celcined with two or three tons of salt to each ton of copper. In the Hunt & Douglass the solvent employed is the protochloride of iron (neutral) which is continually regenerated hy the act of precipitation with only a trifling loss. 2nd. Less than half the quantity of metallic iron is required to précipitate the copper than is necessery in acidulated solutions. 3d. Tho only operation in which fuel is used is in the calcination of the metals, and only a very small quantity in thie. So this method ie practicable with advantage in thoee places where the ore is of low grade and fuel high.

The practical working of this process at the Ore Knoh mine, Ashe county, N. C., is thua described hy J. E. Clayton, in the *Scientific American*: "The ore to he treated was a copper pyritee of low grade, dressed to contain from 100 to 120 ponnde of oopper to the ton of 2,000 pounds; the gangue was a clay slate. Our mode of treatment was as follows: The ores were cruehed, sized by beiug pessed through a sieve of forty holes to the linear inch, and eent to the calcining furnacee. These furnacee were simple three-hearth reverberatories, and were charged every eight hours with 2,000 pounds of the prepared ore; the oharges, after being in the furnace for twenty-four hours, were withdrawn, weighed, assayed, and sent to the tenks. The calcination wae effected at a low red heat, with a view of converting ahout one third of the copper in the charge into sulphate; the remainder heing as oxidee, with the exception of from five to eeven and a half pounds to the ton remaining as unoxidized sulphnret.

The calcined ore was next charged into tanke of about 3,000 gallons' capacity, two thirde filled with bath, in weighed proportions of 3,000 pounds. The mixture was then agitated by a stirring apparatus connected with the tenk, and steam injected in sufficient quantity to raiso the temperature to abont 120° Fah. After eight hours stirring, the mixture was allowed to eubeide, the coppor eolution drawn off ioto eettling tauks, and about 600 gallons of weak hath drawn down upon the residues remeiuing in each stirring tank, to cleanee them of the copper liquor. This weak bath was then drawn off into tanks containing metallio iron, the copper precipiteted therefrom, and the liquid peseed into a reeervoir tank, to he again ueed in washing the residue from the following cherge. Tbe etirring tanke were then emptied and the residues wheeled away. The general averege of loss in theee resioues was from six to ten pounde of copper to the ton of ore treated.

The strong copper solution, after fully subsidiug in the eettliug tanks, was drawn into tanks containing irou (cast or wrought iron scrap), the copper precipitated, and the beth, with a small addition of salt, used in the treatment of a new charge of roasted ore.

After an experimental trial of a few months, we erected works equal to the treetment of the whole ore product of the mine. We, in the firet etart, prepared a given amount of hath, according to the inventore' formula, with copperae and ealt; and found in working the proceee that, hy celcining the ores at a low heat, avoiding a dead roeet, aud hringing from 25 to 33 per cent of copper into sulphate, the hath was eaeily kept at standerd etrength without the addition of any copperas whatever. The selt added was equal to twenty-five per cent., and the maximum of iron oousumed, to eeventy-five per cent. of the copper produced.

Our cost of making copper, obtainsd as cement, exclusive of mining and dreseing the ores, and not including the power required to work the stirring tanks, which wae merely nominal, wae, for producing 2,100 pounde of copper, from 21 tone of 5¼ per cent. ores, $76.96, equel to 3⅔ cents a pound.

The cost of the plant required ie small. The furnacee are simple and inexpeneive in construction, and require about 25,000 hricke each. The tanks cost, complete, aboot $60 each, and tbe lahor employed need not be skilled or high priced.

THE CHERRY CREEK mines continue to attract oonsiderable attention, but all the ground worth having is eaid to be located, as the new law gives every man 1,500 feet. The White Pine *News* in speaking of these mines saye: It is earnestly to he hoped that Cherry creek may exceed even the expectetions of the most sanguine, as in its development rests much of the success of the surrounding districts, such as Egan, Shellburo, Ruhy Hill, and numherlees others situatod east from us.

ALLEXEY VON SCHMIDT, the well known engineer, hes been appointed consulting engineer of the Mare Island Navy Yard, by Secretary Robeson.

The Proposed New System of Wharves For the City.

A bill has been prepared having in view the improvement of the water front of San Francisco, in accordance with the plan of T. J. Arnold, engineer of the Bulkhead. Mr. Arnold has prepared a statement of the reasons for the proposed changes. The bay, he states, covers an area of 257 square miles, reckoned to the line of high water, of which 79 square miles are within the three-fathom contour line, and navigable for sea-going vessels. The anchorage proper within the boundaries of San Francisco embraces an area of 39 square miles, and ships riding at anchor in its most exposed localities are seldom damaged by the most violent winter gales. The system of harbor works now in vogue is defective. A rectangular water front is established, which presents salient and re-entering angles to the current; the wharves are not parallel; the slips are too wide; the pier line is irregular, and the system is expensive to keep in repair. The Harbor Commissioners have expended in the last seven years the sum of $400,000 for dredging alone, and even then it is difficult to keep the slips open enough to allow large vessels to come alongside our wharves. The accumulation of sediment requiring this outlay is the result of the construction of wharves and bulkheads, without regard to their effect on the natural currents of the bay.

In view of the fact that our commerce is increasing so rapidly, some less expensive and more appropriate system should be adopted on our city front which will be best adapted to the physical character of the harbor. The present wharves, about thirty-three in number, are of all sizes, and built at all possible angles to the line of the water front, said line itself being nearly as irregular as it is possible to be. This renders it impossible to make use of it for railroad accommodation so as to bring ship and car together, for it is full of right angles, which it is impossible for railroad cars to turn; it is therefore necessary to alter it, and to make it as nearly as possible on curved lines, so that a railroad track or tracks may be laid along the entire length of the water front, and that the cars may be able to discharge their freightage easily into the vessels or storehouses ready to receive it. This irregularity, too, is the cause of a very heavy and onerous expense in the matter of dredging. The current of the tide as it ebbs and flows past the city front, forms eddies in the numerous angles and bays made by the wharves, and there are deposited the sand and mud carried along by the current. By the form of the proposed new line of water front this will be nearly altogether prevented, as the current will sweep unobstructedly along the entire city front.

We give herewith a diagram of the water front as proposed, omitting, however, the turnouts which will be constructed to admit of the cars being run out upon the wharves, and directly alongside the shipping.

To show the expensiveness of dredging under the present system, it may be remarked that the slip on one side of Market st. wharf, 650x70x25 feet deep at high water, cost in June, 1873, $9,777.36 for dredging. At present and under the present system, dredging costs more than all the other work on the city front together. Anything, therefore, that will lessen the expense will be a benefit to the city and State. And without the work is not done, for at the slips at the foot of Beale, Fremont and First streets, where there used to be 25 feet of water, there is now only enough for small vessels. The number of wharves now at which vessels can discharge is 33, having accommodation at one time for probably 40 first-class ships. Under the new system there would be 76 from the end of Stockton street to the end of Second, which would accommodate 152 vessels. Besides these wharves, there would be seven ferry slips. Some of the wharves under the present system are from 600 to 650 feet in length; under the proposed new one they would be all of a nearly uniform length. It does not propose extending the water front any further into the bay, but at some points would curtail it.

To sum up, the plan proposes to remodel the water line all the way from the foot of Van Ness avenue to the foot of Alvarado street, a distance of about 22,200 feet, or a little over four miles; to build wharves immediately from the foot of Stockton street to the foot of Second street, in conformity with the system, and as the business of the port demands increased wharf accommodation, ultimately to that of Van Ness avenue. The line on which the wharves are proposed immediately to be built is 13,800 feet in length, on which there is a bulkhead already constructed of 2,600 feet in length, which it is contemplated to make a portion of the remodeled water front. The proposed new line would be 2,600 or 2,700 feet less in length than the present, the distance saved resulting from the avoidance of angles. The wharves would all be about 300 feet in length with 140 feet between them, and would be all at right angles to the general direction of the currents of the bay. The railroad track would encircle the whole of it. It could be finished in five years from the time of commencing. And the cost of keeping in repair, dredging, etc., would not exceed that of dredging now.

The cost of the work is thus summarized: 1st—A stone embankment which will form a bulkhead, and at the same time serve as a foundation for a sea wall. 2d—A sufficient number of piers and slips to accommodate the commerce of the port. 3d—A sea wall of cut stone masonry. 4th—The paving of the street along the city front. The embankment will not entirely cease to settle for about five years after its completion, and at least that period of time must elapse before the construction of the sea wall and the paving of the street can be commenced. Indeed, it may be said, that while the latter work is necessary to make the improvement complete and permanent, it may for financial considerations be deferred until the growth of the city and the increase of business will warrant an expenditure for that purpose, which would now be a burdensome tax upon the people. It should also be stated that while the plan will, to a certain extent, designate the location of the wharves which will be required in the future, the number now constructed may be limited to the actual requirements of the business now transacted in the harbor.

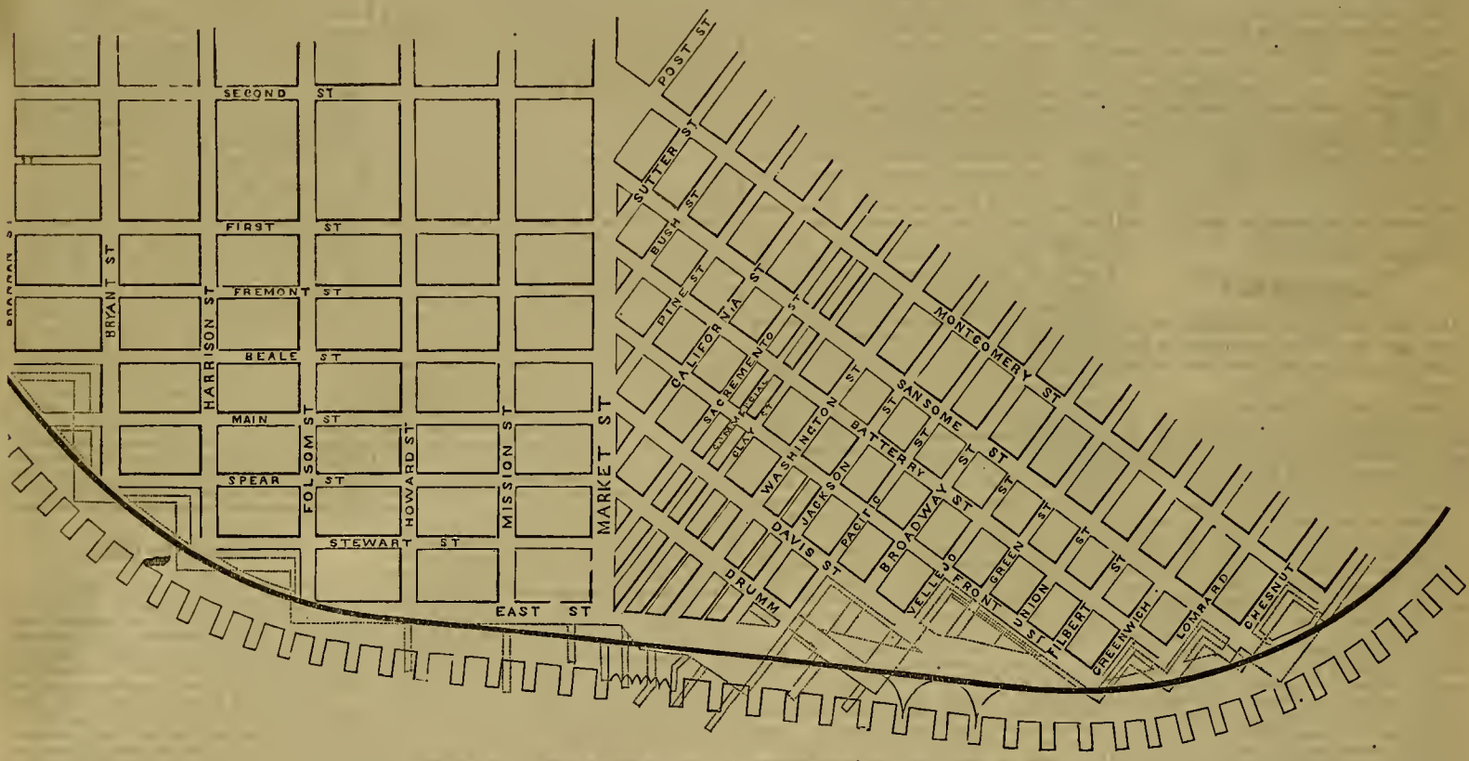
The cost per lineal foot of bulkhead and street, complete, is calculated at $398.65; and the estimated cost of a wharf, 350 feet long by 80 feet wide, is put down at $22,980, including the cost of bolts and spikes.

It is only considered necessary at present to improve the city front from the north line of Harrison street to the east line of Montgomery street, a distance of 7,800 feet. Within these limits a section of the bulkhead, 2,602 feet in length, has been completed. The above prices, applied to this section, give:

5,198 lineal feet of new work, at $398.65	$2,072,183
2,602 lineal feet of old work widened, at $282	733,764
15 new wharves, at $22,980	344,700
Removing old wharves and sewers and sewer connections	100,000
Total	$3,250,647

Omitting the sea wall and paving of the streets unnecessary in the meantime, the estimate would be $2,143,044; and by leaving East street, along the completed section of the bulkhead at its present width of 150 feet, a further saving of $361,678 could be effected, and the cost would then be $1,781,366. The outlay necessary to improve the city's half of the street is not included.

In conclusion we may say that this great work is a public necessity. We want increased accommodation for the large and daily increasing fleet of vessels that visit our port, and it is essentially necessary that ship and car should be brought together. Most of our commercial men who have examined into the matter, are in favor of the proposed system, and we hope that it will be inaugurated without any unnecessary delay.



PROPOSED NEW SYSTEM OF WHARVES ON THE WATER FRONT.

Patents for Simple Things.

In a recent application for a patent for an improvement in attaching metallic heels to boots, the invention consisted in extending the outsole the whole length of the boot and in fastening the heel upon such outsole. The application was rejected for the reason that it was not new to carry back the outsole as described, nor was the heel new; therefore the attachment of a heel to such sole was not an invention, though the ordinary method was to attach the heel to the insole, the outsole being only extended up to the heel. The applicant appealed to the Assistant Commissioner of Patents, who reversed the decision of the Board of Examiners, and held that, however small or insignificant an invention appeared, it ought to be patented if useful. In this case, the attachment of the heel the outsole made a firmer fastening for the heel, was better than the common plan, and therefore patentable. This is good doctrine; and if the Patent Office would only stick to it and carry it out into practice with uniformity, the interests of inventors would be greatly promoted. But, unfortunately, the decisions of the Patent Office are irregular. It too often denies on one day what it grants the next day. We cannot always rely upon the Office to issue patents for simple improvements, like roasted persimmon seeds, a knot upon the thread of an envelope, or, as in this case, nailing a heel upon the bottom of a boot. Yet it is for the issuing of patents upon just such simple improvements that 100 principal examiners and their 400 helpers are thought by some to be necessary.—*Sci. Am.*

Snow in San Francisco.

On Wednesday of this week we had our first regular storm of the winter and strangest of all to the residents of San Francisco, as were treated to a sight of snow on the surrounding hills. The lower part of the city and the hills back of us were covered for a short time with a light covering of snow, and Mount Diablo and the hills back of Oakland were similarly "whitewashed." The occurrence of snow is so rare in some parts of our State that the novelty was a welcome one. The "Pioneers" say we have had no snow before in San Francisco since 1856, a circumstance which people East will wonder at, especially as they have their peculiar ideas of "snow clad California." At Sacramento, oranges were hanging on the trees near the Capitol building while the snow fell. Vallejo, Suisun, Petaluma, San Leandro, Antioch, Oakland, Martinez, Gilroy, Napa, and many other places unaccustomed to see "beautiful snow" got a glimpse of it this time.

The unusual cold called out all the heavy overcoats available, and the old Californian who never wears such things winter or summer, began to think that the railroad had freighted over some of the Eastern climate. The storm was quite a severe one, but the rainfall will materially assist miners and farmers in their occupations. The highest velocity of the wind during the day was 28 miles. The records of Thomas Tennent show the quantity of rain which has fallen between July 1, and November 30, inclusive, each season the past twelve years: 1861, 4.12; 1862, 0.55; 1863, 2.58; 1864, 7.03; 1865, 4.69; 1866, 3.46; 1867, 3.65; 1868, 1.33; 1869, 2.60; 1870, 0.46; 1871, 3.86; 1872, 2.97, making an average of 3.10 inches for the twelve years. This year we had 2.17 inches for the same period. On December 2d, .04 of an inch of rain is recorded, giving a total of 2.21 inches for the season, previous to the present storm.

BOGUS.—The Denver *Tribune* has the following, which will be a warning to overland travelers: It is said that parties occasionally appear at the Union depot for the purpose of selling bogus silver bricks to passengers on the trains. Bricks not worth ten cents are sold for $4 and upward. Our informant, who is well acquainted with the smelting and assay business, saw a brick marked $16 sold, and pronounced it worthless.

EPIZOOTY AGAIN.—The *Record* says: The epizootic has again broken out among the horses in New York city, and nearly every car and stage line in the city has animals sick with it, in some cases deaths occurring in the harness. Great alarm is felt.

DEATH OF A PIONEER.—The Napa *Register* of the 24th inst. announces the death of Henry T. Barker, a pioneer of California and an old resident of Napa. He died suddenly on the 13th, while in his carriage, on the way from Vallejo to Benicia.

MARE ISLAND is to be supplied with water from Vallejo, by pipes under the straits.

The Salmon Breeding Enterprise.

We have several times mentioued the selmon breeding enterpriee on the McCloud River, Shaeta Co, Cal., under the superintendence of Livingstone Stone, and that it was attended with great success. In consideration of the difficulties real and apparent, connected with it, many of the fish culturiste in the east predicted a failure. The first lot shipped—300,000 in nnmher—all arrivod dead except 30,000, and the evil prediction appeared ahout to be verified. The last lot however, of 600,-000, came about 75 per cent. in good condition. The third lot arrived east in excellent condition, and the fourth and last lot better yet. In all, just about a million egge arrived at their destination alive. Mr. Stone's instructione from Washington, were to forward a million eggs, so, althongh some were lost, the enterpriee, as a whole, and in its reenlts, was almost an entire success.

The eggs were sent in larger or smaller lots ae follows:

Dr. J. H. Slack, New Jereey	475,000
Seth Green, New York	200,000
James Duffy, Pennsylvania	30,000
Geo. H. Jerome, Michigan	100,000
Cold Spring Trout Ponds, N. H	40,000
Chas. G. Atkins, Maine	10,000
Reh't. G. Pike, Connecticut	110,000
A. P. Rockwood, Utah	40,000
E. A. Bracket, Mass	30,000
Totsl	1,035,000

The New Jersey egge are intended for the Atlantic rivers hetween the Hudeon and the Jamee; the New York eggs for the tributaries of the Missiesippi; the Penneylvania for Pennsylvenia rivres; the Michigan for Lake Superior; the New Hampshire for the Connecticut river; the Utah for the Great Salt Lake, and the Maesachnsette for Maesachusetts rivers. It is proposed to continne work on the McCloud river next year if Congreee makee the necessary appropriation, which it is to he hoped it will. The question of an ahnndent supply of food fish ie an importent one and is juet beginning to be appreciated.

The Belcher Mine.

Our new cotemporery, the *Nevada Mining Review*, gives the following description of what ie going on in the famous Belcher mine on the Cometock:

Among the leading minee on the Comstock Lode there is none thet attracts more epecial notice and none that deserves more particnler conaideration then the Belcher. The perfection of its manipulation, and the regularity of ite resulte, placee it among the foremost of our treasure-bearing developments. Work ie now proeecnted on the incline at a depth of nearly 1,400 feet. Tne lowest point at which ore is taken out ie at the 1,300-foot level. The etopee at this point look well at a dietance of 230 feet from the Crown Point line. The body of ore hae been proepected a distance of about 400 feet. In the face of the drift working south, there ie excellent looking ore. From this level a winze ie being eunk to the 1,400-foot level, which is now down about 150 feet on a slope of about 35 degrees. At the south end, cross-cnte are being run 40 feet in width to he extended 332 feet. Stoping is continued on this level on the sill floor a dietance of 220 feet. The 1,200-foot level looks remarkebly well, ore of a high grade hoing in sight on either hand. It is stoped 205 feet on the floor, and the ore improvee ae the work ie extended eouth. At this point the ledge widene and shows the beet indications. On this level the winze ie down 92 feet, at a point 205 feet from the Crown Point line, iu very fine ore all of the way. On the 1,100-foot level there is hut little work doing, the ore being of a low grade. When the water snpply ie sufficient to warrant, the work will be vigoronely prosecuted. The ore now at hand will work from $25 to $30 to the ton. Preparations are making to teke this ore out on the 1,000-foot level. The ore still continuee of a high grade, ehowing a good amount of gold. Enough is exhibited at leest for a year's work. Prospecting ie conducted east and weet of the main vein, and cross-cute are heing run with meny rich indicatione. On this level a Burleigh drill is in use and works admirably. On the 1,300-foot level another drill is in nse which is worked by the compreesed air apparatus. On thie level is an engine, 7x12 cylinder, which ie ueed for sinking the winze.

The machinery and moving apparatus of this mine are of the moet complete character, and all of the appurtenances are arranged in the most systematic manner. The ore dump extends over the railroad at the east, and ie cepable of conteining 500 tons. From thie dump the ore is teken hy rail to the Eureka, Franklin, Vivien and Merrimeo mille. A douhle track rune from the mein line to the wood and lumher yard, so arranged that the wood for fuel ie deposited on one eide, and the timher for the mine on the other. Upon the ground at the sonth of the works there are deposited 8,000 cords of wood for fuel. The company have now on hand and in process of delivery over 7,000,000 feet of timber, all of which is ahout paid for. Within the space allotted to wood and timber there are four hydrants, each euppliod with an ample qnantity of carbolized hose to meet any emergenoy. The water comes from a large tenk on the side of the hill, and the hoee are capable of throwing, from natural preesure, a stream over 100 feet in hight. Every precantion ie teken that ingenuity can deviee to provide against accident. Dnplicate eheer wheels are upon the ground, each of which weighs from four to five tons. Adjoining the worke ie a epacious ice chest, containing ice for eech of the levels in separate compartments. The amount of ice consumed in this mine is enormous; three thousand dollars' worth being the monthly consumption. In the rope house is a duplicate eet of ropes, prepared for immediete use in case of emergency. Tanke of competent eize are provided, filled with tar, and the apparatue for covering the ropee is in every reepect the moet complete end convenient that we have ever seen. Adjoining is the hlacksmith shop, where there are three forgee in constant employment repairing machinery and toole.

The engine room is one of the heet arranged in the country, and conteins a 60-horse power pumping engine, 14x30 inchee, npon which gear is arranged which can be applied to a larger engine when necessity demands a change. It is now pumping 840 feet, and fnlly answere the requiremente of the mine. In the same apartment are duplicate compreseors that run an engine on the 1,300-foot level, which is ueed in einking winzes. They also operate the Burleigh drills. There are here two hlowers for carrying air through the mine. The incline engine is of 75-horse power, made at the Risdon Iron Worke; has 30-inch stroke, 20-inch cylinder. It is ueed for raising ore from the 1,300-foot level to the 850-foot level, where it is taken up by the second engine. Thie engine is so arranged thet by a duplicete apparatus one eet of reele will hoist while the other lowere the cage—both acting simultaneously. The third engine operatee circular saws in the cerpenter ehop, ae well as drilling machines. Its dimeneione are 12x28, and it is 40-horse power. In the carpenter ehop, adjoining the engine room to the south, are two circular saws 40 inches in diameter, used for cutting frames, wedges, etc.

Adjoining this apartment is a room containing a "Pond" drilling machine and a "Putnam" lathe, manufactured in Fitchburg, Mass. The lathe has a 30-inch swing and is of a 14-inch hed. Thie ie said to he one of the most perfect piecee of machinery on the Coast. It is ueed in making and repairing rings, pietons, and all other kinde of mechinery nsed at the worke. In the boiler room there are four sete of hoilere, six of which are in running order. Ordinarily three eets are run at once, two being kept in reeerve. These boilers are 16 feet hy 54 inches. There are four 8-inch Blake pnmps in connection to feed the hoilere. They are so arranged that in case of fire they can flood the entire worke. To eech 100 feet of carholized hoee are atteched, which renders thie the moet complete fire apparatus on the lode. Neer to the engine-room is a drying-room, provided for the minere, where their clothing is dried by meens of steam pipee from the exhauet. This building is two etories in hight and ie one of the most important conveniencee connected with the worke, ae it conducee greatly to the comfort of the operetives. Upon the north eide of the works is another hoiler-room, in which are two boilers ueed to cerry steam to every part of the esteblishment, as well as to run the compressore aud pumping engine. The six hoilers used in the hoisting works conenme 15 cords of wood in 24 hours on an average.

Upon the top of all the buildings are water tanke, eo that together with the fire apparatus before alluded to, a conflagration upon the premises ie almoet an impoesibility. Work is now progreesing on the 900, 1,000, 1,100 and 1,200-foot levels, with varying reeults. The reeult of this lahor is that the mine is sending ore to the mills for reduction at the rate of 500 tons per day. There are at work on the mine, mechenice included, from 500 to 600 men per day, at an expense, as per pay roll, of $75,000 to $80,000 per month. Since the opening of the mine, twenty dividends have been paid, amounting to $82 to the share, or in the aggregate, $8,-528,000. The general appearance of the mine maintains its former repute, and the prospecte for the future are very flattering, especially on the 1,300-foot level. Upon this development in a great measure the future euccess of the mine depends. From present indicatione there cannot be the slightest douht bnt that the Belcher will continue to be a dividend-paying mine for a number of yeers to come. Well may this mine be denominated the King of the Cometock Lode. Since August, 1871, this mine has produced in hullion $14,731,846.81. From Auguet, 1871, to December, 1872, the gross proceeds of the mine were $5,992,545.97. During the paet ten months of this yeer the mine has produced $8,639,300.84. With such a ehowing, who cen douht the stebility of this mine? The report of 1872 shows that during the year 33,195 tone of ore were milled, yielding $4,794,659.10 in hullion, or an average of $57.63 per ton, at a cost of 21.07 per ton. A more detailed sketch of this mine would he of interest, but we regret that we have not the epace to carry the euhject further. Enough has been shown to demonstrate that the Belcher ie yet to be depended on.

Baltimore is prohahly the greatest fruit-packing market in the world. There are millions of dollars invested in the hueinese, and many thousand bushels of peachee are canned every year. One firm ie eaid to pack 25,000 cans per day.

Arrangemente are heing made to increase the capaoity of the Carson Mint for coining silver.

Cost of Materials in Various Manufactures.

Or rather, the valne of the former to the lattcr, in the different ludustries differs very much. In some, the lahor reqnired is comparatively little, and, of course the value of material hears a very large proportion to that of production. In others, the lahor used is the chief item in the manufacture, and the materials hear a much smaller proportion in value to that of the product than in the former case. In the manufactures of iron and steel, taken as a whole, the value of msterial is fifty per cent. that of production. In lead refining and manufacture of lead, the proportion rises to sixty-six per cent.; in thoee of gold and eilver, the proportion is fifty per cent.; in those of hrass and mixed metals, the proportion is extremely small, not more than fifteen per cent., or the msterials, when manufactured, average six times the value of the metels used; the proportion of material to manufacture in tinware is only thirty-three per cent.; in lumber, even less, heing only a little over twenty-five per cent.; in manufacture of leather, about thirty-one per cent.; in textile fshrics, it rises to sixty-six per cent.; in malt and spirituous liquore, it is about the same; in articles of food, it ie fifty-seven per cent.; in printing and newspaper puhlishing, it is thirty per cent., though of course it varies extremely in particular instances; where only a smsll newspaper circulation is kept up the valne of material is far less, proportionately, than where it is large. In manufactures of animal products the value of material rises to ss much as eighty per cent; and for the halance of the manufactured goods not included under any of the above headings, it may he roughly stated as fifty per cent. In all these departments there is in the various articles composing them almost as much variation in the proportion of materisl to product as there is in the departments themselves. For instance, where the value of the pig-iron is ahout half of the vslue of the csstings made; the value of steel, etc. used in the manufacture of cutlery is only about thirteen per cent.; and that used in saw-making ahout eighteen per cent.; whereas the iron used in screw-holts forms nearly seventy per cent. of the valne of those manufactured. In jewelry the material costs about sixty per cent.; hut in silverware only about thirty-two per cent., and in silver-plating as small a proportion. The makers of gold pens do not run much risk in addition to their lahor, for they sell the pene at four times the cost of the material used. In works in hrass, etc., the contrast is presented of hrass-fittings in general hringing eight times the cost ot the metals used; while in msking gas-fixtures the value of the material rises to 33 per cent.

The general average of material to production in lumher, is rather small on the whole. In the furniture manufacture, it is about twenty-one per cent.; in the carriage industry it is ahout thirty-three per cent. Doors and sashes have ahout the same proportion of material to manufacture; in packing hoxes it is larger and forms nearly one-half of the total value of the product; the material used in making picture frsmes costs ahout as much as one-half of their whole subsequent valne; that used in cooperage, dwindles down to twenty-five per cent.; the material that enters into matches, matchwood, records of the arrival of a few cords of which may he seen now and then, is positively the cheapest of all, not heing over nine per cent. of the article when finished. The material, lumher, lron and leather, used in trunk making, usually costs ahout thirty-five per cent. of the value of production; the material of hilliard tahles ahout twenty-five per cent.; that of wood ware, fifteen per cent.; that of cigar hoxes ahout thirty-three per cent.; and the lumher that goes into the harrels and kegs is about fifty per cent. of value. The stslr makers only put in twenty per cent. of material, hut the hrueh makers, more llheral, give fifty per cent. worth; of the pianos made here, ahont thirty-seven per cent. of the value is spent in material. In the manufacture of hoots and shoes, the Crlspin puts in thirty-three per cent. of raw material; in saddlery, there is put in nearly forty per cent. of leather in the saddles they make, that is to say, the utmost value of the material used; the collar makers put in thirty-five per cent., and the makers of hose and helting, not less than sixty-six and two-thirds per cent.

In our woolen manufactures, ahout the same amount of percentsge ie added to cost of material. In the articles of men's clothing, made in factories of more or less size, or hy the Chinese, the material usually forms ahout one-third part; of white goods, about one-half; those glossy hats that our responsible men so much delight in, about eighty per cent.; of manufactured furs, one-half; of shirte nearly so; do of umbrellas and parasols; of huckskin gloves, the material is worth a third of the wholesale price; of army and military caps, sixty per cent.; of straw goods, not more than twenty-five per cent.; of clothing, thirty-seven per cent.; of kid gloves (made from dog skin), thirty-three per cent., and of necktiee, the smallest of all, six per cent.

In the value of refined sugars, that of the raw sugar is ahout fifty per cent., hut if we take into account the syrup product, it is somewhat less. Flour is one of those articles in which the value of the material used up, approximates pretty nearly to that which is made from it, it heing ahout eighty per cent. Out of the value of preserved fruits, meats. etc., we may count one-half as that of the fruit itself; pork and heef when packed, receive an increase of value of one-third when smoked, etc., and the preparation of raw coffee and spices for domestic use, adds one-half to their value. In candles, it is ahout the same, hut the flour which is used in ship hread is doubled in value hy the operation, as also is the crude Bay salt. Manufactured mustard is just six times the value of the unprepared article, a very striking discrepancy hetween material and production. The raw material of vinegar ie trehled in price hy manufacture, while that of msccaroni is increased hut fifty per cent.

One-half of the value of the manufactured chocolate is expended in the purchase of material. Something less than one-third the whole value of the newspapers of the city is spent for material; something more than one-third for general printing; while in lithography the material used costs about twenty-five per cent. In the manufacture of cigare,—the great stronghold of Chinese lahor in this city,—the material forms ahout forty-two per cent. of the market value of the cigars. The proportion of the msterial is very large in oatmeal, ground rice, etc., heing about eighty per cent. In the manufacture of linseed oil, etc., the proportion is nearly as great. In upholstery and hedding it is not more than half this, or not over forty per cent. The raw material of chemicals, out of which are evolved the acids, etc. that we use and export, is a little more than doubled in value hy the manipulation of the skilled workman. In hag making, the quantity and value of the raw material seems to leave a much smaller margin to the manufacturer than almoet any other industry, the material actually forming in value eighty four per cent. of the selling price.

The manufacturers of Hercules and dynamite powder leave a good margin for profits—ahout fifty per cent. The marhlemen, those who furnish to order those outward and visihle monumonts of woe, spend about thirty-one per cent. of the price they charge the customer in the purchase of the unhewn marhle on which they exercise their funeral skill. The druggiste are a little hetter for they spend forty out of every hundred cents in the purchase of the preparations which they pnt up in the compounds destined to help us along on the road to the hetter and a purer world. The ink-makers get fifty per cent. advance on the coet of the mysterions compounds from which they prepare it. The hookhinders however, are not so cousiderate, for they charge just five times what they pay for paper, twine, and sheepskin. The glasshlowers evidently know what they are about when they pay 22 cents for what they afterwards charge 50 for. The preparers of Eureka hair charge us thirty three cents on every dollar for their lahor.

In artificial stone the ingredients form sixty-six per cent. of the value, when ready for uee in hnilding. Broom corn costs, perhaps, sbont 40 per cent. of the valne of the hrooms when made. Almost the same proportion holds good in cement pipe. Smoking tohacco puts on two-thirds of its value in the process of manufacture, at least, what is made in this city does. So does oil in that of refining, hut paints and varnishes are only charged at wholesale, fifty per cent. above the cost of the material. The process for the preservation of wood adds fifty-five per cent to its value. The refining of horax adds fifty per cent. to its value, hut as the quantity is lessened as the quality is increased, the advantage to the manufacturer is not so obvious. The maker of plaster ornaments charges six-hundred per cent. for the use of his time, and thst of his workmen. Fireworks cost only twenty-five per cent. of the price at which they are sold, for powder, etc. In mirror silvering carried on hy only one house in this city, the materials cost ahout sixty per cent. of the value of the articles when finished. In glass cutting and stalning the labor and skill employed ie so great that the value of material is not over twenty per cent. Brickmakere have the difference that is hetween forty and a hundred cents, to pay for their lahor and that of the men.

In the manufacture of block pavement the value of material is about forty per cent of that of production. In the manufacture of fuse the proportion is eixty-five per cent, and that of trusses it is less than fifty per cent., and in that of willow ware less than thirty-three per cent. Those who manufacture artificial flowers and regalia in a small way use a correspondingly small amount of material, hut they have to make their own living as well as that of their workpeople out of it.

Newspapers show only a comparatively small expenditure for psper and ink on the value of the paper when sold, not more than thirty-three per cent.; hut lest those who read newspapers should think that their proprietors had too much of a good thing we may say that lahor, hoth mental and physical, eate up hy much the larger proportion of the remaining two thirds. The number of printers and printers' dcvils fonnd in even a small newspaper office would surprise the uninitiated. The proportion of material in ordinary printing is somewhat larger, this is of course accounted for hy the fact that the immense circulation of some of our newspapers, (and therein, although it may not he esteemed very modest of us, we include ourselves), the cost of material proportionately to the whole is reduced to a minimum. In lithographing, too, the proportion of material used is small, the labor heing the principal element in that business.

With the workers in iron and steel, we find that they are paid a fraction over one-third of the valne of the goods they manufacture. This leaves hut a small margin for the owners of the establishments concerned in this industry. This ie the general result, hut it is very different in particular cases. This is the proportion of the foundries, hut in the rolling-mill, wages form only twenty-five per cent. of production, and the profits are ahead of the wages of lahor. In the manufacture of wire rope for ships' rigging, mining purposes, etc., the proportion of wages is still further diminished and that of profit still further increased, the former heing only 12½ per cent., while the latter is nearly douhle. In the manufacture of saws, lahor is on sixty per cent. of the total value of the product, while the profit is not more than twenty. In the manufacture of Bed Springs, lahor forms about ten per cent. of the whole value, and profit about twenty, hnt to lahor in this case should he properly added the value of that of the proprietors.

In the manufacture of Cutlery labor makes about 44 per cent. of the value of the whole and the profits of capital about 62 per cent. In that of Screw Bolts, lahor is 25 per cent., while capital has not ½ per cent. In the manufacture of tools, each is represented hy about 40 per cent. In Wire Goods, lahor has hitherto formed 50 per cent. of the whole value; capital has had a very small percentage. In that of Electrical Instruments, labor has had 45 per cent. and capital 15. The Carriage Spring makers have about 33 per cent., while the employees have about 25 per cent. In Lead refining about a tenth part of the value of the production is paid in wages, while a fourth goes to the proprietary. Gold and Silverware pays 14 per cent. to the workman and 33 to the employers. Brass founding seems to be profitable, for, whereas only thirteen per cent. of the market value of products is paid to the mechanics employed, capital receives 50. In the manufacture of Lumher, lahor is paid 35 per cent. or nearly, and capital 33, a much hetter showing than is offered hy the Iron industries.

Giant Powder for Fishing.

Our correspondent who aeked regarding the use of giant powder a couple of weeks since, seem to fear that it would he so frequently employed as to deprive the watere of our beautiful mountain lakes and rivere of fieh. There ie little danger. Those who have witneesed its explosive force describe ite power ae terrific.

It ie composed of a yellowieh earth, eaturated with nitro-glycerine. The explosion, therefore, ie no more or lese than explosion of nitro-glycerine. The preesure of numberlese tone of water has no more effect upon its power, apparently, than the atmosphere hes upon ordinary gun-powder. A thousand little flashes of light ehoot out in every direction from the cherge with the swiftnese of electricity, the whole boeom of the lake trembles with the shock, and a hnndred tons of water rise up bodily from the eurface.

The report is a weird, ehuddering, indescribable species of thunder, that rings in one's ears for weeks. Now, from the very neture of the suhstance, it ie extremely dangeroue, even in the hands of the most careful. Theoretically, it cannot be exploded except by the peculiar cap that ie prepared expresely for the purpose. Bnt, in epite of the theory, it eometimes explodes without a cep. The nitro-glycerine sometimes oozee from the earth with which it is mixed, and collects in or about the paper that is wrapped about the charge of giant powder.

Under these circumstancee it is no safer than genuine nitro-glycerine. The explosions are eo powerful as to exceed all belief. Explode a piece of the powder no lerger than a pea upon an inch hoard, and the hoard will be ehattered into fragmente. It ie eo little nnderstood, even hy scientific men, that no rules cen be laid down for ite use. When it is accidentally discherged, scientists are rendered none the wiser, hecauee no one is left alive to explain the manner in which it exploded.

Very few men are competent to nse it with even a moderate degree of safety, and every men who experimente with it feele that he ie risking hie life. To be sure it kills fieh. It is an instantaneous, unmerciful way of elaughtering every fish, he it large or small, within a radius of 30 feet. But the very euccese which attends the experiment, makes e man ehudder with horror, and this, together with the terror of en accidental explosion, and the fear of the rigorous hand of the law if discovered, will, to to a great extent, deter men from following this mode of fishing.—*Truckee Republican.*

Narcotics and Stimulants.

We had occasion, last year, to notice the third annual report of the Massachsetts Board of Health, prepared by the Chairman of the Board, Henry I. Bowditch, in which the question of "Stimulants" was discussed at considerable length. As the matter seems to possess a renewed interest at the present time, we reproduce the article which we then published:

Correspondence bearing on the question of stimulants had been solicited from persons at fifty-three widely separsted points upon the earth's surface, including each of the leading or more popular nations. Many of these were the Ministers and Cousnls of our Government. In analyizing these the Board states its own conclusions, which are to the effect that the appetite for stimnlants is universal; that its gratification may be curbed within healthy limits by the spresd of more intelligent views of the kinds of stimulants that ought to be used, and the circumstances under which, and extent to which, they may be used; that in hot countries or hot weather the use of alcohol is nnnatural, and should be avoided, while the "nervines"—tea, coffee, opium, hasheesh and the like—are, and shonld be substitnted.

The cultivation of the vine, and the free nse of wines, and the use of ale are the influences which, on a large scale, tend most to diminish intoxication, and, especially, to lessen the crazy form of intemperance, by substituting liquors that admit of but little adulteration, and which satisfy the appetite long before they intoxicate, for those of which the smallest draught tends to intoxicate, and which tempt to vile adulterations that eraze the brain even more than alcohol.

The southern and wine producing countries of Europe have much less crime as the result of alcohol than the colder and more changeable climates of northern Europe and the United States, which drink ardent spirits that sre from 50 to 60 per cent. alcohol; that all public bara for the sale of spirits shonld be suppressed, while those for the sale of ales and wines should be permitted; that the growth of native wines should be encouraged, and the duties on foreign light wines removed, so that the kinds of wine which are favorable to health may be cheap and abundant; those that narcotize by the use of small quantities should be sold only as poisons by druggists, on the prescriptions of physicians; drnnkenness and not the sale of liqnor should be punished as a crime; bnt, where liquor is sold so as to prodnce drunkenness, the seller should be obliged to support the drunkard and his family for some specified time.

Dipsomania—the depraved and uncontrollable thirst for drink—should be treated by confinement in State Inebriate Asylums, of which three or four are needed for the State of Massachusetts, after many years of experiment in the prohibitory line. It is not a little remarkable that the views of medical men and scientific investigators generally, are not only in very general accord with each other, bnt are in conflict, equally, with the course of legislation, the views of philanthropists, and the customs of American society.—*Chicago Tribune.*

MINING DECISION.—Dispatches from Washington state that the Secretary of the Interior has decided the case of the Eureka Mining Company vs. the Jenny Lind Mining Company, and others. He held, in accordance with the advices of Assistant Attorney-General Smith, first, that in regard to estimating the sixty days of publication required by the Act of May 10th, 1872, the first day of publication shonld be excluded and the last included; second, that the jurate to adverse claim, required by the seventh Section of the said Act, mnst be made by the Attorney; third, that where several persons unite in adverse claim, the jurate is sufficient if made by one of such persons; fourth, that the filing of an adverse claim in the register of the local offices is sufficient filing under such Act, and, fifth, that the adverse claim of the Jenny Lind Oompany has sufficiently set forth the natnre of the said claims, and the decision is, therefore, in favor of the Jenny Lind Company, as against all other adverse claimants.

PLATINUM BRONZE.—It is well-known that all alloys containing copper, even in minute proportions, are readily acted on by acids, which makes them dangerous when nsed for honsehold utensils. M. Helouis has proposed an alloy, under the name of platinum bronze, which is entirely inoxidizable. It is a nickel alloy, prepared from nickel made thoroughly pure by various processes and maceration in concentrated nitric acid. The proportions employed are nickel 100, tin 10, and platinum1—the two latter metals being added to the fused nickel in the proportion of 4 of tin to 1 of platinum, and the remaining 6 parts of tin added subsequently. For bells and sonorous articles, the proportions aro slightly varied, viz: nickel 100, tin 20, silver 2, and platinum 1.

AN IMPORTANT AND CHEAP SOUNOE OF POTASH. Dr. Herbert Hazard suggests the use of corn cobs for supplying potash, the ordinary sonrces of which are rapidly failing. He states that the average yield of corn-cob is 7.62 parts of carbonate of potash in 1,000 parts of the cobs, which is nearly twice as much as the best specimens of wood will furnish. The present corn crop of this country will supply 15,400,000,000 pounds of cobs, from which 115,500,000 pounds of potash could easily be manufactured The question hinges npon the process Mr. Hazard would employ for extracting the potash, however.

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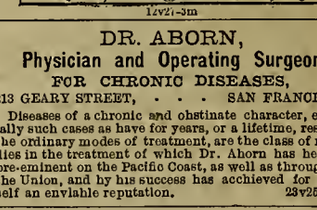
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J P Ridgeway	87	1000	200 00
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J P Ridgeway	91	100	20 00
J P Ridgeway	92	100	20 00
J P Ridgeway	94	100	20 00
J P Ridgeway	95	100	20 00
J P Ridgeway	96	100	20 00
J P Ridgeway	97	100	20 00
J P Ridgeway	98	100	20 00
J P Ridgeway	99	100	20 00
J P Ridgeway	100	100	20 00
William Miller	49	500	100 00
William Miller	50	500	100 00
William Miller	51	500	100 00
William Miller	52	500	100 00
William Miller	53	500	100 00
William Miller	55	500	100 00
William Miller	56	500	100 00
William Miller	57	500	100 00
William Miller	58	500	100 00
William Miller	59	500	100 00
William Miller	61	100	20 00
William Miller	145	50	10 00
William Miller	145	100	20 00
William Miller	147	100	20 00
William Miller	148	100	20 00
William Miller	149	100	20 00
W H Smith	24	25	5 00
W H Smith	25	25	5 00
W H Smith	28	20	4 00
W H Smith	29	20	4 00
W H Smith	30	20	4 00
W H Smith	31	20	4 00
W H Smith	32	20	4 00
W H Smith	140	1000	200 00
W H Smith	142	25	5 00
W H Smith	143	50	10 00
W H Smith	177	1200	240 00
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Charles Spencer	40	100	20 00
Charles Spencer	42	100	20 00
Charles Spencer	43	100	20 00
Charles Spencer	101	1000	200 00
Charles Spencer	102	1000	200 00
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Office, No. 19 First street, San Francisco, Cal. no15

Buena Vista Petroleum Company.—Location of principal place of business, San Francisco, California. Location of works, Buena Vista, Kern County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 26th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Stephen Bond	248	150	$150 00
Stephen Bond	249	70	70 00
John Hamhleton		30	30 00
Wm S Kavanaugh		20	20 00
J C Lovejoy	203	5	5 00
J C Lovejoy	247	20	5 00
John Pfeifle	229	5	5 00
Chas Sleeper	105	1	1 00
Chas Sleeper	106	1	1 00
Chas Sleeper	107	1	1 00
Chas Sleeper	108	1	1 00
Chas Sleeper	100	1	1 00
Chas Sleeper	110	1	1 00
Chas Sleeper	111	1	1 00
Chas Sleeper	112	1	1 00
Chas Sleeper	113	1	1 00
Chas Sleeper	114	1	1 00
Chas Sleeper	115	1	1 00
Chas Sleeper	116	1	1 00
Chas Sleeper	117	1	1 00
Chas Sleeper	118	1	1 00
Chas Sleeper	119	1	1 00
Chas Sleeper	120	1	1 00
Chas Sleeper	121	1	1 00
Chas Sleeper	122	1	1 00
Chas Sleeper	125	1	1 00
Chas Sleeper	126	1	1 00
Chas Sleeper	127	1	1 00
Chas Sleeper	128	1	1 00
Chas Sleeper	129	1	1 00
Chas Sleeper	130	1	1 00
Chas Sleeper	131	1	1 00
Chas Sleeper	132	1	1 00
Chas Sleeper	133	1	1 00
Chas Sleeper	134	1	1 00
Chas Sleeper	135	1	1 00
Chas Sleeper	136	1	1 00
Chas Sleeper	137	1	1 00
Chas Sleeper	138	1	1 00
Chas Sleeper	139	1	1 00
Chas Sleeper	140	1	1 00
Chas Sleeper	141	1	1 00
Chas Sleeper	142	1	1 00
Chas Sleeper	143	1	1 00
Chas Sleeper	144	1	1 00
Chas Sleeper	145	1	1 00
Chas Sleeper	146	1	1 00
Chas Sleeper	147	1	1 00
Chas Sleeper	148	1	1 00
Chas Sleeper	149	1	1 00
Chas Sleeper	150	1	1 00
Chas Sleeper	151	1	1 00
Chas Sleeper	152	1	1 00
Chas Sleeper	153	1	1 00
Chas Sleeper	154	1	1 00
Chas Sleeper	155	1	1 00
Chas Sleeper	156	1	1 00
Chas Sleeper	157	1	1 50
Chas Sleeper	158	1	1 00
Chas Sleeper	159	1	1 00
Chas Sleeper	180	1	1 00
Chas Sleeper	161	1	1 00
Chas Sleeper	182	1	1 00
Chas Sleeper	153	1	1 00
Chas Sleeper	154	1	1 00
Chas Sleeper	165	1	1 00
Chas Sleeper	155	1	1 00
Chas Sleeper	157	1	1 00
Chas Sleeper	158	1	1 00
Chas Sleeper	159	1	1 00
Chas Sleeper	170	1	1 00
Chas Sleeper	171	1	1 00
Chas Sleeper	172	1	1 00
Chas Sleeper	173	1	1 00
Chas Sleeper	174	1	1 00
Chas Sleeper	175	1	1 00
Chas Sleeper	176	1	1 00
Chas Sleeper	177	1	1 00
Chas Sleeper	178	1	1 00
Chas Sleeper	179	1	1 00
Chas Sleeper	150	1	1 00
Chas Sleeper	181	1	1 00
Chas Sleeper	182	1	1 00
Chas Sleeper	183	1	1 00
Chas Sleeper	184	1	1 00
Chas Sleeper	185	5	5 00
Chas Sleeper	186	5	5 00
Chas Sleeper	187	5	5 00
Chas Sleeper	188	5	5 00
Chas Sleeper	189	5	5 00
Chas Sleeper	190	5	5 00
Chas Sleeper	191	5	5 00
Chas Sleeper	192	5	5 00
Chas Sleeper	193	5	5 00
Chas Sleeper	194	5	5 00
Chas Sleeper	195	5	5 00
Chas Sleeper	195	5	5 00
Chas Sleeper	197	10	10 00
Chas Sleeper	198	10	10 00
J Castagnotto	1	10	10 00
J Castagnotto	210	10	10 00
Frank Chevillot	28	20	20 00
H G Crane	40	1	1 00
H G Crane	41	1	1 00
H G Crane	42	1	1 00
H G Crane	43	1	1 00
H G Crane	44	1	1 00
H G Crane	45	1	1 00
H G Crane	47	1	1 00
H G Crane	48	1	1 00
H G Crane	49	1	1 00
H G Crane	50	1	1 00
H G Crane	51	1	1 00
H G Crane	52	1	1 00
H G Crane	53	1	1 00
H G Crane	54	1	1 00
H G Crane	55	1	1 00
H G Crane	55	1	1 00
H G Crane	57	1	1 00
H G Crano	58	1	1 00
H G Crane	59	1	1 00
H G Crane	60	1	1 00
H G Crane	61	1	1 00
H G Crane	62	1	1 00
H G Crane	63	1	1 00
H G Crane	64	1	1 00
H G Crane	65	1	1 00
H G Crane	66	1	1 00
H G Crane	67	1	1 00
H G Crane	68	1	1 00
H G Crane	60	1	1 00
H G Crane	70	1	1 00
H G Crane	71	1	1 00
H G Crane	72	1	1 00
H G Crane	73	1	1 00
H G Crane	74	1	1 00
H G Crane	75	1	1 00
H G Crone	76	1	1 00
H G Crane	77	1	1 00
H G Crane	78	1	1 00
H G Crane	79	1	1 00
H G Crane	80	1	1 00
H G Crane	81	1	1 00
H G Crane	82	1	1 00
H G Crana	83		00
H G Crane	84	1	1 00
H G Crane	85		00
H G Crane	86	1	1 00
H G Crane	87	1	1 00
H G Crane	88	1	1 00
H G Crane	80	1	1 00
J J Cook	29	5	5 00
Scalmanlni & Frapolli	204	5	5 00
Scalmanini & Frapolli	205	5	5 00
Youse & Wilcox (not issued)		175	175 00
E O Darling	215	10	10 00
E O Darling	225	10	10 00
Geo Petit	218	1	1 00
Jas Dolan	221	10	10 00
Hugh Hannah	223	20	20 00
W B Floyd	234	20	20 00
Edwin Moore	235	80	80 00
N G Woodward	236	90	90 00
Alexander Deering	238	5	5 00
James Hamhleton (not issued)		30	30 00
C E Farnsworth	245	50	50 00
C E Farnsworth	255	30	30 00
Geo Roberts	39	20	20 00
J A Henry	27	20	20 00

And in accordance with law, and an order of the Board of Directors, made on the 25th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 430 Jackson street, San Francisco, California, on Tuesday, the 25th day of November, 1873, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

L. AGUAYO, Secretary.

Office, 430 Jackson street, San Francisco, Cal. no15

POSTPONEMENT.—BUENA VISTA PETROLEUM COMPANY.—The above sale is hereby postponed until Wednesday, December 10, 1873, at the same hour and place. By order of the Board of Directors.

L. AGUAYO, Secretary.

Comet Consolidated Mining and Milling Company.—ANNUAL MEETING.—The annual meeting of stockholders in the above Company will be held at the office, No. 115 Leidesdorff street, San Francisco, at the hour of 3 P. M., on Wednesday, December 10, 1873, for the purpose of electing officers for the ensuing year.

W. AUGS. KNAPP, Secretary.

Office, 115 Leidesdorff street, San Francisco, Cal. 2t

Commercial Coal Mining Company of San Francisco. Principal place of business, City and County of San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Eighth day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alexander, J	52	50	$12 50
Cohhledick, James	131	25	5 25
Comelins, W	174	490	122 50
Crocker, A E	142	5	1 25
Forrester, B	132	5	1 25
Forrester, B	147	25	5 25
Forrester, J	4	100	25 00
Harrop, Sarah	133	20	5 00
Hughes, Thos J	10	50	12 50
Larue, J	2	100	25 00
Strader, W	110	25	5 25
Strader, W	111	25	6 25
Strader, W	113	10	2 50
Strader, W	122	5	1 25
Strader, W	123	5	1 25
Washburn, CA		50	12 50

And in accordance with law, and an order of the Board of Directors, made on the 8th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 402 Montgomery street, Room No. 23, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. no29

Great Blue Gravel Range Mining Company—Location of Principal Place of Business, San Francisco, California. Location of Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of November, 1873, an assessment of Ten cents (10c.) per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on Monday the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

WM. H. WATSON, Sec'y.

Office, Rooms 5 & 6, No. 302 Montgomery street,

Gold Mountain Mining Company—Principal place of business, San Francisco, California. Location of works, Lower Rancheria, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 31st day of October, 1873, an assessment of 25 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at No. 116 Leidesdorff street, San Francisco, Cal. Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the Fifth day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. AUG. KNAPP, Secretary.

Office, 115 Leidesdorff street, San Francisco, Cal. no8

Hayden Hill Mining Company—Location

of principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 29th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Geo M Pinney, Trustee	10	500	$75 00
Geo M Pinney, Trustee	12	500	75 00
Geo M Pinney, Trustee	13	500	75 00
Geo M Pinney, Trustee	15	500	75 00
Geo M Pinney, Trustee	17	500	75 00
Geo M Pinney, Trustee	18	500	75 00
Geo M Pinney, Trustee	3	100	15 00
Geo M Pinney, Trustee	4	100	15 00
Geo M Pinney, Trustee	129	40	6 00
S A Raymond	1	100	15 00
H S Brown, Trustee	100	20	3 00
W H Gawley	19	500	75 00
W H Gawley	20	500	75 00
A W Blair, Trustee	38	50	7 50
A W Blair, Trustee	44	50	7 50
A W Blair, Trustee	46	100	15 00
A W Blair, Trustee	47	100	15 00
A W Blair, Trustee	48	100	15 00
A W Blair, Trustee	49	100	15 00
A W Blair, Trustee	51	500	75 00
A W Blair, Trustee	52	500	75 00
A W Blair, Trustee	64	500	75 00
A W Blair, Trustee	65	500	75 00
A W Blair, Trustee	66	500	75 00
A W Blair, Trustee	67	100	15 00
A W Blair, Trustee	68	100	15 00
A W Blair, Trustee	69	100	15 00
S A Raymond, Trustee	77	250	37 50
S A Raymond, Trustee	78	250	37 50
S A Raymond, Trustee	79	250	37 50
S A Raymond, Trustee	80	250	37 50
S A Raymond, Trustee	81	100	15 00
S A Raymond, Trustee	82	100	15 00
S A Raymond, Trustee	83	100	15 00
S A Raymond, Trustee	84	100	15 00
S A Raymond, Trustee	85	100	15 00
S A Raymond, Trustee	86	100	15 00
S A Raymond, Trustee	87	100	15 00
S A Raymond, Trustee	88	100	15 00
S A Raymond, Trustee	89	100	15 00
S A Raymond, Trustee	91	3000	450 00
S A Raymoud, Trustee	93	50	7 50
S A Raymond, Trustee	99	660	99 00
Lonis R Lull	73	100	15 00
W F Dorrance	132	50	7 50
W H Knight	75	100	15 00
A F Brown, Trustee	101	100	15 00
A F Brown, Trustee	102	100	15 00
A F Brown, Trustee	103	100	15 00
A F Brown, Trustee	104	100	15 00
A F Brown, Trustee	105	100	15 00
A F Brown, Trustee	106	100	15 00
A F Brown, Trustee	107	100	15 00
A F Brown, Trustee	108	100	15 00
A F Brown, Trustee	109	100	15 00
A F Brown, Trustee	110	100	15 00
A F Brown, Trustee	111	100	15 00
A F Brown, Trustee	112	100	15 00
A F Brown, Trustee	113	100	15 00
A F Brown, Trustee	114	100	15 00
A F Brown, Trustee	115	100	15 00
A F Brown, Trustee	110	100	15 00
A F Brown, Trustee	117	100	15 00
A F Brown, Trustee	118	100	15 00
A F Brown, Trustee	119	100	15 00
A F Brown, Trustee	120	100	15 00
A F Brown, Trustee	121	500	75 00
A F Brown, Trustee	122	500	75 00
A F Brown, Trustee	123	500	75 00
A F Brown, Trustee	124	500	75 00
A F Brown, Trustee	125	500	75 00
A F Brown, Trustee	126	500	75 00
A F Brown, Trustee	127	200	30 00
A F Brown, Trustee	128	60	9 00
Jas A Pritchard, Trustee	130	6250	937 50
O P Warren	131	50	7 50
W H Knight, Trustee	134	24920	3738 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 331 Montgomery street, room 18, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. H. KNIGHT, Secretary.

Office—331 Montgomery street, San Francisco, California. no29

Ida and Rhoda Lewis Consolidated Mining

Company. Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mobave county, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of October, A. D., 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Eugene Pardini	292	20	$2 00
E D Dement	303	25	2 50
E D Dement	304	25	2 50
E D Dement	305	25	2 50
E D Dement	306	25	2 50
T B Wingard	313	200	20 00
L Eleser	314	50	5 00
L Eleser	315	50	5 00
L Eleser	315	50	5 00
L Eleser	317	50	5 00
L Eleser	318	50	5 00
L Eleser	319	50	5 00
J E Slinkey	341	20	2 00
Joseph Sharon	342	250	25 00
Joseph Sharon	343	250	25 00
Joseph Sharon	344	250	25 00
Joseph Sharon	345	250	25 00
F Chappellet	348	1000	100 00
F Chappellet	349	100	10 00
N Steiner	350	100	10 00
John Claresy, Trustee	73	200	20 00
John Claresy, Trustee	77	200	20 00
John Claresy, Trustee	78	100	10 00
John Claresy, Trustee	85	50	5 00
John Claresy, Trustee	89	50	5 00
John Claresy, Trustee	90	50	5 00
John Claresy, Trustee	91	50	5 00
John Claresy, Trustee	92	25	2 50
John Claresy, Trustee	93	25	2 50
John Claresy, Trustee	96	25	2 50
John Claresy, Trustee	97	25	2 50
John Claresy, Trustee	100	20	2 00
John Claresy, Trustee	852	25	2 50
John Cody, Trustee	147	50	5 00
G P Martinoni, Trustee	202	100	10 00
G P Martinoni, Trustee	263	25	2 50
G P Martinoni, Trustee	264	25	2 50
G P Martinoni, Trustee	265	25	2 50
G P Martinoni, Trustee	266	25	2 50
J Cohn, Trustee	357	1000	100 00
J Cohn, Trustee	358	1000	100 00
J Cohn, Trustee	359	1000	100 00
J Cohn, Trustee	300	500	50 00
J Cohn, Trustee	351	313	31 30
M J McDonald	268	200	20 00
William Welsh	362	367	36 70
J T Bradley	363	133	13 30
J T Bradley	364	37	3 70
J M Thompson	365	100	10 00
J M Thompson	365	97	9 70
L A Johnson, Trustee	132	100	10 00
L A Johnson, Trustee	133	100	10 00
L A Johnson, Trustee	134	100	10 00
L A Johnson, Trustee	152	100	10 00
L A Johnson, Trustee	276	25	2 50
L A Johnson, Trustee	278	25	2 50
L A Johnson, Trustee	279	25	2 50
L A Johnson, Trustee	280	25	2 50
L A Johnson, Trustee	281	25	2 50
L A Johnson, Trustee	284	50	5 00
L A Johnson, Trustee	285	50	5 00
L A Johnson, Trustee	286	50	5 00
L A Johnson, Trustee	287	50	5 00
L A Johnson, Trustee	288	50	5 00
L A Johnson, Trustee	289	50	5 00
L A Johnson, Trustee	290	50	5 00
L A Johnson	269	187	18 70
J A Lukin, Trustee	295	100	10 00
F R Lewis, Trustee	158	100	10 00
F R Lewis, Trustee	161	100	10 00
F R Lewis, Trustee	163	50	5 00
F R Lewis, Trustee	164	50	5 00
F R Lewis, Trustee	168	25	2 50
F R Lewis, Trustee	169	25	2 50
F R Lewis, Trustee	170	25	2 50
F R Lewis, Trustee	171	25	2 50
F R Lewis, Trustee	172	25	2 50
F R Lewis, Trustee	173	20	2 00
F R Lewis, Trustee	174	20	2 00
F R Lewis, Trustee	175	20	2 00
F R Lewis, Trustee	176	20	2 00
F R Lewis, Trustee	177	20	2 00
J de Sta Marina, Trustee	31	500	50 00
J de Sta Marina, Trustee	32	500	50 00
J de Sta Marina, Trustee	33	500	50 00
J de Sta Marina, Trustee	40	100	10 00
J de Sta Marina, Trustee	42	100	10 00
J de Sta Marina, Trustee	43	100	10 00
J de Sta Marina, Trustee	45	100	10 00
J de Sta Marina, Trustee	53	50	5 00
J de Sta Marina, Trustee	206	20	2 00
J de Sta Marina, Trustee	217	100	10 00
J de Sta Marina, Trustee	221	1000	100 00
A C Morse, Trustee	187	20	2 00
A C Morse, Trustee	198	500	50 00
F R Lewis	370	5000	500 000
Charles Spencer	230	100	10 00
Charles Spencer	244	500	50 00
Charles Spencer	245	500	50 00
Charles Spencer	246	334	33 40
Ambrose Sorba	104	400	40 00
Ambrose Sorba	111	100	10 00
Ambrose Sorba	112	100	10 00
Ambrose Sorba	116	100	10 00
Ambrose Sorba	117	50	5 00
Ambrose Sorba	118	50	5 00
Ambrose Sorba	121	50	5 00
Ambrose Sorba	120	25	2 50
Wm. H. Sharp	367	10,000	1,000 00
P. C. Lander, Trustee	371	3,500	350 00

And in accordance with law, and an order of the Board of Trustees made on the twenty-seventh day of October, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, Room No. 12 Express Building San Francisco, California, on Wednesday the twenty-fourth day of December, 1873, at the hour of 12 M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

O. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California.

Land Purchasers Association—Office, No.

425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of this corporation, held on the 19th day of November, 1873, an assessment of ten dollars per share (being the 28th monthly installment on the subscription to the stock) was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 13th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

O. S. WRIGHT, Secretary.

Office, No. 425 Kearny street, San Francisco, California.

Mina Rica Mining Company—Office of the

Mina Rica Mining Company, No. 320 California Street, Room No. 5, San Francisco, California. San Francisco, Nov. 26th, 1873.

In accordance with a resolution adopted at a meeting of the Board of Trustees of the Mina Rica Mining Company, held this day, a special meeting of the Stockholders of said Company is hereby called; the same to be held at the office of the Company, No. 320 California street, Room No. 5, San Francisco, California, on Monday, the 20th day of December, 1873, at two o'clock P. M., of said day, to take into consideration and decide upon the proposition to increase the Capital Stock of said Company, from one million dollars, ($1,000,000) divided into ten thousand shares, of the par value of one hundred (100) dollars each, the present Capital Stock, to Two Million ($2,000,000) Dollars, divided into twenty thousand (20,000) shares, of the par value of one hundred (100) dollars each.

C. F. GIFFIN,
J. H. H. WILLIAMS, } Trustees.

Moreau Machine Manufacturing Company.

Principal place of business, San Francisco, California.

Notice is hereby given that at a meeting of the Directors of said company, held on the third day of December, 1873, an assessment (No. 1) of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the company, No. 304 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 17th day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the ninth day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. B. ISAACS, Secretary.

Office, 304 Pine street, San Francisco, Cal. de6

North San Francisco Homestead and

Railroad Association—Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said company, held on the 1st day of December, 1873, an assessment of Two Dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at his office, 314 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 3d day of January, 1874, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 26th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of the sale.

A. D. SMITH, Secretary.

Office, 314 California street, San Francisco, Cal.

Ophir Copper, Silver and Gold Mining

Company—Location of works, Ophir, Placer County, State of California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 4, Duncan's Building, 411½ California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 5th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

O. H. BOGART, Secretary.

Office, No. 411½ California street, San Francisco, California. no15

Ohio Consolidated Gold Mining Company.

Location of principal place of business, San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Ecker, Geo O	13	100	$15 00
Ecker, Geo O	14	100	15 00
Ecker, Geo O	15	100	15 00
Ecker, Geo O	17	100	15 00
Ecker, Geo O	184	500	75 00
Ecker, Geo O	185	500	75 00
Wayman, W G	46	150	22 50
Knapp, W A, Trustee	236	100	15 00
Knapp, W A, Trustee	237	100	15 00
Bash, Henry	81	100	15 00
Bash, Henry	214	50	7 50
Dore, B, Trustee	288	50	7 50
Dore, B, Trustee	291	50	7 50
Scarles, J W	207	100	15 00
Wood, J H, Trustee	225	100	15 00
Wood, J H, Trustee	334	100	15 00
Wood, J H, Trustee	350	100	15 00
Wood, J H, Trustee	351	100	15 00
Knapp, W A, Trustee	248	800	120 00
Knapp, W A, Trustee	152	100	15 00
Knapp, W A, Trustee	204	50	7 50
Knapp, W A, Trustee	271	50	7 50
Knapp, W A, Trustee	275	100	15 00
Knapp, W A, Trustee	324	50	7 50
Knapp, W A, Trustee	345	300	45 00
Knapp, W A, Trustee	347	50	7 50
Knapp, W A, Trustee	352	100	15 00
Knapp, W A, Trustee	353	100	1 100
Knapp, W A, Trustee	354	100	15 00
Wood, S H	356	400	60 00
Knapp, W A, Trustee	365	100	15 00
Knapp, W A, Trustee	367	100	15 00
Knapp, W A, Trustee	372	100	15 00
Knapp, W A, Trustee	374	100	15 00
Fisher, E, Trustee	379	100	15 00
Wood, J H	380	100	15 09
Wood, J H	381	100	15 00
Wood, J H	382	100	15 00

And in accornance with law and an order of the Board of Directors, made on the 14th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the company, on the 8th day of December, 1873, at the hour of one o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Sec'y.

Office—116 Loidesdorff St., cor. of Halleck, San Francisco, Cal. no22

Pacific Asbestos Mining and Manufacturing

Company—Principal place of business, San Francisco, Cal. Location of works, Placer County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 17th day of November, 1873, an assessment of Six Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 306 Mantgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment together with costs of advertising and expenses of sale. By order of the Board of Directors.

H. B. CONGDON, Secretary.

Office, No. 306 Montgomery street, San Francisco, Cal.

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

NOTICE.—There is delinquent upon the following described stock, on account of assessment (No. 6), levied on the 27th day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
B L Brandt	185	128	$12 60
J M Buffington, Trustee	56	100	10 00
J M Buffington, Trustee	57	100	10 00
J M Buffington, Trustee	375	100	10 00
J M Buffington, Trustee	399	371	37 10
J M Buffington, Trustee	400	175	17 50
J M Buffington, Trustee	402	56	5 60
J M Buffington, Trustee	434	31	3 10
J M Buffington, Trustee	435	662	66 20
J M Buffington, Trustee	438	268	26 80
J M Buffington, Trustee	440	475	47 50
W Bryan	152	12	1 20
J C Bellinger, Trustee	426	100	10 00
M Bettman	258	100	10 00
M Bettman	259	100	10 00
M Bettman	260	50	5 00
M Bettman	251	50	5 00
M Bettman	262	31	3 10
T Bryan	302	100	10 00
T Bryan	303	25	2 50
T Bryan	305	26	2 50
T Bryan	306	25	2 50
T Bryan	307	50	5 00
T Bryan	308	50	5 00
T Bryan	309	50	5 00
T Bryan	310	50	5 00
T Bryan	311	10	1 00
T Bryan	312	10	1 00
T Bryan	313	10	1 00
T Bryan	314	10	1 00
T Bryan	315	10	1 00
T Bryan	316	10	1 00
T Bryan	317	10	1 00
T Bryan	318	10	1 00
T Bryan	319	10	1 00
T Bryan	320	10	1 00
T Bryan	321	20	2 00
T Bryan	322	20	2 00
T Bryan	323	20	2 00
T Bryan	324	20	2 00
T Bryan	326	7	70
T Bryan	327	5	50
Frank Clayton, Trustee	427	652	66 20
H W Dean, Trustee	389	131	13 10
L Englander	100	31	3 10
S Haas, Trustee	384	50	5 00
S Haas, Trustee	422	258	26 80
T C Hutchioson	417	25	2 50
Samuel Marks	26	50	5 00
Samuel Marks	28	50	5 00
Samuel Marks	29	50	5 00
R W Simpson	354	5	50
Daniel Sheehan	414	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 27th day of October, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 37 New Merchants' Exchange, California street, San Francisco, on Monday, the 22d day of December, 1873, at hour of 12 o'clock M., of said day, to pay said Delinquent Assessment thereon, together with costs of advertising and expenses of the sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, Cal.

Umpire Tunnel and Mining Company.

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood, Salt Lake County, Utah.

NOTICE.—There are delinquent upon the following described Stock, on account of assessment No. 2, levied on the 21st, day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John T Lynch, balance	217	50	$1 50
John T Lynch, balance	218	100	3 00
John T Lynch, balance	219	100	3 00
John T Lynch, balance	220	100	3 00
T A Brawley, balance	221	100	3 00
T A Brawley, balance	222	100	3 00
T A Brawley, balance	223	100	3 00
T A Brawley, balance	224	100	3 00
T A Brawley, balance	225	70	2 10
J W Finch, balance	226	100	3 00
J W Finch, balance	227	100	3 00
J W Finch, balance	228	100	3 00
J W Finch, balance	229	100	3 00
J W Finch, balance	230	100	3 00
J W Finch, balance	231	100	3 00
J W Finch, balance	232	100	3 00
J W Finch, balance	233	100	3 00
J W Finch, balance	234	100	3 00
J W Finch, balance	235	100	3 00
J W Finch, balance	236	50	1 50
Saml Edgerly, balance	237	100	3 00
Saml Edgerly, balance	238	100	3 00
Saml Edgerly, balance	239	100	3 00
Saml Edgerly, balance	240	100	3 00
Saml Edgerly, balance	241	100	3 00
Saml Edgerly, balance	242	100	3 00
Saml Edgerly, balance	243	100	3 00
Saml Edgerly, balance	244	100	3 00
Saml Edgerly, balance	245	100	3 00
Saml Edgerly, balance	246	100	3 00
Saml Edgerly, balance	247	100	3 00
Saml Edgerly, balance	248	100	3 00
Saml Edgerly, balance	249	100	3 00
Saml Edgerly, balance	250	100	3 00
Saml Edgerly, balance	251	100	3 00
Saml Edgerly, balance	252	100	3 00
Saml Edgerly, balance	253	100	3 00
Saml Edgerly, balance	254	100	3 00
Saml Edgerly, balance	255	100	3 00
Saml Edgerly, balance	256	100	3 00
H A Gains, balance	257	40	1 20
Saml Edgerly, balance	50	20	00
Saml Edgerly, balance	51	20	60
Saml Edgerly, balance	54	20	60
Saml Edgerly, balance	59	20	60
Saml Edgerly, balance	61	20	60
Saml Edgerly, balance	62	20	60
Saml Edgerly, balance	63	20	60
Saml Edgerly, balance	64	20	60
Saml Edgerly, balance	65	20	60
Saml Edgerly, balance	66	20	60
Saml Edgerly, balance	67	20	60
Saml Edgerly, balance	68	20	60
Saml Edgerly, balance	72	20	60
Saml Edgerly, balance	75	10	30
Saml Edgerly, balance	76	10	30
Saml Edgerly, balance	77	10	30
Saml Edgerly, balance	79	10	30
Saml Edgerly, balance	80	10	30
Saml Edgerly, balance	81	10	30
Saml Edgerly, balance	82	10	30
Saml Edgerly, balance	83	10	30
Saml Edgerly, balance	91	50	1 50
Saml Edgerly, balance	104	100	3 00
Saml Edgerly, balance	110	100	3 00
John Rumels	199	10	60
J D Dunseth	201	130	7 80

And in accordance with law, and an order of the Board of Directors, made on the 21st day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the Auction Sales Rooms of John Middleton & Son, No. 310 Montgomery street, San Francisco, Cal., on Monday, the 15th day of December, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

P. A. EAKINS, Secretary.

Office, No. 230 Kearny street, San Francisco, Cal.

Virginia Consolidated Mining Company.

Location of principal place of business, San Francisco, State of California. Location of works, Kearsarge Mining District, Inyo County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
R M Sbuey	7	1364	$68 20
R M Sbuey	63	151	7 55
George Hearst	11	4090	204 50
George Hearst	54	444	22 70
Edward Mohan	53	224	11 20
Edward Mohan	54	910	45 50
Edward Mohan	55	455	22 75
Edward Mohan	56	1365	88 25
Edward Mohan	57	455	22 75
Edward Mohan	72	378	13 00

And in accordance with law, and an order of the Board of Directors, made on the 13th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 317 Montgomery street, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street (Room No. 13), San Francisco, Cal. n22

Washington Mining Company—Principal

place of business, San Francisco, State of California. Location of works, Mariposa County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of October, 1873, an assessmeut of One Dollar per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 318 California street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 8th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Wednesday, the 31st day of December, 1873, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

T. H. WINGARD, Secretary.

Office, Room No. 13, No. 318 California street, San Francisco, Cal. no8

Wyoming Gold Mining Company—Location

of works, Nevada County, California. Location of principal place of business, 410 Montgomery street, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 13th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
S Haas	177	100	$25 00
J E Legge	07	100	25 00
Mrs Martha Mann	56	100	25 00

And in accordance with law, and an order of the Board of Directors, made on the 13th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal., on Monday, the 8th day of December, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. J. GUNN, Secretary.

Office, 410 Montgomery street, San Francisco, Cal.

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JGSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-qy

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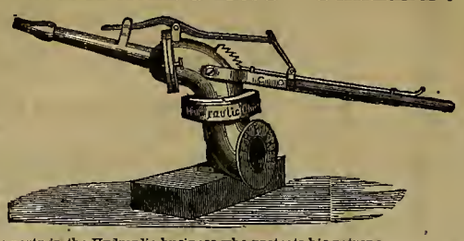

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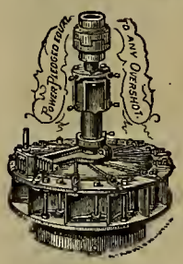

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

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I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

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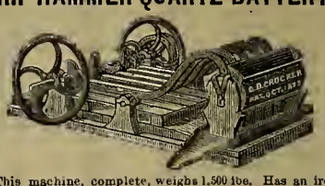

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These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Opsrates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces,—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

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RICHARDSON & CO. have been for thirty years established in Swansea as Agents for the preparation, Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 25v26-1y

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C. W. STRONG & CO., Metallurgical Works,

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We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

ORE BAGS FOR SALE

IN QUANTITIES TO SUIT.

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For all Laboratory and Manufacturing Purposes
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Silver-Plated Copper Amalgamating Plates, for Saving Gold.

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Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

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Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices. Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

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Manufacturers of Presses, Dies and Tools

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SALMON, FRUIT AND OTHER CANS,

And working Sheet Metals in all forms. Catalogues furnished upon application. 20v27-3m

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SPORTING,

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POWDER,

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By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

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HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

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16v20-3m JOHN F. LOHSE, Secretary.

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TRADE MARK.

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Manufacturers of Files of every Description,

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Sold by all the principal hardware stores on the Pacific Coast. 18v25-1y

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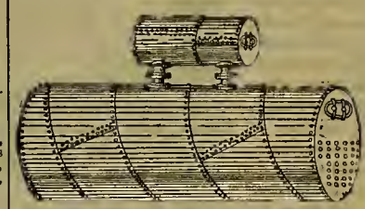

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A sure cure for smoky chimneys, and WARRANTED to give entire satisfaction when all others fail, or no pay. They are made to fit any size flue.

COUNTRY RESIDENTS, by sending the measure of the chimney flue, can have them sent to any part of the State.

Refers by permission to Supt. New Almaden Mine, W. T. Garratt; Wm. McKibbin, Thos. Boyce, Jas. Dows, J. Bendmann, and HUNDREDS OF OTHERS.

☞ Send for Price List.

RECOMMENDED BY ARCHITECTS GENERALLY.

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17v27-eowbp-3m

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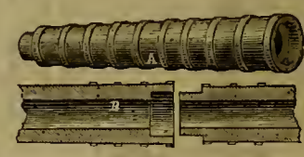

Wooden Pipe of all Sizes.

From one to twelve-inch bore, suitable for water or gas, that will stand as much pressure and last as long as iron, for half the cost.

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FRESH BUTTER,

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HENRY PHILIPS, General Manager.
JOHN G. BAKER, Secretary.
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Screen Punching of all kinds and qualities for

QUARTZ AND FLOUR MILLS,

AT EASTERN RATES.

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Mill Owners using battery Screens extensively can contract for large supplies at favorable rates.

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PHELPS BROTHERS, Proprietors

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SAN FRANCISCO METAL MARKET.

WEDNESDAY M., Dec. 3, 1873.

There are no important changes to note in the Metal market. Business is fair, as building and machine construction absorb large quantities steadily. A large user complains that Iron of the finer descriptions, and more especially Steel, is not shipped hither in larger amounts. He states that from this cause our constructors are obliged to make machinery much more bulky than would be necessary with better material. So, then, our shops are not to blame in this respect. It is a point most easily noticed by a superficial critic. Quicksilver is steady at $1.10.

Scotch Pig Iron, ₱ ton	$52 50	@	—
White Pig, ₱ ton	52 50	@	—
Refined Bar, bad assortment, ₱ lb	—	@	3¾
Refined Bar, good assortment, ₱ lb	—	@	4
Boiler, No. 1 to 4	—	05½@	06
Plate, No. 5 to 9	—	06½@	07
Sheet, No. 10 to 13	—	07½@	—
Sheet, No. 14 to 20	—	8	@ 7
Sheet, No. 24 to 27	—	08	@ 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	—	9½@	—
Norway Iron	—	@	—
Rolled Iron	—	6	@ —
Rebel Irons for Blacksmiths, Miners, etc.	—	5	@ —
COPPER.—			
Braziers	—	35	@ 38
Copper Tin'd	—	50	@ —
O. Nail's Pat.	—	55	@ —
Sheathing, ₱ lb	—	—	@ 25
Sheathing, Yellow	—	—	@ 25
Sheathing, Old Yellow	—	—	@ 12
Composition Nails	—	—	@ 25
Composition Bolts	—	—	@ —
TIN PLATES.—			
Plates, Charcoal, IX ₱ box	14 00	@	14 50
Plates, I C Charcoal	12 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ₱ lb	—	40	@ — 42½
STEEL.—English Cast, ₱ lb	—	18	@ — 22
Drill	—	18	@ — 22
Flat Bar	—	18	@ — 22
Plough Points	—	16	@ — 17

LEATHER MARKET.

[Reported for the PRESS by Dolliver & Bro.]

WEDNESDAY, M., Dec. 3, 1873.

The Leather market is quiet. In the Atlantic States business in this line has been very dull, and is much depressed at present. The local market is not injuriously affected. Sheep Linings and French Kips are called for. Very little or no Wax Leather is to be had. Cornellian Females hold the advance lately noted and are strong at quotations given.

City Tanned Leather, ₱ lb			26@29
Santa Cruz Leather, ₱ lb			26@29
Country Leather, ₱ lb			25@28
Stockton Leather, ₱ lb			26@29
Jodot, 8 Kil., per doz	$50	@	54 00
Jodot, 11 to 13 Kil., per doz	80	@	85
Jodot, second choice, 11 to 16 Kil. ₱ doz	55	@	70 00
Cornellian, 12 to 18 Ko	57	@	67 00
Cornellian Females, 12 to 13	60	@	64 00
Cornellian Females, 14 to 16 Kil	66	@	74 00
Beaumerville, 15 Kil	60	@	— —
Simon, 18 Kil. ₱ doz	61	@	63 00
Simon, 20 Kil. ₱ doz	65	@	67 00
Simon, 24 Kil. ₱ doz	72	@	74 00
Robert Calf, 7 and 9 Kil	35	@	40 00
French Kips, ₱ lb	1	@	1 35
California Kip, ₱ doz	40	@	50 00
French Sheep, all colors, ₱ doz	8	@	15 00
Eastern Calf for Backs, ₱ lb	1	@	1 25
Sheep Roans for Topping, all colors, ₱ doz	9	@	13 00
Sheep Roans for Linings, ₱ doz	5	@	10 50
California Russett Sheep Linings	1	@	4 50
Best Jodot Calf Boot Legs, ₱ pair	5	@	5 25
Good French Calf Boot Legs, ₱ pair	4	@	4 75

GENERAL MERCHANDISE.

BAGS.			
Eng, stand. Wh't	12	@	13
Detrick's Mach e Sewed, 22 x 36	—	@	
Gilroy R	12	@	13½
do, 2x36, do W	12½	@	14
do. 22x40, do	14½	@	15
do, 23x40	—	@	15
do, 24x40	15	@	16
Flour Sacks ½s	13	@	16
" " ¼s	8½	@	9½
Stand. Gunnies	20	@	22
" Wool Sacks	—	@	60
" Barley do	—	@	14½
Hessian 45-in. gde	—	@	11½
do 60	—	@	17
Burlaps, yard	—	@	10¾
CANNED GOODS.			
Asst'd Pie Fruits in 2½ lb caus.	3 25	@	—
do Table do	—	@	2 75
Jams & Jellies	4 00	@	4 50
Pickles ½ gl	—	@	3 50
Sardines, qr box	2	42½@	2 45
do hf boxes	3 70	@	3 85
COAL.—Jobbing.			
Australian, ₱ ton	9 50	@	9 75
Coos Bay	—	@	10—
Bellingham Bay	—	@	8 50
Seattle	—	@	11—
Cumberl'd, cks	—	@	—
do bulk	22 50	@	25 00
Mt. Diablo	6 25	@	8 25
Lehigh	14	@	16—
Liverpool	11 00	@	12—
West Hartley	12 00	@	14—
Scotch	9 00	@	9 50
Scranton	10 00	@	—
Vancouver's Isl.	12 00	@	14—
Charcoal, ₱ bk	75	@	—
COFFEE.			
Sandwich Island	19½	@	—
Costa Rica per lb	22	@	—
Guatemala	21	@	22
Java	20	@	30
Manilla	19	@	20
Ground in os	25	@	27
Chicory	10	@	—
FISH.			
Pac. Dry Cod, new	6	@	7
cases	8	@	8½
Eastern Cod	8	@	9
Salmon in bbls	8 00	@	9 00
do ½ bbls	4 00	@	5 50
do 2½ lb cans	—	@	—
do 2lb oans	2 80	@	3 00
do 1lb cane	2 25	@	—
Do Cod, lg. ½s	—	@	—
Pick. Cod, bbls	22 00	@	—
do ½ bbls	11 00	@	—
Bos. Sm'k'd Her'g	40	@	50
Mack'l, No. 1, ½ bbls	11	@	12—
" Extra	—	@	12 50
" in kits	2 75	@	3 00
" Ex mess	3 50	@	4 00
" Ex mess, ½s	—	@	13 00
Sm'k Her'g, bx	40	@	50
NAILS.			
Assorted size, lb	5	@	7
NAVAL STORES.			
Tar & Pitch, ₱ lb	7	@	8
Oakum pr bale 50lb	4	@	4 50
Rosin	6 00	@	6 50
Anchors	8	@	8½
Chains	7	@	7½
OILS.			
Pacific Olue Co. Neat F't No. 1	—	@	1 00
Pure	1 25	@	—
Castor Oil, No. 1	40	@	45
do do No. 2	1 25	@	1 35
Cocoanut	55	@	60
Olive Plagniol	5 00	@	—
do Possel	4 75	@	—
Palm	9	@	—
do Eagiclaupi	—	@	—
Linseed, raw	1 00	@	1 05
do boiled	1 05	@	1 10
China nut in os	—	@	60
do bulk	70	@	72
Sperm, crude	—	@	40
do bleached	—	@	20
Coast Whales	40	@	45
Polar, refined	65	@	70
Lard	85	@	95
Coal, refined Pet	37½	@	40
Cleophine	—	@	33
Devoe's Brill't	43	@	45
Long Island	—	@	34
Eureka	37½	@	40
Devoe's Petro'm	37	@	39
Sarrel kerosene	30	@	—
Downer Kerose'e	50	@	52½
Gas Light Oil	—	@	34
PAINTS.			
Atlan. W. Lead	9	@	11
Whiting	1¼	@	1¾
Putty	4	@	4½
Vandike	—	@	1½
Paris White	2½	@	—
Ochre	2½	@	3
Venetian Red	3	@	3½
Red Lead	10	@	11
Litharge	10	@	11
Eng. Vermillion	—	@	1 35
RICE.			
China No. 1, ₱ lb	5½	@	6¾
do 2, do	5	@	5½
Japan	6	@	7½
Siam Cleancd	7	@	—
Patna	7	@	—
Hawaiian	6½	@	7½
Carolina	10	@	10½
SALT.			
Cal. Bay, per ton	12 00	@	15—
do Common	5 00	@	6 00
Mexican	14 00	@	15 00
Carmen Island	14 00	@	30—
Liverpool fine	21 00	@	22 00
do coarse	18 00	@	19 00
SOAP.			
Castile ₱ lb	10½	@	11
Local brands	5	@	9
SPICES.			
Allspice, per lb	15	@	16
Cloves	37½	@	40
Cassia	—	@	24
Nutmeg	1 07	@	1 10
Whole Pepper	25	@	26
Pimento	—	@	15
Gr'nd Allspice	—	@	1 00
do Cassia do	—	@	1 50
do Cloves do	—	@	1 25
do Mustard do	—	@	1 50
do Ginger do	—	@	1 00
do Pepper do	—	@	1 25
do Mace do	1 20	@	1 30
SUGAR, ETC.			
Cal. Cube per lb	11½	@	—
Circle A crushed	11½	@	—
Powdered	—	@	11¾
Granulated	—	@	11
Dry granulated	11¾	@	—
Extra do	—	@	—
Hawaiian	8	@	10
California Beet	1 0	@	11
Golden C	10	@	—
do R. & Y. grade	7	@	—
Cal. Syrup in bls	—	@	7½
do in ½ bls	—	@	50
do in kegs	—	@	55
do Hawaiian	20	@	22½
TEA.			
Colong, Canton, lb	19	@	25
do Amoy	23	@	50
do Formosa	40	@	80
Imperial, Canton	25	@	40
do Pingsuey	45	@	80
do Moyune	60	@	1 00
Gunpo'dor, Cant	30	@	42½
do Pingsuey	50	@	90
do Moyune	65	@	1 25
Y'ng Hy., Canton	28	@	40
do Pingeuey	40	@	70
do Moynne	65	@	85
Japan, ½ chests, bulk	30	@	75
Japan, lacquered bxs, 4½ and 5 lbs	45	@	67
Japan do, 3 lb bxs	45	@	90
do pl'n bx, 4½ lb	35	@	65
do ½ lb paper	30	@	55
TOBACCO—Jobbing.			
Bright Navys	50	@	60
Dark do	45	@	50
Dwarf Twist	57	@	62½
12 inch do	57	@	62½
Light Pressed	65	@	75
Hard do	60	@	70
Conn. Wrap'r	40	@	50
Penn. Wrapper	35	@	45
Ohio do	30	@	40
Virgi'a Smok'g	60	@	95
Fine ct. ohe'g, gr	8 50	@	9 25
Fine cut chewing, huc'ts. ₱ lb	75	@	90
Banner fine cut	8 75	@	9 25
Eureka Oala	8 00	@	8 50
TURPENTINE.			
Eastern	67½	@	70

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., December 2d, 1873.

FOR WEEK ENDING Nov. 18TH, 1873.*

INGOT MOULD.—Johu Feix, S. F., Cal.

TAP, PLUG AND FAUCET.—John F. Kane, assignor of one-half interest to Samuel Guthrie, S. F., Cal.

BLACKBOABD RUBBER.—Pemberton B. Horton, S. F., Cal.

ORE-STAMP FEEDER.—James Tullock, Jamestown, Cal.

PAVEMENT.—W. H. De Valin, Sacramento, Cal.

TREATING BRICK FOR PAVEMENTS.—W. H. De Valin, San Rafael, Cal.

REISSUE.

WINDMILL.—Attwood & Bodwell, S. F., Cal.

———

*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

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Examinations made of Assignments Recorded in Washington.
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Interferences Prosecuted.
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GIANT POWDER.

Patented May 26d, 1868.

THE ONLY SAFE BLASTING POWDER IN USE.

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HENRY C. HYDE,
W. A. SCOTT, Jr.,
Assignees of the Mendha Silver Mining Co., Bankrupt.
Dated San Francisco, Nov. 14, 1873.

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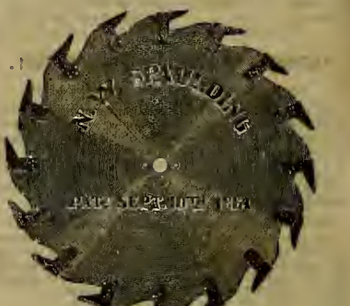

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EUREKA, Nevada, July 10, 1872.

T. M. MARTIN—My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Frelhurg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear ont. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial npon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. C. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utan.
Superintendent's Office, Sept. 23, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in epicndid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 904.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

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SAN FRANCISCO, SATURDAY, DECEMBER 13, 1873.

VOLUME XXVII. Number 24.

The Cuyamaca Grant Decision.

The Commissioner of the General Land Office last week rendered a decision in the Cuyamaca grant case, rejecting Pascoe's survey of the ranch, which is in San Diego county. The Commissioner has issued orders to the Surveyor General to run the north line along the northern Cuyamaca peak, which will exclude Julian City and the mines from the new official Survey. The decision was a most righteous one and may be accepted as a final settlement of the suit in favor of the settlers. On receipt of the news the miners of Julian held a grand celebration, torchlight procession, and general rejoicing. The ranch was owned by John Treat, Jnan M. Luco and Isaac Hartman. During the celebration the miners tried, convicted, hanged, and burnt the first named in effigy, which showed their feelings in the matter.

This "grant case" is but a type of many preceding it. The owners tried to "float" their grant over the mines, so as to include them in the survey, and thus become possessors of property discovered and developed by others. Previous to the discovery of the mines, in 1870, no official survey of the ranch had been made, but the owners had claimed all the timber and pasture-land available, and were running a saw-mill and grazing their cattle there. After the mines were found, they became anxious to run their lines so as to include them. A survey was made by one Pascoe, which just suited the owners of the grant, as the mines were taken in. Pascoe would have fared badly at the time, if the attorney for the miners had not advised peaceful measures, being sure of winning the cause in the end. The survey was contested by the miners, in Washington, with the result as stated above.

Ever since this suit was instituted the owners of the grant, all rich men, have been doing their level best to discourage and annoy the miners. They instituted suit to restrain waste of timber and to prevent waste upon the land. The best joke in this connection is that the town was built up of lumber bought from the owners of the grant, as they owned the saw-mill. The complaint in the suit avers that "without color or right, the miners laid out a town known as Julian City, containing some 600 inhabitants, that was built principally of lumber taken from the ground owned by the owners of the grant." A new mill was put up a year or so ago which did cut lumber, but most of the town was built before this mill was erected.

The decision of the Commissioner, however, "knocks" that suit, and the "grant men" will have to "haul in their horns." The thing was a swindle from the beginning — a mere land-grabbing scheme. The ranch was bought on a speculation, and the owners thought that they could do as the owners of the San Felipe ranch, adjoining, had done; that is, extend their boundaries, take in all the good land, and thereby practically control four times as much land as the grant called for. The thing is so common in this State that Messrs. Treat & Luco *et al.* are doubtless surprised at being beaten; but of course, if proper measures had not been taken by the miners, the case would not have received the attention it has, and the decision would, perhaps, have been different.

We rejoice to know that in this instance, at least, the miners have their just rights and the land grabbers have had a "set back. Both Julian and Banner districts are making a good showing and some of the mines there are valuable. A permanent population of miners and small farmers have located in the vicinity and these ranch men wanted the place as a cattle range. Having the most money they felt sure of their game, but, for once, made a failure of it. The country adjacent to the mines is, without doubt, the best in San Diego county, as they have plenty of rain and plenty of timber and grass. During the past three years this grant question has been hanging over the miners, and they have been unable on that account to get capital to aid them develop their property, as the title was imperfect. This decision will give them a chance to work in earnest and enable them to solicit assistance from capital with some show of getting it.

SAN JUAN.—The Colorado papers state that the rush for San Juan has fairly started. Hundreds are on their way and hundreds about to go. It will have one good effect at least, as it will cause easier times in the old camps with high wages and plenty to do. We think the prospectors in the San Juan country this winter will have their hands full to keep warm without doing much work. It is said that the snow there on the 1st inst. was from 6 to 15 feet deep, and the miners there were pulling up stakes in disgust.

ST. PATRICK MINE.—The various claims of this company yielded during the fiscal year 3,149 tons or ore and $64,484 gross in bullion. The improvements cost $23,955, and the total expenses were $82,809. The Crater claim is the only one supposed to be valuable, all the others having proved worthless as far as examined.

THE Marysville woolen mills are now running night and day, and afford a good local market for wool.

Sprague's Combined Sash Lock, Sash Holder and Weather Strip.

The storms of the past few weeks have no doubt forcibly reminded numbers of people that their doors and windows needed fixing. All the chinks and cracks have been discovered by this time and the invention which we illustrate in our engraving may, therefore, perhaps prove a welcome device to many, particularly as it is especially adapted to windows which are minus cords, pulleys, or proper locks, a state of affairs frequently the case in country houses.

The arrangement consists of a strip, *A*, resting alongside the sash, *B*, Fig. 2, on springs, *C*, placed to receive it, and secured by screws, *D*, with their heads against shouldered sockets, so that the movement of the piece, as regards sash and frame, may be regulated. The strip, *A*, is covered on its face with leather, so that it forms a tight weather strip, and by its elastic movement permits the sash to be held up at any desired point.

SPRAGUE'S COMBINATION SASH LOCK.

A section of this batten, *E*, forms the locking bolt, and is constantly pushed outward by a spiral spring, *F*. When opposite the recess in the window frame, as shown in Fig. 1, the action of the spring forces the pivoted section therein, thus firmly locking down the sash. When it is desired to raise the latter, it is only necessary to pull down the hook lever, *G*, which contracts the spring and withdraws the locking piece. The section, *E*, is faced and forms a continuation of the weather strip; and by jointing it to the lower end of the piece, A, the device is rendered suitable for the upper sash. This device is the invention of E. J. Sprague, of the firm of Sprague & Miller, Youngstown, Mahoning county, Ohio, who may be addressed for further information.

The Largest Gold Bar.

The *Scientific American*, of the 6th, has the following item: "The largest bar of gold ever produced, was lately made up for exhibition at Helena, Montana. The value was $50,000; weight, about 172 pounds; fineness, 900."

Our cotemporary is mistaken. The largest gold bar ever made was that produced by the Spring Valley Canal and Mining Company, of Cherokee Flat, Butte county, California, in October of this year. This bar was valued at $71,273.15 at the mint. It weighed, before melting, 3,580 ounces. The dimensions were as follows: 14 inches long on top, 13⅛ inches on bottom, 5 inches deep, 5¼ inches wide on top and 5¼ wide on bottom. One ounce and eleven-hundredths were lost in melting. This bar was the result of a partial clean-up, after thirty-five days' actual run with 1,000 inches of water. We say partial clean-up, as the gold in the bar was obtained from 800 feet of head flume and fourteen under-currents; while the company has *two and a-half* miles of flume and twenty-eight under-currents.

This same company sent down a bar of $60,000 last month, and, it is expected, will ship one worth over $70,000 this month. They are paying $40,000 a month dividends on a capital of $4,000,000. They have plenty of water, and can wash out of Sugar Loaf and Taule mountains from $75,000 to $100,000 per month.

The big bar referred to by the *Scientific American*, was made up by the agents of Seligman & Co., at Helena, Montana, for the special purpose of exhibition—it consisting of purchases of gold from various claims. Several $40,000-bars were received here before Seligman's $50,000-one was made up. The Spring Valley company washed their gold out of their own claim, and think it will not be long before they eclipse their former efforts in this line, as they have lately purchased additional water rights, which will add to their facilities for work.

VENEER KEY.—Geo. W. Swan, San Francisco Cal. This invention relates to a key made of thin shavings or veneers of wood, wrapped around a cylindrical form and provided with heads at each end. A strip of canvas is wrapped around the exterior of the key and secured by any suitable adhesive substance. It makes a cheap key, and when lined with a loricator, (which is also the invention of Mr. Swan), it can be used to hold liquids and other substances which are usually contained in keys.

The above item appeared in our issue of Nov. 29th, under the head of "Notices of Recent Patents," and sounds like a conundrum. As we fear some of our readers may lose their reason in endeavoring to unlock the mysterious meaning of the item, we rise to explain. By inserting the word *keg* in every instance where the word *key* occurs, the key to the puzzle is obtained. We are of the opinion that our patrons are all sober-minded men, not accustomed to stay out "late o' nights" at the club, otherwise Mr. Swan would be overwhelmed with orders for a "cheap key" which "can be used to hold liquids." Our proof reader must have been in a hurry to eat his Thanksgiving turkey the day he read that item; at least that is the explanation he makes to us. He is sure he had not been to dinner when he read it.

IT IS proposed to urge a bill in Congress for the establishment of some Government price per acre for both agricultural and mineral lands, in order to avoid unnecessary contests as to the mineral or non-mineral character of lands.

Grass Valley Mines.

In addition to the mining news in our "Mining Summary" we condenee the following from the Grass Valley *Union* of Dec. 3d, concerning the mines of that locelity:

The month of November wes a profiteble to the miners of Grass Velley district. The dry weather kept only a few mines idle while it wes just the thing for prospectors. Accordiugly there was much work, in a prospecting way, done during the month and in most instences the work proved profiteble. The prospecting husinese is retarded in this district by the fact thet a large number of the ledges here are loceted and are held hy owners who are weiting for something to turn up. No men wants to work and find gold on another man's ledge. After the firet of next June these locations will heve to be worked or they will be liable to a relocetion. There are meny claims in this dietrict which ought to he worked or jumped, and they must he after the date we heve nemed.

Eureka.

The Enreka kept 15 stamps running during the month, and with them in four weeks, or 24 days, took out about $25,000. There are no changes in the lower portione of the mine.

Empire Mill.

The rnn of the Empire for the month of Novemher gave about $14,000, which is not as large as the yield for the month previous. Still the $14,000 yield gave a good profit. The underground appearances have improved considerahly of late, and the current month will see an increase of gold over the last.

New York Hill.

Since onr last report work has gone on steadily. The main tunnel has heen run about 150 feet and there are indications of approaching the ledge. The ore taken from the old tunnel is being hauled to the mill for crushing, and will prohably be all in this week if the weather continuee favorahle. Work is being pushed in the upper tunnel and a large amount of first-clase ore ie being taken out. Free gold appears plenty in the rock which is also rich iu sulphurets. The proprietors are managing very carefully, heing determined to make the mine pay its way. The ore costs $2 per load to take it out and the hauling and crushing $4. Even low grade ore will yield a profit at that rate. The fact of no machinery being needed for working the mine leseens the expense of working very materially.

Harvey

Is the name of a newly discovered ledge, situated on Clark's ranch, near the North Star mine. It is reported that the croppings of the ledge exceed in richness anything yet discovered in thie dietrict. The ledge is also eaid to he a very large one. Specimens from the mine, some of which we have seen, are very rich.

Ben. Franklin

Is again being worked. Great profits were made years ago ont of this mine, and there is no reason to suppose that the pay ore ie exhaueted. A tunnel ie heing run in on the ledge, and ie now in a distance of 175 feet.

North Star.

This mine continues work in the new ehaft. It yielded about $14,000 last month, all from the new works. The old mine shows no improvement.

Slate Ledge

Is opening the 5th level. This mine is hetter known as Perrin's. The ledge on which the poete set, more than pay for the opening of the level. To ehow the quality of the rock we mention that a quantity of rock which cost $900 to mine and mill, paid about $5,000 in gold. Affairs at Perrin's are flonrishing.

Greenhorn.

The depth of the shaft ie 496 feet. On the 460 foot level drifte have been run north and south. The ledge in the drifts is 2½ or 3 feet thick. The rock is now being cruehed to test its value. The Greenhorn company is a plucky one and does not ohject to prosecuting work underground.

Pittsburg Mine

Is located near Deadman's Flat, some four or five milee eouthwest of Grass Valley. It is about a half mile north of the Seven Thirty mine. The shaft ie down 63 feet, and the last 25 or 30 feet of the shaft is through very fine ore. This mine has sent to the mill and crushed 49 tons of ore, and that yielded about $50 per ton or $2,450. The mine is owned by Robert McCook, David McCook and County Treasurer elect, E. P. Sanford. None of the owners have had to pay a cent for working the mine, and have divided hetween $200 to $300 of profits hetween them. The ledge ie between two and a half and three feet in thickness. The Pittsburg ought to he incorporated.

Kentucky.

The five-stamp mill started on Monday laet to crush the rich ore of the Kentucky mine. The lowest depth of the mine is 235 feet, and drifte have been run eaet and weet a dietance of shout 50 feet each. No stoping hae yet been done. About 300 tone of ore are on the dump pile waiting to he crushed. This wae taken out of the shafts and drifts. A large clean-up ie promised from the Kentucky, and aesessments are not likely to he heard of again in that mine.

Brown Brothers,

On Squirrel creek, have opened np their ditchee and have built a large, new reservoir. They have pipes all in place, and are waiting for water to come, when they will put their hydraulics to work. The Brown Brothers' claims have always paid well.

Idle.

Massachnsetts Hill, Rocky Bar, Scedden's Flat, Stockbridge end other mines in the Massechusette Hill neighborhood, which teken together are estimated to be one of the best mining propertiee on the coaet, are etill as "idle ee a painted ship npon a peinted ocean." In this category are aleo the Wieconsin, Harterey, Allieon Rench, Cambridge, Howard Hill, East Eureka and other mines.

Baltic Company,

On Randolph hill, heve lately acquired hy purchase, a large body of mining gronnd. The mine ie gravel and will have to be worked by drifting. Work will, we understend, soon be resumed on the Baltic's claims.

Independent.

Grevel mine will have its tnnnel completed by Christmas, when the gravel will be drifted out and put through the mill. The Independent has a large body of rich gravel.

Town Talk.

This little gravel mine continues to yield to its two owners ahout a thousand dollars a month in profits. It will soon start to work with water-power, and give its steam engine, which it runs in the dry season, a rest.

Dartmouth.

Capt. Miller, the energetic Superintendent of the Dartmouth, has everything at the mine in fine shape for working. He has an 8-inch cylinder steam engine in place for hoisting and pumping purposes. When water comes so that the gravel can be crnshed and washed, he will commence hoisting to the surface. The Dartmouth has on hand a splendid supply of wood for steam, and timhere for the underground work.

Nevada City

Ie doing some good work in the way of mining, thongh the minere there are not in the habit of going deep enough into the bowels of the earth. The *Transcript* gives following two items:

We understand that not long since G. W. Baldwin leased a quartz ledge of Hemilton McCormick. The ledge is eituated out on Gold Flat. Mr. Baldwin has heen at work on the ledge for some time, and has now a ledge ahout eighteeu inches in thickness, and running through for eome distance can be eeen a streak of gold, and the specimens we saw were magnificent. Mr. Baldwin hae got a large lot of quartz which he is now having crushed at Murchie's mill.

Mr. Berry, euperintendent of the Nevada quartz mine, informs ue that sufficient water had fallen to etart up his mill. On Saturday forenoon there was sufficient to run ten etamps, and late in the evening he was enahled to etart up twenty stampe. The mill will now be kept running constantly, and the old Nevada is bound to give a good account to ite owners. The new ten-etamp battery of the Gold Tunnel mine wae also started up yeeterday morning.

At Rough and Ready

There is soon to he active gravel mining. The Picayune is ahout to he started to work drifting into Randolph hill. The Eherlin Brothers are getting good prospecte from their mine on the lower part of Randolph hill. Most of the claims there are ready and waiting for water.

The Franklin Mill.—The Gold Hill *News* says: Thie ever active and well ordered ore-reducing institution on Carson river, a couple of miles above Dayton, under the superintendence of our worthy friend John W. L. Hunt, Esq., is keeping up to the mark in the way of doing good work, although only running to one-half its capacity at the preeent time, owing to the low stage of the water in the river. Tbe mill is very eligihly and pleasantly located, has twenty stamps, eight Wheeler pans, four eettlere and ie eesentially a water mill, all the machinery with a proper eupply of water heing propelled by a particularly effective Leffel turbine wheel. The mill is running on ore from the Belcher mine, reducing at the rate of thirty tons per day. Ite full capacity is sixty. A hig Archimedean screw elevator raisee the tailings to a proper hight, allowing them to he conducted by a flume to the capacious reservoirs on the flat hy the river side, half a mile or so ahove the mill, and the dam, and all other arrangemente pertaining to the coucern, are of the moet approved and snbstantial description. Mr. Hunt is one of the hest experienced mill euperintendents in this section; therefore, he never lacks for a good position in that line.

International Mill.—The White Pine *News* says: This new structure having heen fully completed and placed in perfect order, wae dedicated on Wednesday laet by starting the engine and machinery. Parties preeent were earnest in their praises of the working of every portion of the mill and accord great praiee to all concerned in its erection. We have been unable to visit Eherhardt in person the last week, and connot give as full a description of the starting ae we would wish. However, it is becoming to say that mainly through the great exertions of Manager Frank Drake and the competent ascietante are we indebted for another eource of revenue to our proeperity. It is a matter of congratulation that we have at least one mill to be run during the coming winter, and we are aesured that no stoppage will occur from want of energy on the part of the managers.

San Jose Mining Company.

Dnriug the week pest we had the pleasnre of meeting Judge Bartholomew O'Oonnor and O. G. Leach, from Egen Ceñon, who visited Hamilton on bnsiness. From them we learn that the affaire of the San Joee company are progreseing satisfectorily under the immediate eupervision of Gen. W. S. Rosencranz, the president, and that in a few days active mining operetions will he commenced. The property of the compeny consists of several mines and two mille—one of twenty stempe and another of five. The main shaft on the minee hae heen sunk on an incline to the depth of 640 feet, but hes heen lying idle and unworked for eome time on account of the large amonnt of weter flowing. Mr. Leech, who is the superintendent, informs us that with the new Knowles' steam-pump now in poeition, the water, which hee eccumulated to the depth of 65 feet, cen he thrown out in a few days and operations commenced on the ore.

At the extreme depth atteined, levels heve heen run end the vein cut, showing itself of good eize and of exceeding richness. It is proposed to run the 5-stamp mill on the oree raised, and good reeults may he anticipated from the same. The 20-stamp mill belouging to the company has heen leased for a term of months to John R. Murphy and George W. Bibbins, and will at once commence running on ores from the Tea-cnp and Geneva mines, at Cherry Creek, four miles distant. The latter gentlemen, we are informed, have honded the mines mentioned for $65,000, from the locators, and, it is aeserted, have an excellent prospect of working snfficient ore from them during the comtinuance of the hond to pay the purchase money and have the mines left. In conjunction with the bonded property it ie proposed to work euch custom rock as they can, for the benefit of miners in the district. All parties who have visited the new camp coincide in the opinion that the snrface croppings for a number of miles exceed anything ever hefore discovered, and work, thue far, has demonetrated the important fact that as depth is attained the reeulte are flettering in the extreme. When the mills are once fairly etarted, Egan Cañon will ehow a degree of life and activity unequaled during the last four or five yeare. We congratulate the San Jose company on their pereistent efforte, aud sincerely truet the new impetus given their property by the adjacent intereete at Cherry Creek, may accrue to their financial advantage, hoth now and hereafter.—*White Pine News.*

The *Record* in its weekly review speaks of the Raymond & Ely mine as follows: Now working about 200 men on top and below grouud, and extracting the usual amount of ore, abont 65 tons daily. Seventy-five men are doing dead work. The main ehaft is now down 1,004 feet, and the 1,000-foot level is now being put in. The ore in the ninth level ie ahout two feet wide and of good quality. In the eighth level notbing is beiug done except dead work. In the eeventh level a great deal of ore is heing extracted, and the ledge is 20 feet wide in eome placee. Winzee are being sunk on the seventh level, aud a drift ie heing run towards the Pioche-Phenix line. The office and residence of the Superintendeut are undergcing many improvements which we will take occeson to notice more fnlly at no distant day. Yesterday the workmen in the main drift of the seventh level, while putting in a sill in the drift, struck a hard substance, and put in a blast. To their surprise they hroke off a very fine epecimen about two feet long, ten inches wide and four inches deep, which will assay not lees than $300 per ton. There is in that part of the mine an immense body of the same kind of ore. Two new boilere, 52 inchee in diameter and 16 feet long, will soon be in place—most likely during this week. The fire front as well as the boilers, was mannfactured at Marysville, Cal. There are also two reele, gotten up by George Ames, whioh are very useful in caee it should become necessary to remove the cahle from the hoisting works. Each reel is capable of receiving 2,000 feet of cahle. Everything about this mine is of tbe hest quality, and no neceseary expense has heen spared in the procurement of the hest machinery and in the employment of the hest talent in the development of its vast proportions.

Find Claims.—Now that there is a certainty of an abundance of water from the Amador canal for all purposes, we would direct attention to the numerous gravel hills along the line of the canal, extending from Slahtown on the eaet, to Ione valley on the west. But very little proepecting has been done along this range of hills, but wherever tunnels have heen run into them, good pay hae been the result. Properly worked by hydraulic process, these hills will be found to yield well, and now is the time for our miners to prospect and make locations along thie line of hills, as, by the time work necessary to the erection of hydraulics shall be done, the water from the canal will he ready for use. Extensive claims can be had, and by the improved procees of gravel mining apparently poor ground will yield rich returns. South of town, lies a large area of valuahle placer ground, unworked for want of water, but to which water can be conveyed. Thie section should he prospected, and if found valuable, water from the canal will be conveyed to it. There are many rich localities in the vicinity of Jackson, that ought to be profitably worked as soon ae water can be had. Therefore, secure claime, and have them fully prepared by the time the canal ie completed.—*Amador Ledger.*

Mineral Lands in California.

The message of Governor Booth contains the following in reference to mineral and non-mineral lands: The Surveyor-General, in his report, reiterates the suggestion mede by his predecessors in office, that a finel adjudication hy the Court wonld determine that the United States made no reservation of mineral lands in granting to the State every sixteenth and thirty-sixth sections within her horders.

The question is an interesting one, and it is important that it ehould he decided.

Thet the General Government should make snch a marked departure from its recognized policy of reserving mineral lands, and ehonld concede eomething more than two million acres to California, in the richest minerel belt yet developed in the world, is not to he assumed too readily; hut if a thorough examination estahlishee the fact, the eooner a clear nnderstanding upon the subject hetween the Generel Land Office at Washington and our State authorities ie arrived at, the hetter it will be for the security of mining and land titles. Under onr statnte, many locatione of sixteenth and thirty-sixth eections have already heen made in mineral dietricts, which may in the end prove valid; and it will eerve to illustrate the importance of the queetion to mention the fact that in some instances locators have thns attempted to acquire complete title to valuahle mining claims held in adverse possession under general laws.

Legielation looking eepecially to the sale hy the State of the sectione in question, would, in my opinion, be premature and likely to canee mnch confusion and insecurity, and wonld meet at the outset the opposition of the Department of the Interior, which now assumee to have the final control of this claes of lands. The act of Congrese of July 9, 1870, providing for the sale and patenting of placer mining lands makee no reference in terms to school sections; and the Act of Congress, approved July 23, 1866, "to quiet land titles in California," the theory of which was to define the rights and properties of the State and the General Government respectively nnder the various grants, expressly reserves the mineral land to the United States and refuses to confirm snch sales thereof ae the State had made during the preceding 16 yeare. It is probable, therefore, that Registers of the United States Land Offices would he slow to recognize any title that may possihly vest in the State. Tbe question, too, of how to hest secure in the event of a deciaion in favor of the State, is a grave and complicated one, and ie one that naturally requires the assietance of the authoritiee at Washington in its determination.

But, whether or not the law is positive in its terms, and whether the grant was made with or without reservations twenty years ago, further unneceeeary delay cannot he of service to either the General Government, the State, or citizens interested in knowing the truth; and the subject is commended to your careful conaideration.

Caribou Mines.

A correspondent of the Colorado *Register* writes as follows from Carihou: The finest weather prevaile up here among the monntain tops. Contractors are buey completing their contracte, and miners in making preparatione for the winter. The Mining Company Niederland are pntting up machinery for hoisting ore, which for perfection of detail, strength and durability is equal to the hest in the country. They employ oue hundred and twenty-five men, and are raising twenty tone of mineral per day. The greateet depth attained ie 330 feet, and tbis on the discovery shaft.

Mr. James Dawley, contractor for driving the Caribou tunnel, is pnshing the work as rapidly as possible. The tunnel is now 500 feet long, and it ie expected to etrike the Caribon lode early next epring. The Sherman mine is being worked hy a party of eight men, who are about to erect a large huilding over the main shaft, and will prosecute the opening of the vein with great vigor thie winter. The ehaft ie 85 feet down. They are now running drifte eaet and west from the hottom. In the former a etreak of mineral about two feet thick is exposed for the distance of 25 feet, estimated to he worth from $300 to $600 per ton in silver. This mine ie always quoted among the most valuable in the district.

The No Name ie worked hy Donald, Leeher & Co. with excellent results, and with a emall number of men they are taking out a large quantity of valuable ore.

The vein of the Columhia is heing stripped about 400 feet in length, and a strong trne fissure vein, carrying a body of rich ore, has heen nncovered at the depth of ten feet. Eight or ten other minee are under development, among which are the Ten-Forty, I X L, Poor Woman, etc., etc. A number of huildings are also going np in this locality.

Mint Coinage.—The coinage of the Mint for the month of November amounte to $251,500—all in silver, apportioned thue: $31,000 in quarter dollars; $29,500 in dimes; $79,000 in half dollars; and $112,000 in Trade Dollers. No gold hae been coined during the month. The orders are to coin $100,000 in silver every month, for ehipment to the East, and all the Minte in the country will he kept running on silver to provide for the resumption of epecie payments.

MECHANICAL PROGRESS.

Gas-Burning Locomotive.

The greatly increased cost of coal in England has called scientific attention to the economizing of fuel, and as an outcome of all the discussion and agitation, we have the numerous inventions for making and using gas that we have already noticed in this column. The latest invention brought out is designed to combine both gas making and using in one engine and at the same time. The locomotive is of the ordinary clumsy and awkward type used in England, except that there is no fire-box and that the tubes are quite large. Inside each tube is a gas pipe, with numerous jets on its upper side, and from these the gas escapes and burns in the tubes. Air is supplied at the rear end, and the product of combustion escapes into the stack in front. The gas is made by forcing atmospheric air into naphtha, petroleum, or any other hydrocarbon, and collecting it in a reservoir or tank from which it may be pressed into the pipes precisely as pressure is given to ordinary street gas. The gas-machine, oil tanks, reservoir, etc., are placed on the tender, and the air pump that supplies the air is connected with the cylinder at the front of the engine. The engine thus makes its own gas while running, and supplies its own fuel till the hydrocarbons are exhausted in the tanks. To get up steam and start the engine, manual power must be given to the air pumps till enough gas has been made to fill the reservoir. Another way, would be to supply the reservoir with gas from a stationary reservoir beside the track till steam was up. We have no data concerning the speed or hauling power of Mr. Walker's engine. We doubt if the experiment has gone beyond the woodcut stage, but it is highly spoken of by the best English authorities, and very great things are expected of the invention. It can be also supplied to all other kinds of engines both marine and stationary, at a very great saving of expense and a great gain in storage capacity. Whatever the final results of this gas problem, Mr. Walker's patents will give the matter a great impetus in a new and unexpected direction.—*Boston Journal.*

Liquid Slate for Roofs.

Some years ago our attention was called to the enormous amount of slate-dust which accumulated at the slate quarries, and the desirability of inventing something to be mixed with the same so as to form a paste or paint which, after hardening or drying, would form an artificial stone. This desideratum has been accomplished. By its cheapness (only 80 cents per gallon) it is accessible to all, and is found the best possible covering for roofs, being a cheap substitute for the soldering and painting of old leaky tin roofs; and it will even transform a worn-out shingle roof, when put on thick, into a new fire-proof slate roof, as a coat of it is better than a new layer of shingles. Such roofs will not then take fire from falling sparks, which old dry shingle roofs are very apt to do. No wonder therefore that insurance companies regard this invention with much favor, and reckon on it when making up their insurance rates, and that the trade in this article is so enormously increasing. It has been applied to more than half a million houses, of which 65,000 are in New York, 18,000 in Buffalo, 12,000 in Rochester, 10,000 in Albany, etc.

It is estimated that in New York State alone half a million dwellings are covered with shingle roofs, and in the whole of the United States 14,000,000 roofs needing protection from fire. In using this compound a considerable deduction in the total insurance rates yearly paid would be the result, so that it would be doubly advantageous to all who own or use buildings. We take pleasure in recommending this preparation to our readers, and feel confident that it is worthy of trial.—*Manufacturer and Builder.*

POWER FOR SAWS.—In regard to the power required for different sized circular saws, one correspondent of the *Scientific American* expresses the opinion that "a saw just large enough to cut through a board will require less power than a larger saw, the number of teeth, speed and thickness being equal in each." This theory is opposed by another correspondent who says: "I am running three saws, one 48 inches with 48 teeth, one 52 inches with 42 teeth, and one 64 inches with 56 teeth, all 8 gauge in thickness; and I find the 64 inch saw will cut through a 12 or 14 inches cut with less power than either of the others. I differ with him concerning the saw with few teeth cutting the easiest, as my 52-inch saw with 42 teeth takes more power than either of the others; and I run the same hook in the teeth, and file them all exactly alike. My engine is small and timber large, so that I have every facility for finding out which cuts with least power."

A MAMMOTH BOILER.—The *Lumberman's Gazette*, of Bay City, Michigan, says: One of the largest boilers in the country has been recently put into Sage and Co.'s mill. Its dimensions are as follows: Length of outer shell, 20 feet; breadth, 11 feet; depth from top to bottom, 15 feet; inner shell, 18 feet in length, 9 feet in width, 11 feet in depth; the inner shell forming the fire box, which is supplied with heavy grates.

Glass Cloth.

In a late issue we gave some interesting details on the process of glass-spinning, as exhibited at Vienna. In continuation of this topic, the following notes on this industry, from *To-Day*, are timely:

The latest improvement in spinning glass are due to the Vienna manufacturer, Brunfaut, who exhibited his talent in this speciality in 1850, at Pesth. After manifold trials, he discovered a composition which may be made at any time into curled or frizzled yarn. The frizzled threads surpass in fineness not only the finest cotton, but even a single cocoon thread, and they appear at the same time almost as soft and elastic as silk lint. The woven glass flock wool has quite recently been used as a substitute for ordinary wool wrapping for patients suffering from gout, and its use for this purpose has been, it is stated, successful. Chemists and apothecaries have found it useful for filtering. The smooth threads are now woven in textile fabrics, which are made into cushions, carpets, table-cloths, shawls, neckties, cuffs, collars and other garments, etc. They may be used for weaving the figures in brocaded silk or velvet. As a material for fancy dresses, tapestry, for covering furniture, for laces, embroidery, hosiery, etc., the glass tissue will probably at some future time occupy a prominent place. Owing to its brilliancy and the splendor of its colors, it is the most beautiful material for dressing the hair, neck and head. In softness the glass yarn almost approaches silk, and to the touch it is like the finest wool or cotton. It possesses remarkable strength, and it remains unchanged in light and warmth, and is not altered by moisture or acids. Spots may readily be removed by washing. Being non-inflammable and incombustible, it is especially valuable for making dress materials for ladies. Clothes of glass fabrics are much warmer than those of cotton or wool; at the same time, they are of a low specific gravity.

WRITING MACHINES.—After all, we are inclined to think that the real solution of this problem of rapid and easy writing will be mechanical rather than alphabetic. It is the pen that is inadequate to the work that needs to be done. As an instrument the pen may be perfect of its kind, as the common sewing-needle is perfect. Neither pen nor needle is likely to be ever done away with; wholly; yet both fail alone to meet the increasing demands of our quick-moving civilization. The sewing-machine has come in to do the great bulk of our stitching. We must have a machine to do the same for our writing. The letters must be struck with a metal type instead of being traced by hand; and the writer's part must be confined wholly, or chiefly, to the touching of appropriate keys. With such a machine the distinctness of the writing will no longer be at the mercy of unsteady or undisciplined nerves and muscles; the characters may be as complex and significant as those of Bell's *Visible Speech*, or even the Chinese, without increasing in the least the labor of writing, and the "copy" will correspond exactly with print. The degree of success already attained by several inventors of writing-machines gives every assurance that the manual labor of literary workmen is certain to be greatly diminished. May we hope that the quality of their work will be correspondingly improved.—*Ex.*

DIAMOND SAW.—At the American Institute Fair a diamond saw is at work in the machinery department, in the form of a neatly built iron model, one-fifth the size of the more cumbrous wooden apparatus. The blade, it will be remembered, cuts through the stone by means of carbons or black diamonds which are securely set along its edge. There is an ingenious feed motion for moving the saw, and another device to lift the latter, consisting of an excentric on the crank pin communicating with a knuckle joint and levers, so that it is allowed to cut only in drawing. The small machine exhibited, we are told, penetrated brown stone at the rate of fourteen inches and marble at seven inches per hour. A novelty about this invention is its application to the cutting of window moldings. Bevels are made by suitably turning the stone, and rounded edges by gradually moving the latter under the saw. The work exhibited to us was very smoothly cut, and especially noticeable for its clean and sharp angles. The apparatus, the inventor thinks, does the labor, in moulding, of from twelve to fourteen stone-cutters.—*Scientific American.*

FIRE-PROOF JOISTS.—An efficient joist has been invented by Mr. J. Walker, London, for which are claimed many advantages. It is as strong as the ordinary joist, if not stronger, consisting of a slip of wood five inches wide by five-eighths of an inch thick, bolted between two flanged stripe of quarter-inch iron. An ordinary joist of eleven inches by three can be cut up into eight of Mr. Walker's pattern. The iron sides, besides affording strength, are claimed to render the joist practically fire-proof, while the center of wood affords the means of putting down floors in the accustomed manner, and gives the usual facilities for lathing, so that the architect has at his disposal precisely the same basis for ornamentation as if ordinary joists were used. The obstacle to the manufacture of these joists has hitherto been the difficulty of rolling the flanged iron sides, but this has been successfully overcome by Messrs. Thorneycroft, and thus an opportunity is afforded of testing the merits of Mr. Walker's invention by employing it in some structure.—*Iron.*

SCIENTIFIC PROGRESS.

Revolution in the Alkali Manufacture.

The present method of manufacturing alkali—known as Leblanc's process—consists in decomposing common salt with sulphuric acid, roasting the resulting sulphate of soda, technically known as salt-cake, with an admixture of ground coke and limestone, and subjecting the crude mass thus obtained to certain refining operations. It is now stated, on the authority of Rudolph Wagner, that an entirely new method has been elaborated, verified, and is about to be introduced on the large scale at once in England, Austria, and Germany. Common salt in solution is mixed with the bicarbonate of ammonia; the result is bicarbonate of soda—which crystallises out—and chloride of ammonium (sal-ammoniac), which remains in solution. The latter liquid is distilled along with limestone, the result being carbonate of ammonia, which is collected, and chloride of calcium, which remains in solution. Meantime the bicarbonate of soda, or such part of it as is not required to be sold as such, is furnaced and thus converted into dry carbonate of soda or soda-ash. In this operation it loses half its carbonic acid, which, being led into the bicarbonate of ammonia, is ready to use along with a fresh lot of salt. The only materials thus consumed will be common salt and chalk, or limestone, and the only refuse yielded will be chloride of calcium, which is not incapable of being utilized. The stock of bicarbonate of ammonia will circulate with a waste, which, in case of careful working, will be inconsiderable.

The soda-ash produced will be very strong and pure, free from alkaline sulphates, sulphites, sulphides, and hyposulphites, as well as from a variety of other foreign matters now rarely absent. Soda-crystals will be made, as at present, by dissolving soda-ash in water and allowing to crystalise at the proper degree of concentration and of temperature. Caustic soda, now prepared from certain residual liquors technically known as "red liquor," will have again to be made on the primitive method of treating solutions of carbonate of soda with slaked lime. The nuisance of hydrochloric, sulphuric, and arsenical fumes will cease. "Vat-waste" will no longer be formed and the ingenious processes for obtaining from it hyposulphite of soda and for recovering the sulphur it contains will come to an end.

There will be a heavy fall in the price of sulphur and sulphur-ores, such as iron-pyrites, some of the inferior varieties of which, poor in sulphur or rich in arsenic, may possibly become unsaleable. As to sulphuric acid, the supply will fall off perhaps more rapidly than the demand, and a rise in price is not unlikely. Hydrochloric or muriatic acid, now a waste product which the alkali-makers are bound by law to condense, and are glad to sell at a very low figure, will require to be made expressly when wanted, and will consequently rise in cost. With it must rise bleaching-lime and all substances whose manufacture requires the use or hydrochloric acid. In short, if the project proves a commercial success, chemical manufactures will undergo a change such as has never before been witnessed.—*Iron.*

Fusion of Platinum.

In a note on the fusion of platinum, a foreign journal of recent date says: The following arrangement of a furnace enables us to effect this fusion easily, and to produce a temperature which may be useful both in research and in practice. In a saltpeter refinery at Lille, there is a large chimney, 30 meters high and 1 1-5 meter in diameter. It serves for a vent to eight large steam boiler furnaces, fed with coal, and which maintain a constant and energetic draught. A small door, opening into the base of the chimney, and generally closed by a small brick wall, communicates with the interior. Before this door, at the foot of the chimney, a small wind furnace is constructed, of which the outside bulk does not exceed a cubic meter. The grate of movable iron bars, is a square of 0·30 meter. The capacity of the fire box is 45 liters, and the flue communicating with the interior of the chimney is one-fifth of a meter in width. The first experiments were made with coke as fuel. Parisian and Hessian crucibles were tried, as well as those of black lead and lime, and in each were placed, to try the heat, about 50 grammes of iron nails. The operation lasted scarcely an hour; the combustion was very active, the draught roared loudly, and the light of the fire was dazzling. In every case, crucible and metal were fused together, leaving on the bars a vitreous slag. Coke was replaced with gas coke, in the hope of obtaining a more moderate action. The phenomena were the same, but even more intense. The best result was obtained by cutting a piece of gas coke into the shape of a crucible, and placing it within a Hessian crucible. In this 50 grammes of platinum were placed, partly in the spongy state and partly in clippings. After the fire had been maintained for an hour, a button of platinum was obtained, perfectly fused, and weighing 50 grammes. The experiment of Ebelmen was repeated, who obtained crystalline alumina, by heating in a porcelain furnace a mixture of alumina and borax. After the borax was volatilized the interior of the crucible was covered with a layer of small hard crystals of alumina, translucent and very brilliant.

Purifying Iron.

M. Tessie du Mothay, the well-known French chemist, has invented an improved system of purifying iron, which he thus describes: I proposed to myself the application in the manufacture of pure iron and steel pig iron of all qualities, whether containing separately or in combination, sulphur, phosphorus, arsenic, or silicium. It is known that such pig iron cannot be converted into malleable steel fit for rolling into rails, sheet, tires, etc., either in the Bessemer or other similar apparatus, or in the gas reverberatory furnace. With the object in view I have created the method which forms my present invention, and of which the following are the distinctive characteristics: 1. An apparatus which I call an aerodynamic purifier, which allows to pass through the molten metal, by reason of difference of density, certain fusible chemical compounds which possess the property of taking up the metalloids, which render it impure so long as the action of the air or of oxygen continues in the decarburation of the cast iron, either completely so when it is being transformed with iron or steel, or partially so when the production of fine cast iron is the result. 2. A mode of preparation of cast iron to be treated in my apparatus, or any other of like kind, to ensure the refining shall be carried on without the metal ceasing to be liquid, until the whole of the carbon is completely eliminated. 3. The construction of a special base or scoria containing chemical agents, purifiers whose point of fusion is below that of the temperature of fusion of cast iron, and of less density, and having for its essential object the fusion of the lime contained in the fluoride of calcium, and in the oxides of iron and manganese, this base possessing the quality more than other of fixing, in presence of fluoride of calcium, sulphur, phosphorus and arseniates, so long as the action of the air or of oxygen continues. 4. The employment of spiegeleisen and ferro-manganese in successive additions to complete the action of the above base or scoria during the passage of the air through the iron which is being decarbureted. 5. The novel employment of the peculiar property of ferro-manganese allied with tungsten and titanium, to render soluble and malleable steel which still contains a definite amount of sulphur, phosphorus, or arsenic, when the metal iron from which they are made shall have been previously completed or almost completely decarbureted, either in the purifying apparatus or in a gas reverberatory furnace. 6. In fine, a process of producing steel indirectly from cast iron containing phosphorus, sulphur, arsenic or silicium, by converting it into fine metal in any suitable apparatus by aid of chemical purifying agents.

DEFECATION OF DRINKING WATER.—WORTH TESTING.—Professor Gustav Bischof, of Glasgow, has improved on his invention, and filters water through spongy iron and pounded limestone. The iron is placed in the upper movable chamber of an earthenware filter, and pounded limestone is arranged in a separate layer below. The iron is procured in a powdery, spongy state, by the reduction of an ore without fusion, after the extraction of sulphur and copper by heat. It removes all albuminoid and nitrogenised compounds, and also lead contaminations, from the water; and a trace of iron taken up by the water is separated by its subsequent passage through the limestone. One charge of the material, costing one shilling, secures efficient filtering for ten gallons of water per day during 200 days.

AN examination of the amount of gaseous constituents in samples of deep sea water obtained during the *Porcupine* expedition of 1869-70, showed that both surface and bottom water contain more carbonic acid and less oxygen in the more southern than in the more northern latitudes, the examinations thus made embracing samples taken from localities extending from the Faroe Islands to Lisbon. Contrary to the general supposition, however, there is found to be no greater quantity of dissolved gaseous constituents in the bottom than in the surface of the water, although it is admitted that the power exists of pressure at great depths to retain gases in solution if once evolved there.

BY the use of thin leaves of the steel in the construction of artificial magnets, a French scientist has so increased their power as to construct one weighing about four and a half pounds, which could carry a weight of ninety-nine pounds. The great advantage to be expected from this discovery is the reduction in the weight of the magneto-electric machines of all kinds, and especially those employed in the production of light.

ANILINE is one of the products of coal tar. This is the great source of the new colors of every shade, surpassing in number and beauty the hues of the rain-bow. Lately a blue color superior to the aniline has been obtained from anthracene, another of the coal tar products. It withstands the action of the light better than aniline blue, and the strongest acid only lightens its tone. Unfortunately, however, it is very expensive.

MR. JOHN AITKEN has observed, that after the same water has been melted and frozen a number of times, it generally burst the tube in which it was frozen. This he explains on the hypothesis that ice containing air is viscous and adapts itself to the form of the vessel; by repeated freezings the air is removed, and the pure ice, being less or but little viscous, will not so easily adapt itself to the enclosing walls.

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Dec. 10, 1873.

NAME OF COMPANY.	SHARES IN MINE.	SHARES IN FEET MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co						
Alpha Consolidated	1000	6000	40	35½	2	
Alta	3600					
American Flat		30000	6⅞	5½	1½	
Arizona & Utah	1900	18000	2	1¾		⅛
Bacon Mill & Mining Co.	65	24000	3	3		
Baltimore Consolidated		24000	7⅛	6⅝		½
Belcher	1040	104000	90	86		1½
Best & Belcher	224	22400	30	17	10½	
Bowere	20	5000				
Buckeye		16000	2	1⅞		¼
Bullion	2500	25000	21½	17	4	
Caledonia Silver M. Co	5000	20000	23	18½	2	
Central	150	10800	15	14⅜	1½	
Central No. Two	100	20000	12	10	2	
Chollar-Potosi	2000	20000	59	53½		1½
Commodore Silver M. Co	130	24960	8½	7½		½
Cons. Gold Hill Quartz	3145	20000				
Consolidated Virginia	1160	108000	70	57	10	
Cook & Geyer	1000	24000				
Crown Point G. & S. M. Co	600	100000	98	95		4
Daney	2000	24000				
Dardanelles	1200	24000				
Eclipse	70	25000	5	5		¼
Empire Mill & M. Co	75	30000	5	4½		
Exchequer	400	8000	24½	17	6	
Fairmount			3⅛	2¾		
Flowery	3000	12000				
Franklin			2	1		
Globe		20000	2	1½		
Gould & Curry S. M. Co	1200	48000	21	16¾	4¼	
Hale & Norcross	400	16000	41	37½	2	
Imperial	184	100000	6⅞	5¾		1⅛
Indue						
Insurance	2000	30000				
Jacob Little						
Julia Gold and S. M. Co	2000	30000	5⅝	4	1	
Justice	3000	21000	9	6¾	1½	
Kentuck	55	30000	15	13	¾	
Knickerbocker	1200	24000	4½	3¾		½
Lady Bryan						
McMeane	3600	36000				
Mint Gold & S. M. Co	1000	50000				
Nevada	3000	40000	2¾	2⅛	¾	
New York Consolidated	3600	36000	3⅜	3		
Occidental	800	10000	2½	2½		⅛
Ophir Silver Mining Co	1400	16800	90	80½	6	
Overman Silver M. Co	1200	120000	57	41	8	
Phil. Sheridan	1200	24000				
Pictou	2000	30000	35c	¼		
Rock Island		24000	1¼	95c	60c	
Savage	800	16000	71	65	5	
Segregated Belcher	160	6400	87	74	2	
Segregated Caledonia		10000				
Seg. Rock Island						
Senator Silver M. Co		24000	80c	¾	10c	
Sierra Nevada		20000	25	18¾	3	
Silver Hill		24000	9¾	8½		¼
South Comstock						
South Overman		24000	½	20c		
Succor Mill and M. Co	7680	22800	3½	3		¼
Sutro		24000	3	3		
Trench	20	50-0				
Tyler	2200	23000	90c	¾	15c	
Union Consolidated	803	20000	8½	4⅜	3¾	
Utah		20000	1	60c		¼
Woodville G. & S. M. Co	1400	28000	1⅛	1		¼
Yellow Jacket	1200	24000	64	61½		
NEVADA.						
Adame Hill		50000				
Alps Silver Mining Co	800	30000	80c	80c		
Amador Tunnel & M. Co			2	2		
American Flag M. & M		30000	4⅞	3¾		1½
Arkansas	300	30000				
Belmont			22½	19		2½
Bowery		30000	90c	¾		½
Chapman Mill & M. Co		30000				
Charter Oak S. M. Co	1000	30000				
Chief of the Hill		30000	1¾	1		⅜
Chief Ext Extension		36000	¾	20c	10c	
Columbus M. & M. Co	10000	20000				
Condor		25000	¼	¼	10c	
El Dorado Sonth			4⅞	3¾		⅜
Eureka Consolidated		50000	9½	9¼		⅛
Excelsior		12000				
Harper Silver Mining Co		30000				
Hayes			1½	1¼		½
Hermes	1000	30000				
Home Ticket						
Huhn & Hunt S. M. Co	3600	30000	2¾	1½		¾
Ingomar Silver M. Co	1000	40000	½	¼		⅛
Ivanhoe		30000				
Jackson		50000				
Josephine			2	2		⅛
Juniata Consolidated	5000	50000				
K. K. Consolidated						
Kentucky Gold & S. Co	1000	30000	1¾	½		33⅛
Kinston	1000	30000				
Lehigh	1000	30000				
Lillian Hall	1000	15000				
Louise	2400	30000	40c	40c		
McMahon	1000	30000	4⅞	4⅞		
Marion		30000				
Meadow Valley	24023	60000	15	13¾		1
Mocking-Bird	1200	30000				
Monitor-Belmont		35000	6½	5¾	½	
Murphy	2000	60000				
Newark Silver M. Co	800	32000	2¾	2		¼
Pacific Tunnel & M. Co						
Page & Panaca S. M. Co	2400	40000	4	2⅞	1	
Peavine	1000	30000	30c	½		
Phenix		50000	60c	55c		5c
Pioche Silver Mining Co	1000	20000	6	6⅝		
Pioche West Extension		35000				
Pioche-Phoenix		40000				
Portland						
Raymond & Ely	6000	30000	60½	54½		11½
Rye Patch			10½	7	3	
Silver Peak		30000	1⅝	1⅜		⅜
Silver West Consolidated		50000				
Standard Mill and M. Co						
Star Consolidated	15000	50000				
Starlight	6900	25000				
Sterling		30000				
Spring Mount		35000				
Spring Mountain Tunnel		20000				
Ward Beecher						
Washington and Creole	200	30000	5¼	4		¼
Watson			3¼	2		¾
Yellowstone						
CALIFORNIA.						
Alpino	1200	12000				
Bellevue	8000	20000				
Calaveras Gold M. Co	3200	20000				
Cederberg Gold M. Co		24000	4¾	4⅜		1⅛
Consolidated Amador						
Cottonwood Creek		20000				
Dunderberg M. & M. Co						
El Dorado Ind. Quartz M						
Eureka Gold Mining Co	1650	20000	19⅞	18		⅜
Gillie		24000				
Independent Gold M. Co	1800	25000	3	2⅝		⅜
Keystone Quartz		10000				
Mt. Jefferson	1500	25000				
Oakville Quartz M Co						
St. Lawrence M. & M. Co						
St. Patrick	1800	20000	8½	7¼	½	
Tecumseh	3000	30000				
Yule Gravel	400	10000				
IDAHO.						
Empire		25000	5	3¾	1	
Golden Chariot	750	30000	21½	19½		½
Ida Elmore	1300	10000	4⅞	4¼		
Mahogany G. & S. M. Co	1020	20000	6	5½		
Minnesota Gold & Silver	1070	20000				
Red Jacket			3	1⅞		½
South Chariot	660	20000	10½	8		
War Eagle	1000	10000				
WHITE PINE.						
General Lee	1000	20000				
Mammoth Silver M. Co	1800	36000	¼	20c		
Noonday	1000	20000				
Orig. Hidden Treasure	800	21333	3½	3⅛		⅛
Silver Wave			2	2		
Ward Beecher		24000				
UTAH.						
Deceret Consolidated	2400	30000				
Wellington		30000				
OREGON.						
Virtue	$2800	20000				

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thureday from Advertisements in the Mining and Scientific Press and other S. F. Journals.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive hst date. The delinqnent datea given in this list are those of the mining offices.

ASSESSMENTS.—STOCKS ON THE LIST OF THE BOARDS.

Company.	*Location.*	*No. Amt. Levied:*	*Deling'nt.*	*Sale.*	*Secretary.*	*Place of Business.*
Arizona & Utah M. Co.	Washns.	7 50	Nov 11	Dec 15	Jan 3	J. Maguire, 419 California st
Alpha Cons M. Co.	Gold Hill, Nev.	6 3 00	Nov 11	Dec 16	Jan 5	Wm. Willis, 419 California st
Bowery Cons. M. Co.	Ely District.	4 50	Nov 5	Dec 16	Jan 9	C. E. Elliott, 419 California st
Baltimore Cons. M. Co.	Gold Hill.	4 1 00	Nov 18	Dec 23	Jan 14	D. T. Bayley, 401 California st
Caledonia S. M. Co.	Washoe.	6 3 00	Nov 13	Dec 18	Jan 8	R. Wegenar. 414 California st
Caroline M. Co.	Ely District.	3 50	Nov 11	Dec 22	Jan 15	C. E. Elliott. 419 Californ a st
Daney G. S. M. Co.	Washoe	7 50	Oct 9	Nov 14	Dec 15	G. R. Spinney, 320 California st
Dardanelles M. Co.	Cal.	1 00	Nov 4	Dec 8	Dec 29	J. L. King, 434 California et
El Dorado South Cone. M. Co.	Nevada	2 1 00	Oct 13	Nov 18	Dec 13	Wm Willis, 419 Californ ia st
Gould & Curry S. M. Co.	Washoe.	20 1 50	Nov 14	Dec 16	Jan 7	A. K. Dearborn, Merchant's Ex,
Ida Elmore M. Co.	Idaho	11 3 00	Dec 14	Nov 20	Dec 15	Wm. Willis, 419 California st
Knickerbocker M. Co.	Am. Flat.	7 1 50	Nov 16	Dec 13	Jan 2	H. Boyle, Steveneon's Bldg
Mammoth S. M. Co	White Pine	10 cts	Oct 22	Dec 1	Dec 22	J. L. King 434 California st
Mint G. & S. M. Co.	Washoe.	10	Nov 28	Dec 31	Jan 22	D. A. Jenninge, 401 California et
New York Cons. M. Co.	Cold Hill	25	Oct 13	Nov 17	Dec 8	H. C. Ribbs, 419 California et
Ohio Gravel G. M. Co.	Calaveras Co., Cal	15	Oct 14	Nov 15	Dec 8	W. Aug. Knapp, 116 Leidesdorff st
Ophir Copper S. & M. Co.	Cal.	10	Nov 12	Dec 13	Jan 5	O. H. Bogart, 411½ California e
Pictou S. M. Co	Washoe.	4 25	Oct 28	Dec 1	Dec 18	S. Phillips, 408 California st.
Pioche S. M. Co.	Ely District.	5 1 00	Oct 30	Dec 10	Jan 6	C. E. Elliott 419 California st.
Rye Patch Cons. M. Co.	Nev.	1 00	Nov 7	Dec 15	Jan 6	H. Penfenal. 409 California st
Silver Hill M. Co.	Washoe.	2 2 00	Nov 14	Dec 16	Jan 5	W. E. Dean. 419 California st
Savage M. Co.	Washoe.	5 00	Dec 3	Jan 6	Jan 26	E. B. Holmes 419 California et
Sierra Nevada S. M. Co.	Washoe.	37 2 50	Nov 14	Dec 22	Jan 12	R. Wegener, 414 California et
Senator S. M. Co.	Washoe.	9 50	Nov 26	Dec 29	Jan 19	Henry Boyle, Stevenson's Bldg
Utah S. M. Co.	Washoe.	4 1 00	Dec 8	Jan 9	Jan 28	W. E. Dean. 419 California st
Virtue G. M. Co.	Oregon	3 75	Oct 4	Nov 12	Dec 15	C. F. Balcom 426 Montgomery st.
Virginia Cons. M. Co.	Inyo Co., Cal	5	Oct 13	Nov. 17	Dec 15	T. B Wingard. 318 California st
War Eagle M. Co.	Idaho.	3 1 50	Nov 18	Dec 24	Jan 15	L. Kaplan, Merchant's Ex

OTHER COMPANIES—NOT ON THE LISTS OF THE BOARDS.

Alpha Cone. M. Co.	Gold Hill, Nev.	6 3 00	Nov 11	Dec 15	Jan 5	Wm. Willis, 419 California e
Auburn G. M. Co.	Placer Co.	50	Nov 17	Dec 23	Jan 13	R. Wegener, 414 Californir st
Bunker Hill G. M. Co.	Amador Co.	12 10 00	Nov 12	Dec 20	Jan 12	W. L. Palmer, 19 Fir st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6 6	Oct 6	Dec 5	Jan 5	A. Noel, 419 California st,
Black Mountain Coal M. Co.	Cal.		2½ Oct 8	Dec 1	Dec 29	W. H. Parchley, 602 Montgomery st.
Commercial Coal M. Co.	Santa Cruz Co	25	Oct 8	Nov 17	Dec 15	S. B. Hanson, 302 Montg'y st
City Paving Co.	S. F.	1 4 00	Oct 2	Nov 6	Nov 28	W. Pircher, 512 Montg'y st
Chanel & Tiger S. M. Co.	Arizona.	20	Oct 25	Nov 26	Dec 20	C. J. Eaton, Express Building
Columbus M. & M. Co.	Esmsralda Nev.	50	Nov 26	Dec 31	Jan 26	B. B. Miner, 411½ California et
Eureka M. & S. Co.	Eureka, Nev.	3 25	Nov 11	Dec 13	Jan 2	T. P. Beach, 217 Sansome etreet
Esta Buena Cons. M. Co.	Nye Co. Nev.	3 50	Dec 3	Jan 8	Feb 7	A. Noel, 419 California st
Forest Coal M. Co.	Santa Cruz Co.		33⅓ Dec 8	Jan 5	Jan 26	C. H. Burroughs, 402 Montgomery s
Gold Canon Cons. M. Co.	Gold Hill.	5	Nov 21	Dec 30	Jan 19	A. A. Pardow, 424 California et
Great Blue Gravel R. M. Co.	Cal.	10	Nov 20	Dec 22	Jan 12	W. H. Watson, 302 Montgomery st
Gold. Mountain M. Co.	Amador Co Cal.	25	Oct 31	Dec 13	Jan 5	W. Aug. Knapp, 116 Liedesdorff st
Hayden Hill M. Co.		15	Sept 29	Nov 14	Dec 15	W. H. Knight, Monty'g st
Ingomar S. M. Co.	Ely District.	6 25	Nov 6	Dec 6	Jan 8	C. S. Neal, 419 California et
Independence Con. M. Co.	Grase Valley		10 Nov 3	Dec 9	Dec 29	F. J. Herrmann, 418 Kearny et.
Knickerbocker M. Co	American Flat	7 1 50	Nov 10	Dec 13	Jan 2	Henry Boyle, Stevenson's Building
Lady Franklin M. Co.			50 Oct 14	Nov 22	Dec 15	J. S. Luty, 507 Montgy et
Lyons & White Co. M. Co.	Arizona.	6	Dec 3	Jan 2	Jan 21	T. L. Kimball 419 California st
Morena Machine Mfg. Co.	S. F.	4	50 Dec 3	Jan 17	Feb 9	W. B. leaace, 304 Pine etreet
N. S. F. Homestead & Railroad Asen.		2	00 Dec 1	Jan 3	Jan 26	A. D. Smith, 314 California st
North Bloomfield Gravel M. Co.		28 1	00 Oct 17	Nov 24	Dec 15	T. Derby 320 Sansome et
North Fork M. Co.	Plumas Co. Cal.	1	00 Nov 7	Dec 11	Jan 3	A Martin, Sacramento City
Nevada Sca. M. Co.	Ely District.	5 1	50 Dec 1	Jan 8	Feb 4	D. T. Bagley, 401 California et
Pacific Asbestos Co.	Placer Co. Cal.	6	Nov 17	Dec 22	Jan 12	H. B. Congdon, 306 Montgomery et
Rising Star M. Co.	Nevada Co. Cal.	6	10 Oct 27	Nov 29	Dec 22	J. M. Buffington, Merchants' Ex.
South Chariot M. Co.	Idaho.	8 1	00 Nov 14	Dec 18	Jan 12	Frank Swift, 419 California st
St. Lawrence M. & M. Co.	Placer Co.	4	25 Dec 3	Jan 5	Jan 22	R. B. Hayes, 411½ California st
Thompson Coal M. Co.	Cal.		2½ Oct 8	Dec 1	Dec 29	W. H. Parshley, 602 Montgomery st.
Umpire Tunnel and M. Co.	Utah T	2	6 Oct 21	Nov 24	Dec 15	P. A. Eakine, 230 Kearny et
Washington M. Co.	Mariposa Co. Cal.		1 00 Oct 30	Dec 8	Dec 31	T. B. Wingard, 318 California st
Woodville G. & S M. Co.	Gold Hill Nev.	4 1	00 Nov 12	Dec 16	Jan 5	A. Noel, 419 California st
Wonder G. M. Co.	Cal.	1	10 Nov 5	Dec 15	Jan 5	H. C. Howard. 332 Montgomery et

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Anna Dickinson M. Co.		John R. Wilde,	Merchants' Ex	Annual.	Dec 17
Condor S. M. Co.	Ely District.	Geo. T. Grimes,	240 Montgomery st	Special.	Dec 15
Coe G. M. Co.	Grase Valley	A. Treadwell,	531 California street	Annual.	Dec 17
Gould & Curry S. M. Co.	Washoe.	A. K. Durbrow.	Merchants' Ex	Annual.	Dec 22
Empire M. & M. Co.	Nev.	G. R. Spinney,	320 California Street	Annual.	Dec. 17
Hope Cons. M. Co.	Utah	H. S. Paxson,	311 California st.	Annual.	Dec 15
Hockerdorn G. M. Co.	Calaveras Co.	L. Terme,	734 Montgomery et	Special.	Dec 23
Ophir S. M. Co.	Washoe.	Joe. Marks,	Merchants' Ex.	Annual.	Dec 170
North Bloomfield Gravel M. Co.	Cal	Thos. Derby,	320 Sansoms etreet	Annual.	Dec 2
Oneida Mining Co.		Chas. Trustees,	Merchants' Ex	Special	Jan 4
Peninsula Mining Co.	Lower Cal.	D. A. Jenninge,	401 California et	Annual.	Dec 16
Piute C. M. C.		A. F. Benjamin,	430 California st	Annual.	Dec 22
St. John M. Co.		J. A. Pritchard.	401 California et.	Special.	Dec 22
Sanderson G. M. Co		Wm Stuart,	113 Leidesdorff et	Annual.	Dec 26

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver,	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	P. B. Cornwall. Cor.	Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Ribbe,	419 California st.	5 00	Dec 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Dec 10
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery St.	50	Feb. 6
Con. Amador M. Co.	Cal.	F. B. Latham.	402 Monigomery St	50	Dec 8
Derby M. Co.		F. Cunningham,	304 Montg'y at	50	Nov 25
Diana M. Co.		N. O. Fasset,	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Dec 8
Eastnort Coos Bay Coal.	Oregon.	J. L. Pool.	Merchants' Ex.	5 00	Apr. 11
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Abbey,	312 Montgomery St.		Aug 12
Minnecota G. & S. M. Co.		Wm. Willie,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Cothurn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	R. McFadden.	402 Montgy, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Dec. 5
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

THURSDAY EVE., Dec. 11, 1873,

The Stock Markst has shown an improvement this week; hut during the coming holidays probably is ss hnsiness will be dons. The late storm insurss a plentiful supply of water for our gravel mines and rensvsd activity in all classss of mining in the spring. The dividends from mining companies this month amount to considerable, however. Belmont pays 50 cents per shars, aggregating $25,000; this is the third dividsnd of the company, ths other two having hsen paid in Febrnary and March. The Consolidatsd Amador mins pays 60 cents per shars. The Eureka, Grass Valley, dishurses $1 00 per shsrs, or $20,000. Belchsr pays $5 00 per share, or $520,000, and Crown Point $3 00 per share, or $300,000. The last named mines have been paying very large dividends for some time, larger than any other mines ever worked on this coast. The *Alta* calculates the dividends as follows:

	Old Div. Shares.	last Div. 10 months.	Previously.	Total.	Per Share
Belcher	10,800	$6,136,000	$3,215,120	$9,361,120	$900
Crown Pt...	12,000	4,800,000	3,498,000	8,498,000	708
Total....	22,400	$10,900,000	$6,713,120	$17,849,120	$800

This amount of $10,900,000 has heen paid to the stockholders in ten months, and is not the whole prodnction, which has been $30,422,000, and the production is still in its greatest vigor and most brilliant prospects. We review these figures at this moment in order to recall the jeers with which an estimate, of a leading owner, of $20,000,000 was received by hears and wisoacres when we announced it two years since. The mines have given $30,422,000 of metal to the world, and are apparently good for as much more. While this development has been going on scores of speculative brokers have been ruined selling the stock short on "sure information" that they were played out. Another great fact is now established. It is that the Virginia mines present a rival ore body, the announcement of which has been received by the public, taught by the example of Gold Hill, with far greatsr respect than was the ore body in that locality. Ths ore in ths Consolidatsd Virginia is now well developed, and about $80,000 per week is received hsrs. Tbs progress of development shows that ths highest expectations may hs entertained. The sinking of the north winzs has now reached a depth of 113 feet, and carries richer ors; at the sams time ths banging wall carries its sastern dip in a manner to prove ths continuance and increasing breadth of the vein. The south winzs is down 57 feet on Best & Belcher line, in rich ore. The connection of the sevsral lsvels will soon he made and the hullion production assume large proportions.

The Raymond and Ely mine has passed its dividend for this month.

The dividend of tbe Eureka mine is its 76th.

The Chollar-Potosi mine turned out last week 738 tons of ore and sent 554 tons to the mills; on hand at mills 9,453 tons; average assay value of ore $32 per ton.

The Buckeye sent 87 tons to mill and worked 160 tons; gross returns in hnllion, $1,614.

The Arizona mine shipped on the 6th, $1,145 snd the Justice shipped at same date $2,623.

The Belcher letter of the 6th says: "All the stopes throughout the different levels are looking remarkahl y well, and give good promise of a long continuance of fine ore. The winze from the 1,200-foot level is down 121 feet, and still continues to show fine ore. The south drift in the 1,300-foot level is in 503 feet, and continues in quartz with some good ore mixed. The incline is now down 196 ft. below the 1,300-foot level, and still in hard-blasting ground. The drift from the incline in the 1,300-foot level is now in 210 feet, and heing pushed rapidly forward to connect with the drift which is being run south from ths stopes in the same level. The general appearance of ths mine is at present very flattering. All our machinsry is in perfect running ordsr, and now that there is plenty of water in the river to run the mills up to their full capacity, we sxpect to give good returns for some months."

The Mahogany sent down $4,600 on ths 1st inst., and ths Raymond & Ely sent down $23,000 on ths 6th.

New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's office, San Francisco:

SOUTH SAN FRANCISCO ARTESIAN WATER CO.—Dec. 6. Object: To furnish fresh water to customers. Trustees—David Hudson, J. W. Hodgkin, C. D. Wheat, B. F. Ellis and H. F. Williams. Capital stock $60,000, in shares of $20 each.

THE CALIFORNIA BUTTER CO.—Dec. 6. Object: To manufacturs bnter, fine oil for perfumery, and other useful products, from animal fat, and sell the same. Trustees—West Evans, President; John G. Baker, Secretary; F. A. Davis, Treasurer; Henry Phillips and George B. Van Brunt. Capital stock $300,000, in sbares of $100.

THE AMERICAN ICE CO.—Dec. 8. Object: To manufacture and sell ice at ths city of Lima, Peru, South America, and at other points in South and Central America. Trustees—Chauncy Bham, Robert N. Graves, Charles Land, S. B. Boswell, of San Francisc., and Georgs E. Sherman, of Oakland. Capital stock $500,000, in shares of $100 each.

THE QUINTERA MINING CO.—Dec. 10. Location: Philadolphia Mining District, in Nys county, Nevada. Trustees—J. D. Fry, A. K. P. Harmon, Robert Sherwood, David D. Colton and Oliver Eldrigs. Capital stock, $5,000,000, in shares of $100 each.

ARTICLES of incorporation of the H. A. Coal Mining Company, organized to conduct the business of mining for coal at Sulphur Spring Creek, Alamsda county, were filed on Saturday, in the Secretary of State's office, at Sacramento. Capital, $3,000,000; in shares of $100 sach. Directors—Wm. Meek, Wm. Hayward, Charles T. Ward, Jr., Charles R. Worland and Erasmus D. Brown. The principal plsce of business will be in the town of Haywards.

Meetings and Elections.

CONDOR S. M. CO.—Ths shareholders of the Condor Silver Mining Company held a mseting, called by ths County Judge, on Saturday the 6th instant, for the purpose of removing ths Trustees, Wm. Cline, Henry P. Wood, and H. C. Kibbs. The meeting was organized by the appointment of Dr. Washington Ayer as Chairman, and H. C. Kibbs as Secretary. The roll was called, and 19,319 shares were represented; the capital stock consisting of 25,000 shares. The Trustees were then removed by a vote of 18,935 shares to 384. The shareholders then proceded to elect Dr. Washington Ayer, S. H. Sheplar, Ira G. Hoit, D. S. Thomss, and H. C. Kibbs, as Trustees of the Company.

INDEPENDENCE CONA. M. CO.—December 8:—Trustees: B. A. Becker (Presidsnt) E. F. Chm, George Lawlor, Charles Staempfli and Joseph Assion.

GOLDEN SUN GOLD M. CO.—Dec. 8:—Trustees: L. J. Henry, A. E. Ball, Joseph Pentecost, Dorvills Libby and S. H. Sheplar. At a subsequsnt meeting of the Trustees, Samuel H. Sheplar was elected President, L. J. Henry, Vice-President, Dorville Libby, Treasurer, and O. A. Thompson, Secretary.

HEAVY BLAST.—On the 9th instant a blast of 450 kege of Santa Cruz powder, weighing 11,000 pounds, wae exploded in the Blue Point mine, Sucker Flat. It is estimated hy competent judgee that 40,000 cubic yards of gravel were prepared for washing hy this hlow-out.

MINING SUMMARY.

THE following is mostly condenced from jonrnals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

EXCHEQUER.—*Chronicle*, Nov. 29: Sinking will commence again in a few days on this mine, and the present drift continued.

ACACIA.—Work upon thie tunnel will he resumed in a few days, Dore & Jones having contracted to run 100 ft., or to the striking of the ledge.

CALAVERAS COUNTY.

TECUMSEH MINE.—*Chronicle*, Dec. 6: Work is going on without interruption in the celebrated Tecumseh mine, and they are making good progreee in sinking. The ore is constantly improving and hecoming freer from the base metals. The hottom of the shaft ie in good milling ore, carrying free gold, galena and iron sulphurets.

MILL STARTED. — Garland's new eighteen stamp mill, at Mosquito gulch, was started last Sunday. Everything worke to a charm. The mill is engaged crushing rock from the Good Hope mine. The mill will he a great benefit to that portion of the county, and will stimulate prospecting to an unwonted degree.

SAN BRUNO.—We are informed hy Mr. Edward McDade, who has taken a contract to get out rock in thie mine, that work is heing pushed forward vigorously, and that there is every prospect of the mine proving to he fully as rich in the future as it hae heen in the past. Mr. McDade is at preeent engaged in running a "raiee" in the mine, to enable him to take out the rock with greater ease.

MOSQUITO DISTRICT.—Work is progreseing favorably on all the quartz mines in the Moequito District. Prospecting is hrisk, and we expect to hear of eeveral "rich strikee" before Spring.

RAILROAD FLAT DISTRICT.—Petticoat stock ie in demand, although the mine is idle. It is rumored that competent parties will re-open the mine and extend the north levels. South level of Sauderson in 60 feet with 3 feet of ore in face, and substantial indicatione that the heart of this huge hody of rich ore has not heen reached ae yet. The ore in the raise, now up 20 feet, is estimated to mill over $600 per ton. The mine employs over 30 hande and the

Superintendent intends to double the force as soon as practicable. Sinking will be resumed and continued at an early day. Second-class ore—supposed to yield less than $200 per ton—is now being crushed in Clark's custom mill.

West Point District.—The last run of the Carlton mill, on ore from Stevenson & Co.'s mine, yielded at the rate of $30 per ton. A small engine has been moved to the mine since, and a portion of the property has changed hands....Main shaft of the Good Faith is over 80 feet in depth....Yellow Jacket erecting hoisting works....The main shaft of the Ohio Consolidated has attained the depth of 140 feet ....Fifteen tons of ore, taken from the middle tonnel of the Lone Star, yielded over $3,000 ....The Harris mill is being rebuilt in a very substantial manner, adding five stamps.

EL DORADO COUNTY.

Agua District.—Mountain *Democrat*, Dec. 6: A new company composed of Frenchmen, commenced operations recently near Frenchtown, in the lower end of this county, in what is known as the Agra Mining District, and they have already made a fine opening, with gratifying results and brilliant prospects, on a large vein of conglomerated porphyry, quartz and ocher, the vein being of great width and prospecting well throughout. The character of the vein and of the gold obtained from it is said to be a novelty and we are promised further and interesting particulars when it shall have been more fully developed. Great confidence in a prosperous future is entertained throughout the mining districts surrounding Clarkaville.

The Day and Hunter Mine.—We are in receipt of encouraging reports from the Day and Hunter mine, near Clarksville. After tunneling about eighty feet the ledge has been struck and fine prospects obtained. There are well defined hanging and foot walls, with from two to three feet of intervening ledge and vein matter.

Gold Mountain Mining Company. — The above is the name with which Messrs. Murray, Maffey & Co. have christened their valuable mine near Clarkeville. The mill is completed, and ready to commence crushing ore.

MONTEREY COUNTY.

Coal.—*Democrat*, Dec. 6: We are credibly informed that a fine vein of coal has been recently laid open on the Aromas rancho, the property of Dr. McDongall. It is located close to the railroad bridge across the Pajaro, and its position, as well as the quality of the mineral, must give it great value.

NEVADA COUNTY.

Idaho Mine.—Grass Valley *Union*, Dec. 3: The Trustees of the Idaho met last Monday at the Company's office, Findley & Co's. bank, and declared the 53d dividend. This dividend is $15 per share of capital stock, or $46,500 for the whole. The underground condition of the mine remains unchanged, a large ledge of rich pay ore constantly presenting itself to the miners. The next dividend will be light, as taxes, annual repairs and other extraordinary expenses will occur this month.

Magenta.—The west drift is in 250 and the east drift 70 ft. All the openings are in good ore, with a well-defined ledge. In a few days a second level will be started. Ground was first broken in the Magenta on the 23d of last August, and all must agree that Superintendent King has been doing energetic work. The Orleans mill (Smith's) is now crushing Magenta ore, and at the last of this week a clean-up will be made.

Rich Quartz at Truckee.—Truckee *Republican*, Dec, 4th. A quartz discovery has been made here. The ledge is about five miles north of Truckee. It was discovered by A. Berg, while engaged in hunting cattle. The quartz contains free gold, which is plainly perceptible, and assayed in San Francisco $350 per ton. The ledge has been located by A. Berg, E. Allen, R. P. M. Greeley and T. C. Plunkett.

Montana Ledge.—Nevada *Transcript:* This ledge situated at Willow Valley, which has been worked by McFate & Co. for the past two months, is yielding excellent rock at the present time, and the ledge is increasing in thickness, averaging 20 inches. The last crushing paid $50 per ton; as the rock now being taken out shows more free gold and richer sulphurets, it is estimated that the next crushing will pay from $65 to $75 per ton. About 35 tons of quartz are now on the dump pile waiting to be milled.

PLUMAS COUNTY.

Starten Up.—*National*, Nov. 29: The North American, at Hepsidam, are putting on hands again. Work in this claim was suspended last spring, but active operations will soon be commenced again.

Struck It at Last.—We are informed that the Mountaineer Co., whose works are located at Weldon Ravine, Onion Valley, in this county, have struck the pay level at last. This company have expended thousands of dollars and spent nearly fourteen years prospecting for the pay channel, and we are happy to learn that their efforts have at last been crowned with success.

Paying.—We are pleased to hear that Atherton & Co.'s claims on Shoo-fly Flat are proving very remunerative, and are likely to continue in the "same vein" for years.

Wolf Creek.—Mr. Patch has moved a portion of the machinery of the old Golden Gate mill to Wolf Creek, with the intention of putting up a mill on Burge & Co.'s ledge in the spring.

Dam.—The contractors on the new dam at Long Valley finished their contract a few days since. The dam is 600 feet long and thirty feet high.

SIERRA COUNTY.

Messenger Nov. 29: Wm. Picket, Supt. of the Rocky Point quartz mine, on the East Fork of the North Yuba, has just completed a substantial dam in the river a few hundred yards above their mill site. It will give them something over 30 feet fall.

Extensive preparations for gravel mining are being made at all the leading mines over north, which makes a "good haul" of dust about as certain as a rainy season visits the hills. Load after load of pipe leaves Laporte for the surrounding mines.

Mining.—Sid. York & Co. have located ground below the old Mt. Vernon mine, and will proceed to hydraulic it when water comes.

Running Light.—The Butte's quartz mills are working but few hands, comparatively speaking, owing to the scarcity of water. When more comes, a full force will be put on again.

Arizona.

YAVAPAI COUNTY.

Vulture. — *Miner*, Nov. 8: The vulture mine and mill may be put in paying shape again. J. D. Cusenbery, a former superintendent, is endeavoring to get the property ready for European capitalists, who propose to take hold and work it as it should be.

The quartz and placer miners are hard at work in Weaver and Walnut Grove districts. In the latter Henry & Smith are working Rainbow ore in arrastras; C. B. Genung is working ore from the Montgomery; Mr. Lonteria is crushing out of the Providencia, and all with paying results.

Goodwin & McKinnon, of Bradshaw, on Saturday last, searched the bottoms of their two arrastras and found twelve hundred dollars in gold—the product of eight tons of War Eagle ore.

On Upper Lynx Creek, Shelton and others are sinking on their lodes and working the quartz, while placer miners are making very fair wages.

It is said that J. W. Swilling and others will soon construct arrastras on Black Cañon creek, with which they design working ores from some ledges in that vicinity.

Colorado.

Colorado Central.—Colorado *Miner*, Nov. 27: We walked up the other morning and proceeded to interview Mr. Weaver, the Superintendent of a rich mine on this lode. We entered through the tunnel of Messrs. Robinson & Hurd, who are working a portion of the lode east of that operated by Mr. Weaver and his partners, and found their miners taking down a good body of mineral. The Weaver mine is well worked, the mining being done in a good style. We went through the different drifts east and west in the 200 feet they are working, and found everything in good shape. One peculiarity of this mine is that it is not troubled with water anywhere, being entirely dry. At both ends of the lower level good veins of mineral appear, and there is a large body of stoping ground nearly ready to be operated. A good ore-house covers the shaft, and several men are kept busily engaged in sorting the ore as it is hoisted from the shaft.

The Briggs opened this morning with a full force of workmen.

The Colorado Central mine has produced, since the first of March last, about $80,000.

Idaho.

Items—*Avalanche*, Nov. 29: Our mines are all looking well as usual, and we have nothing new to report concerning them this week.

The new engine and steam pumps of the Mahogany mine are now ready for operation.

Doc. Lowe, formerly of Eliot District, arrived last Saturday from the Willow Creek country, where he has been for the past three years. Doc. says that the Willow Creek mines are played out, and proposes to make Silver City his permanent abiding place.

Lower California.

Japa.—San Diego *World*, No. 27: A prospecting party is organizing to explore the Cocopah mountains, which are known to be rich. Mr. Jacobs himself will head the expedition to explore a region some distance below Japa, in Lower California, where gold and silver both are said to be very plentiful. Mr. Harry Pyler, a United States revenue official on the border, assures us that the mines are good. He encountered, near Milquatay, five peons who had washed out $80 in gold in two days, near Japa. We were yesterday shown by Mr. Spence, the Cashier of the Commercial Bank of San Diego, a quantity of retorted gold from Japa, which the bank had purchased. It is of a very fine quality, and Mr. Spence believes that the country from which it came will show some interesting developments. Large quantities of gold are coming in every day.

Montana.

Cherry Creek.—*Montanian*, Nov 26: Cherry Creek is coming up. The tunnel in the Eberhardt, owned by Enselman, Manheim, Merk & Co., is in 110 ft., and has opened up the largest and richest body of ore ever struck in the district. The vein is nearly two ft. wide, and the ore pays over $100 per ton. They have now about 75 tons of ore on the dump.

New and extensive coal beds have lately been discovered at the head of Stinkingwater. Mr. Dougherty says in the new coal district there are forty acres of coal land for every man, woman and child in the county. Mr. Murphy is the discoverer.

Good reports are coming from the prospecting drain ditch of Hall & Co., at Mill Creek. The gravel prospects well, and the boys are encouraged. There is hardly a doubt but Mill Creek will pay to work, but it is very deep ground.

Hot Spring.—The Thomas & Co. Mill, Hot Spring District, started up last week, and runs, we are informed, elegantly. The ledges are looking well, and the miners have more faith in the quartz than they ever had. Hot Spring is coming on; she has got the metal at last to bring her out. Lown's Red Bluff still produces every week the regular 10 or 12 tons of $100 ore.

Nevada.

WASHOE DISTRICT.

Belcher.—Gold Hill *News*, Dec. 6: The amount of ore will be increased as soon as the capacity of the mills on the Carson shall warrant it. The main incline is down 196 feet below the 1,300 ft. level. The drift running southward on the 1,300 foot level is in 503 feet, still in quartz. The company expect to make communication between the 1,300 ft. level and the main incline inside of 30 days. The winze starting from the 1,200 foot level is down 121 ft. All of the various stopes and breasts throughout the mine are looking well and yielding their usual amount of high grade ore. The prospects at the lower levels never looked so well as at present, the ore body holding out better and farther to the southward than was anticipated. The dividend of $5 per share, declared yesterday, aggregates $520,000, leaving a heavy surplus in the treasury.

Consolidated Virginia.—The main shaft is down 100 ft. below the 1,200 ft. level, the bottom in ore mixed with porphyry. Opening a new station for the 1,300 ft. level will be commenced immediately. The raise on the ore body is up thirteen sets of timbers (78 feet) in hight, at which point the ore body not only retains its full width, but the quality of the ore shows an improvement. The north winze, on the 1,200 ft. level, is down 113 ft., the bottom in ore of a richer quality than any heretofore encountered. The south winze, on the same level, is down 57 ft., and also in good ore. The machinery is all in splendid working condition, the new additions to the main hoisting works building are all completed, with the exception of the assay office and smelting rooms, and the future prospects of the company appear more flattering every day.

Crown Point.—The main south drift, on the 1,500 ft. level, is making steady though slow progress, the ground being so soft as to continually require the driving of spiling ahead, and the water from the face so intensely hot as to make it almost impossible for the miners to stand the great heat and perform their work. The middle winze, from the 1,300 ft. level, has made connection with the north drift on the 1,400 ft. level, giving a fine circulation of good air, cooling off the level and greatly facilitating operations in that portion of the mine. Sinking the south winze is making good progress, the bottom still in fine ore. The ore stopes and breasts on the 1,200 and 1,300 ft. levels are looking well and yielding finely. Daily yield, 400 tons of ore. The mills on the river running up to their full crushing capacity, and the future prospects of the mine flattering.

Chollar-Potosi.—The main south drift at the third station is fast approaching the ledge, the face in quartz of a promising character. The indications are excellent for the development in that part of the mine of a valuable deposit of ore, which will be a matter of much importance, having heretofore remained unprospected. The raise from the third to connect with the second station is giving a fine circulation of good air. The ore breasts in the ore-producing sections of the mine are both looking and yielding well. Three mills are now running on ore from the mines, and the future prospects look bright and flattering. Daily yield, 130 tons of ore, assay value $30 per ton.

Justice.—The north drift on the 300-foot level is still driven ahead, following the ore body, which is looking finely. The winze in the main south drift on the 400-foot level is down 60 feet, at which depth a cross-cut has been started to tap the ore vein. The extraction of ore from Waller Defeat shaft has been suspended, the ore dumps all being full and the teams being unable to haul it to the mills as fast as it is taken out.

Gould & Curry.—There is nothing new to report of the ore extraction from the old upper levels. The main east drift, on the 1,500-foot level, is still driven vigorously ahead, the face in low grade ore mixed with quartz and other vein matter. The main east drift, on the 1,700-foot level, is in 88 feet, passing through the west wall of the ledge with good indications of soon reaching the ore vein.

Sierra Nevada.—Daily yield 65 tons, keeping the company's mill steadily running. The ore breasts are all looking finely. The prospecting drifts in the old Sacramento ground have shown considerable improvement in the quality of the ore developed during the week.

American Flat.—The main southwest drift, at the 400-foot level, showed a decided improvement during the week, and there is but little doubt when cross-cutting the ledge shall have been accomplished that a paying mine will be developed.

Succor.—Sinking the main shaft progresses as well as usual, and the drift east from the little shaft in the ravine east of the mill still follows the vein, developing excellent pay ore. The mill has started up working this ore.

Savage.—Sinking the main incline is making good progress. The east cross-cut from the main north drift is still driven ahead.

Nevada.—The raise from the main south drift, 130 feet south of the main west drift, is up 20 feet, the entire distance in excellent milling ore, which needs no assorting whatever for milling purposes. The ore carries a large proportion of free gold and will be easily worked in the mills. The distance from the tunnel to the surface is 100 feet, and it is expected this chimney of ore will reach nearly to the surface, making a valuable development.

Silver Hill.—Another eight inch pump has been put in place to assist the one already in operation, and it is now expected that the two will soon drain the water so that work can be resumed in both the shaft and main south drift.

Dayton.—The mine is looking well throughout; both the second and third station levels are yielding the usual amount of good milling ore. The ore dumps are full, and the company are shipping 40 tons of ore per day to the Woodworth mill on the Carson river, which they have leased, and we hope soon to have the pleasure of placing the Dayton on our list of bullion producing mines.

Julia.—The water in the shaft is being steadily lowered, being now reduced to within about 25 feet of the 1,000-foot level. The main southwest drift on the 900-foot level is being driven ahead five feet per day, with excellent indications of a fine body of milling ore.

New York Consolidated.—The new pump lowered to the 250 foot station, is working finely, and with the aid of the tanks will soon reduce the water in the shaft to the 400 foot station. It is expected that the pump can be lowered to that station by Monday next.

Imperial.—Sinking the main incline is making good progress, notwithstanding the rock in the bottom blasts quite hard.

Alpha.—Driving the main north drift on the 1,700 foot level is making steady progress.

Europa.—The work of opening out this mine goes on vigorously.

Knickerbocker.—The erection of the new machinery and hoisting works is making good progress.

Hale & Norcross.—The main incline is down 232 feet below the 1,700-ft. level in hard blasting ground. A small quantity of ore is being extracted from the second and third station levels, which show no change of importance.

Ophir.—The prospecting drifts south, on the 1,700-foot level, have shown some little improvement during the past week.

Caledonia.—The work of erecting the new boilers and putting in the new combination brakes is completed, the cables run on the reels and work resumed in the mine. The new pump is hoisting water at a single lift from the 500-foot station and working splendidly. Driving the new drain tunnel is making steady progress.

Arizona, Utah and Globe.—The main west drift at the 400-foot station is in 195 feet, the face in vein matter of a much softer formation, indicating a close proximity to the main ledge. The south drift from the incline is in 48 feet, the entire distance in ledge matter, mixed with spots of good ore.

Baltimore Consolidated.—Sinking the shaft is making rapid progress. It is now down 110 feet below the third station, in good sinking ground.

Utah.—The main west drift at the first station is in 200 feet, progressing at the rate of five feet per day. The rock is quite soft, with some water flowing from the face, though not enough to impede the progress of the work.

Overman.—The main drift on the 1,200-ft. level is still driven ahead. The several cross-cuts and prospecting drifts on the 1,100-foot level are making the usual good progress.

Daney.—The main shaft is down 170 feet, the ground in the bottom working finely and excellent progress being made. There is no water to impede the prosecution of the work.

Yellow Jacket.—Main incline down 49 feet below the 1,500-foot level, and good progress made in sinking. Cross-cutting at the 1,400 and 1,500-foot levels going ahead as usual.

OPHIR DISTRICT.

The Monarch.—*Tribune*, Nov. 13: Is owned by Godbe, Lawrence and others, and lately bonded by Lothian & Co.; has under their experienced management, disclosed a fine body of rich ore, and this company is about to commence shipments to the Camp Floyd mill.

Nothing is being done on Silver hill except the shipment of ore from the Silveropolis. Work has just been commenced on the Silver Reef, on Chloride hill—with this exception, that hill has been vacated, probably for the winter.

Gray Rock.—This has been worked until within a day or two, but the failure of the purchaser to make his payments, either for the mine or for the work he has been prosecuting on it, has caused a temporary suspension of its development.

The Sacramento.—Is developing finely, and promises to equal the Chicago and Hidden Treasure.

The Mills.—Walker's mill is running, Robinson's arastra, Bliss' arastra and the New Jersey works, also. The cold weather, by and by, will compel most of them to shut down for two or three months. There is a probability, however, that work on most of the mines will go ahead through the winter, with a slight reduction of hands. In the spring things will be pretty lively, for there is great preparation to take up locations which have been forfeited, or will be, at the time limited by the mining law for working the required assessments.

Scenes in the High Sierras.—Yosemite.

[Written for the PRESS by J. G. LEMMON.]

An English traveler, a member of the celebrated Alpine Clnh, who spent seventeen daye in Yosemite, upon leaving declared to Mr. Hutchings: "I never left a place with so much pleasurable regret in my life. I have several times visited all the noted places in Europe and many that are out of the ordinary tourists' round. I have crossed the Andes in three different places and been conducted to the sights oonsidered most remarkable. I have been among the charming soenery of the Sandwich Islanda and the mountain districts of Anstralia, but never have I seen so much of sublime grandenr, relieved by so much of engaging beauty as that I have seen in Yosemite."

Yosemite in Detail.

Here, at the outset, gleaming through the trees on the south, is the entrancing Bridal Veil fall, wreathed with rainbows by the declining sun, and swaying in long, fleecy folds from side to side of its wide, age-hewn cavern. It is generally called by its beautiful Indian name, *Po-ho´-no*, a name rendered doubly interesting by its pertinent meaning, "Spirit of the Evil Wind." This refers to a legend ilustrative of the traditions of the red man.

Legend of Po-ho´-no.

The stream forming Po-ho´-no fall comes from a high lake many miles away, npon whose anrface a strong, gusty wind ever blows. The legend hath it, that "in the nnremembered days" this savage wind seized and threw several of the natives into this lake, from which they were dragged down by the turbnlent stream—the spirit of the wind—and hurled over this awful precipice. Modern accidente, with a similar result, confirm the tradition, and so affrighted Lo invests thie beautiful, innocent waterfall with the fascinating, seductive, destroying "Spirit of the Evil Wind." It is said the Indians regard it with horror; hurry past it on the further side; believe pointing towarda it wonld be death, and could not be hired to pass a night near it, as then in the stillness they hear the voicee of the victime warning—"Beware of Po-ho´-no." This legend but intensifies interest in this favorite of tourists, and illustrates the pertinence of the Indian names attached to every prominent object in and around the valley, but while we syllable the soft, euphonious, appropriate, aboriginal names, we cannot, for want of space, in each case, give the legend.

Thia waterfall of *Po-ho´-no*—this epitome of Yosemite—is 940 feet high, (15 feet higher, and with mnch more volume than Staurhach—the highest and most famous cascade in Europe). To get an idea of that vast distance we must diemount, clamber up those ragged rocks for half a mile, and stand, perhaps, in its spray with rainbowa not larger than cart-wheels aronnd us; then look up a little way at a time, and drink in the great hight and marvelous beanty of this swaying, folding, rippling, tinted cloud of water rockets flying down out of the sky.

Resaming our ride in about a mile we find ourselves in the narrowest part of the valley—the gateway to the Gallery proper—occaeioned by the mutual approach of two massive, towering, vertical rocks—gateposts to the wonderful park within. The north one is the magnificent rock

El Capitan or Tu-tock-ah-mu´-la.

This sheer, bold, beetling, immense bluff of almoet smooth granite, is over a mile wide, and nearly two-thirds of a mile or 3,300 feet high. Happening to etand fairly in eight of most of the valley, itie a chief attraction, especially when gloriously illuminated an honr or two before any other point by the morning sun. The Indian name ie that of the great chieftain or semi-deity of the valley. The legend relates that before *Tu-tock-ah-mu´-la* was driven by dispair (hereafter to be related) from his throne on the top of this rock, he carved his noble form on ite outer face. and to this day the tonrist sees a oolossal full-length figure there, 2,000 feet high, but wearing the modern dress and etern featnres of Gen. Jackeon! *Tete-a-tete* with El Capitan are

Ths Thres Graces or Wa-wa-le´-na.

These spurs of granite overlapping each other are 3,750 feet or nearly three-fourths of a mile high; the inner one continuing vertically down to the floor forme the south gatepost or guard. The euphonious Indian name signifies "Leaping Bears." Passing the gate where no forbidding porter stands, we are conetrained to take a firet sweeping glance along each side of the wonderfnl gallery to note the arrangement and general effect; then, returning to the inspection and looking back to the rocks last described, they present a very different contour—that of an immense cathedral, receiving a new and expreesive Indian name, *Poo-se-na-chuck´-ka*, "Big Acorn Storehouee." It is said that its resemblance to the wonderful Milan cathedral is very marked, though vastly larger, as the latter is but 480 feet long and 355 feet high.

Continning on a mile from the gate we are opposite, on the north, the

Thres Brothsrs—Pom-pom-pa´-sus.

These lofty spurs overlap each other like the "Three Gracea," and like them take a very different ehape and a new name from an upper view, "Eagle Point" and Indian *Hum´-moo*, "Lost Arrow." The first Indian name *Pom-pom-pa´-sus*, by which they are generally known, meane "Falling Rocks," and correctly describes their appearance—eeemingly in imminent danger of falling from their lofty perch of 3,700 feet, nearly three-fourths of a mile.

Continuing the inspection of the walle on the eouth, back of the hotels, we eee firet, if in the spring months,

Sentinel Fall—Loy´-ya,

The Indian name means "Medicine," but we must omit the legend. This ie not properly a fall, as the rock is not vertical, and the water slides in places from the greatest hight known to travelers, 3,200 feet,—nearly two-thirds of a mile,—in a beautiful, nrrrow, ribbon-like, quivering, glittering casoade to its basin on the floor of the valley, but it ceases to flow about the first of June.

Close beside the cascade, on the east, shoots up the spire

Sentinel Tower—Loy´-ya.

This white, bristling shaft, elevated 70 feet above the cascade to which it gave its name by its great hight and central position, was eminently fitted for the use the Indiane made of it, to kindle beacon lights upon. What meesages of warning, of invitation; what tokens of arrival or departure, or what sacrificial flames have ascended from this watch-tower in the ages when the red men numbered millions, instead of thousands, can only be imagined.

Opposite Loy´-ya, on the north, a mile and a-half across the widest part of the valley, there was placed by the Great Architect of this colossal gallery a landscape scene compricing so many picturesqne surroundings, setting off such a splendid central object, that it ie no wonder that the Indians gave its name to all the valley, or that every hotel, private reeidence, hnsiness place, even every stahle and camper's tent is placed facing it.

Great Yosemite Fall.

This world-famons triple cataract—the highest constant waterfall known—is set in a massive, granite, heavily moulded, euperhly painted frame, over 3,000 feet high. Its three sections, onc above the other, at a dietance look like three white feathery comets chasing each other np the precipice. A nearer view separatee it into two lofty cataracts, conneoted by a cascade. The first or lower cataract ie 434 feet high. The connecting cascade ie 600 feet in vertical hight, receding twice as far to the pool at the foot of the upper cataract, which falls from the great hight of 1,600 feet, or the total elevation above the valley of 2,634 feet, only six feet lese than half a mile.

On account of the large size of the stream, these two falle are properly termed cataracts, and the quiet beauty of lesser falls becomes awful grandeur here. Each cataract has worn for itself huge caverns in the face of the overhanging rock, and the visitor can hear and see the work going on, as the strong wind that falling water alwaye produces, drives the long column of whitening, plunging fluid now on this side, now on that with a report that may be heard for miles. At times the wind becoming reflexed in the caverne, puehes up, scattering the deep and hroad sheet of water into finely commiunted spray like an immense fountain; wheu, if the morning sun is shining the most brilliant display of rainbow rings, bande, flames and jets are eeen blending, changing, expiring and reappearing again in a transforming scene so gorgeous as to be excelled by nothing less than an Aurora in high latitudes.

In winter it is said, these cataracts, increased fonr-fold, present some terrific phenomena. "Large quantities of ice form each night at the side of the fall, and, being nearly opposite the east, the morning sun soon loosens them, when they fall with a loud boom and the opposing walle catch and re-echo the sonnd until the whole valley is enlisted in the grand chorus. In winter too, the falling water gives euch momentum to the contiguous air that a perfect tornado is experienced in the vicinity of the base of the upper fall, and when snow is falling so much is drawn like a funnel into this gorge that it forme at the base into masees of enow and ice 300 to 500 feet thick. When the spring thaw commences the large stream playing upon this mass soon wears a hollow from which it rebounds 500 to 700 feet high, then falling dissolves into epray upon which the sun paints pictures the most bewilderingly beautiful of anything in Nature."

Leaving Yosemite falls in all their varied attractione and passing on about a mile we find the valley trending a little to the southward, and ourselvee opposite, still on the north, the singular rock-cleft

Royal Arches.

They are formed by the falling away of the wall of rock in a singularly arched form 1,800 feet high, with a epan of 2,000 feet, and a depth of 80 feet. This huge niche wae evidently deeigned by the Architect for a picture frame, but its vast eize, probably, prevented its occnpation. The only figure that would be commensurate with thie enormous frame was wrought by the same artist, and that is old *Tu-tock-ah-mu´-la*, now suspended on the gate post, but he would have to be cut off at the knees. Solomon might have used it as the trestle-board upon whioh to draw the plans of his temple full size, and Noah might have represented his ark upon it, for, according to Archbishop Usher, the Ark wae 150 fathoms in circumference—only about four times as large as a first-class modern man-of-war. But the posterity of Noah, the founders of the unparalleled city of Babylon, erected structures too lofty to be placed in this niche.

The Tower of Babel and Temple of Belus, or Nimrod, were, according to Diodorus, 7 furlonge of 500 feet each, in hight—equaling 3,500 feet. Admitting their fabulous dimensions these ancient structures if etanding in Yosemite valley, would just reach up even with its encircling rocky spurs.

We are evidently in the unfurnished portion of the gallery now, for right across through the thin woode on the south side, is a smooth, perpendicular, lofty wall of granite, shaped like an ellipse divided longitudinally; the upper edge 3,705 feet, or nearly three-fonrths of a mile high, and the base about a mile and a half wide. This is called glacier rock or *pam-pa-lu´-na*.

The appropriate Indian name means "Hanging Bear Skin." This extensive surface, deeigned, perhaps, for a landscape scene, only received the priming colore by the artist, faintly limning the ontlines of the streame, forests, vistae, oaetles, mammoth animals, etc.

Upon this immense ice-ground bristol board, might be sketched, full size, a large number of the most stnpendous works of man of which we have accurate knowledge.

A Colossal Picture.

In the center of the baee might be placed the eupposed ruin of the Tower of Babel—now a vast mound called by the Arabs Mujelihe, meaning "the overturned," a basis of solid masonry, surmonnted by a maes of debris of very ancient kind of building material, sufficient for an enormoue strncture—fully eqnal to its traditional dimeneions. The mound is about 2,000 feet around and 320 feet high.

On the right of our picture we might place the Pyramid of Cheops, 720 feet on each side, and 448 feet high.

Similarly placed on the extreme left, the Pyramid of Cephrenes, 655 feet square and 398 high.

From Cheops to Mujelibe might be constructed the high bridge of the Croton Aqueduct over the Harlem river, 1,460 feet long and 114 feet high. Similarly from Cephrenee the Britania Tubular Iron Bridge over the Menai Strait, 1,831 feet long and 100 feet high.

Under the Aqueduct Bridge might be excavated the great tunnel nnder the Thames at London, with true proportions.

For one of the central piers of the Britania Bridge, the Pharoe beacon or light tower of Alexandria might be substituted.

On the debris of Mujelibe might be placed the largest vessel ever built, the Great Eaetern, 700 feet long, 118 wide, and 70 high, with the Atlantio cable 4,000 milee long coiled on board, and ite 6 masts made of California "Big Treee" 150 ft. high.

On the flattened apex of Cheops, the terrible man of war Minotanr, with its armament of 120 guns and crew and marines of 2,000—the vessel being over 500 feet long.

Similarly on Cephrenes the invincible ironclad monitor, Dunderberg, 378 feet long.

For paesengers on each, Jupiter Pluvius, a brick and stone statue 50 feet high in a couching attitude, might sit on the bow of the man-of-war, the Egyptian Sphinx, made of eolid rock 60 feet high and 150 feet long, might kneel upon the upper deck of the Great Eastern and the hronze statue Colossus of Rhodee, 125 feet high, might stand with one foot on each of the turrets of the monitor.

Over the aqneduct bridge might be placed without interference with the vessele named, the Washington Capitol and the Smithsonian Institute—the former 751 feet long and 300 feet high; the latter 450 long and 140 wide.

Similarly over the Tubular bridge the Strashurg Cathedral and St. Peter's at Rome—the former 530 feet long with an unexoelled spire 474 feet high, the latter 721 feet long, with a spire 432 feet high.

High over the "Big Tree" masts of the Great Eastern, for a center piece of another eet of enormoue structnres, might be placed the Roman Coliseum, an elliptical amphitheater 620 feet long, 513 wide, and 157 high, covering 6 acres and capable of holding 110,000 persone.

In mid air at the same hight, over the capitol and the inetitnte, could be represented the London Crystal Palace, 1,851 feet long, 456 feet wide, 108 feet high and covering 18 acres.

Similarly over the two cathedrals, the twice as large Paris Exposition building, 1,500 feet long, 1,245 wide, 85 high, and covering 35 acres.

On either side of the Colieeum, and between it and the Cryetal Palace, might be erected the Buuker Hill monument, 221 feet high; aud the Porcelain Tower at Nankin, 200 feet high.

From monument to tower, high over the Coliseum, might be stretched the Niagara suspenoion bridge, 800 feet long and 200 feet high.

In mid air over the London crystal palace, might be placed the church of the holy sepulchre at Jerusalem, in the form of a cross, 320 feet long and 70 wide.

Similarly over the Paris palace, the magnificent Mausolenm of Taj Mahal at Delhi, British India.

FASHION AND FIRE.—Only lately Mrs. Archer Clive—the gifted author of "Paul Ferroll"—perished by fire, and now another lady hae died in the eame frightful manner. It seems strange that none of the devicee for making ladies' clothing incombustible have come into general use. About a year ago, an incombustible starch was muoh talked of, was severely tested by scientific experts, wae generally approved, and hes never been heard of since. It is too bad that ladies should die an agonizing death, when means exiat for rendering theee deplorable accidents absolutely impossible.—*Iron.*

The Globe Iron Works.

The Stockton *Independent* gives the following account of the Globe Iron Works in that city. The Globe Foundry, subsequently named the "Globe Iron Works," was founded by E. I. Keep and W. H. Briggs in 1858. This firm firet got up steam and started the works on the 15th day of April of that year. Both gentlemen came from Marysville for the express pnrpose of starting the foundry business in this city. The principal work of this establiehment, up to 1863, was mining and milling work, and building enginee, doing nearly all the milling work for the southern mines, at that time extensively carried on in the counties of Mariposa, Tuolumne, Calaveras and Amador. The work for the Mariposa mines was very extensive—furnishing and putting up the machinery of several large mille, with enginee and hoisting works—both of Mariposa and Coulterville. They furniehed the engine and hoisting worka for a mine at Jamestown, Tnolumne county; also a large amount of machinery for the mines above Sonora. A considerable amount of machinery was manufactured expressly for mines at Angel's Camp, West Point, Chile Gulch and various other pointe in Calaveras county. There was likewise furni hed from the eame eource quite a large amount of costly machinery for the Union and Keystone copper mines in Salt Spring valley. The engine and hoisting works for the Sutter Creek mills were also manufactured at thie foundry.

In 1864, Mr. Keep purchased the interest of his partner in the concern, and conducted the bnsiness himself until the time of his death. Mining work continued to prevail, occasionally small ordere being received for plow-pointe, plow standards, etc. During the time the eetate was in the hands of the administrator of E. I. Keep, the bueiness was continued and conducted by W. H. Keep, who finished up all contracts and executed such other work ae was called for. W. H. Keep and Thomas Blake formed a copartnership and the bueinees wae conducted for several years in the name and under the control and management of Keep & Blake. The character of the work varied but little and there was neither any marked increase nor diminution in the amount of work turned out. The work chiefly consisted of milling machinery, hoisting works, mining pumps, etc.

In August, 1865, a new member, Peter Bargion, was admitted to the firm. In subsequent years the bueiness annually amounted, in the aggregate, from $75,000 to $80,000. Work for the mines soon became slack, owing to the falling off in mining pursuits. In 1866 an engine was built for the City Mills, owned by Sperry, Burkett & Co., and machinery for steamboats and agricultural implemente kept the foundry husy and counterbalanced the falling off in the demand of such machinery ae they had previouely furniehed to the mining companies. That year (1866) a quartz mill was furniehed a Mr. Conrad. The business of the year aggregated about $80,000. In 1867 engines were built for the steamers Tulare and Pioneer; also for Wagner & Bro.'s tannery; also for Coffey & Riedon; aud the same year a contract was entered into by which the proprietors of the foundry commenced the manufacture of Root's blowers. The first blower manufactured was sold to a party in San Francisco.

The manufacture of theee blowers has become quite an important feature in the business of the concern. They are not only used where blasts are required, but are in exteneive use in ventilating or forcing freeh air into deep mines in Nevada. The proprietors of the Globe Iron Worke have the exclusive right for the manufacture of this machine on the Pacific coast.

During this year Mr. Blake sold out to Keep & Bargion. In 1868 the business aggregated $140,000. There was built a stationary engine, 20 by 24; aleo, machinery for the steamers Colusa, Hope, Clara Crow, T. C. Walker, Empire City, Chin-du-Wan and Harriet; also a stationary engine for Sherman, Cook & Co. Machinery for the steamers Tuolumne City, Ellen, and a quartz mill for the Confidence mine were constructed in the year 1869, and the balance of the year wae chiefly confined to the manufacture of the Root blower, pumps, horse-powers, agricultural and houee fronte. Business slightly fell off in 1870, the aggregate not exceeding $75,000. In addition to local work this year, machinery was manufactured for the steamer Merchant, built for the Amoor river, the Emma, and one etationary engine, 24 hy 48. The business fell off considerably in 1871, $65,000 or thereahout being the sum total. During the last and preseut year the work has coneisted principally of the manufacture of Keep'e pump, of which we made mention some time ago, and horse powers, blowers, etc., and the necessary castinge and iron work for headers and agricultural ware for Baxter, Webster and others. The number of men employed at the preseut time is eighteen, althongh at timee as many ae twenty-five are employed. The Globe Iron Worke are situated corner of Commerce and Main streete, and are exactly one block from the water front. Probably not less than the sum of one million and a half of dollars hae been handled in conducting the husinees of thie small, but compact and efficient eetablishment alone, or an average of $100,000 a year since it was founded.

TO REMOVE MARKING INK.—Wet the etain with freeh solution of chloride of lime; and after ten or twelve minutee, if the marks have become white, dip the part in solution of ammonia (the liquid ammonia of chemists,) or hyposulphite of soda. In a few minntes, wash in clean water.

Useful Information.

Punching Holes in Straps.

The punchiag of holes through the various strape of a harness, for bnckle-tougnes aad for attaching the bnckles, is a matter of considerahle importance, aad does not, as a rule, receive the attention that it should. The old method of punching thom, from the upper or grain side of the leather, has heen very generally abaudoned by the mannfacturers of fine work, it heing deemed injurious to the wear of the leather. The principal objection arises from the liability of the grain of the leathor to crack from the strain on the buckle-tongue, and to be the cause eventually of the leather tearing, as it causes such a crease where the tongue catches that it injures the textnre of the leather aad makes it tear the hole more or less. In addition to this, if the leather is very strong the tongue of the buckle is sure to he bent out of shape. All these objectious can be obviated hy punching from the under or flesh side of the strap, and by nsing punch, the long sides being parallel with the leagth of the strap, the punch shonld bo set at an angle of about twenty degroes, cntting the holo at such an angle that the bnckle tongno will rest in it without throwing any strain on the inside of the leather.

Some object to punchiug the hole from the uader side on account of its forcing the grain ont, and thns disfignring the oatside edges of the hole; this can be corrected, however, by driving the pnnch throngh the hole from the ontside, which will cut away the slightly tnrned edgo of the grain, and set it down smooth and olean. It is not necessary, however, to repnneh any holes except those that will be exposed when the harness is complete. Punches should be as thin as possible, as the extra thickaess of the metal straias the leather. —*Harness Journal.*

Drawing Screws.—Few things, says an exchange, are more vexatious than obstinate screws which refuse to move, much less to be drawn out; and in the struggle against screw driver power snffer the loss of their heads, like conscieatious martyrs, rather than take a single half tnrn backward from the eourse they have followed, and from the position they have beea forced into. Like obstinate children, they mnst be coaxed, or rapped pretty hard on the head, according to circumstances; ia fact, whoever has a tight, obstinate screw to "draw ont," must keep his temper down and his resolntion np qnite as much to the sticking point as the screw does. If the screw is turned into iron and not very rusty, it is only necessary to clear the head with the wedge of the driver, and let a few drops of oil penetrate to the threads; but, finding that excessive heat or rust has almost fixed the screw immutshle, then heat, either by placing a piece of hot iron upon it or directing the flame of the blow pipe npoa the head, and, after applying a little oil, tnrn out gently; but care must be taken not to let the tool slip so as to damage the notch. If, however, the screw refuses to come out, try to force it back with a blunt chisel, smartly hut carefully tapped with a light hammer; but if evidently nothing can dislodge the enemy, it is best to cut the head away and drill out the screw. When an obstinate screw happens to he in wood, merely give it a few taps on the head; hut failing in that, heat it with a piece of hot iron, when it may he easily turned.

To Destroy Field Mice. — Smoke, it is well known, will soon destroy these little pests, but how to introduce it into their holes ia an easy wsy may interest some of our readers. Professor Nessler, of Carlsrnhe, has devised a sort of pellet which gives off great quantities of smoke whea huraing, so thst it is only necessary to put some of these into the holes and ignite them in ordor to suffocate the mice. Their preparation is nearly as follows: Some fibrous substance, such as jute, is soaked in a coucentrated solution of saltpeter, dried, then dipped in tar, and, when half dry, flowers of sulphur are sprinkled over it. When fully dry, the jute fibers are cut into little pieces, like pills, and are ready for nse. As soon as they are ignited they are stuffed into the hole, which is then stopped up with earth. Could not this method, or some modification of it, he applied to the purpose of destroyiag those great enemies of our farmers, the squirrels? Strangling by sulphur fumes, if practicable, would he far less expensive than poisoning hy phosphorns or strychnine.

Dyeing Sheep Skins.—Unslacked lime and litharge, equal parts, mixed to a thin paete with water, will color huff—several coats will make it a dark brown—hy adding a little ammonia and nitrate silver, a fine black is produced. Terra Japoaica will impart a "tan color" to wool, and the red ehsde is deeponed hy spongiag with a eolution of alum water to "set" the colors. One part crystalized nitrate silver, eight parts carhonate ammonia, and one and one-half parts soft water, dyee hrown—every additional coat darkene the color until a black is obtained.

Glycerite of lime nsed in hurns ie said hy De Breyne to soothe the pain and prevent inflammation or diminish its intensity; it is prepared from recently slacked lime, one part; glycerine, fifty parts; chlorinated hydrochloric ether, one part.

Restoration of Oil Paintings.—It appears that the hrilliancy of the colors in oil paintings is due to the optical properties of the substance contained in the oil, kuown as linoline. By exposure to the air, this substance, at first liquid, absorbs oxygen, becomes solid and transparent, firmly enclosing the particles of color. Linseed oil contains 80 per cent. of this linoline. By lapso af time and physical and chemical changes, the linoline loses in some degree its transparency and the picture fades, those colors containiag the least oil changiag most. Pettenkofer has discovered that the vapor of alcohol will renew the qualities of the linoline, and he restores old oil paintings by placing them over a tight box, in the bottom of which is a flannel cloth, which has heen dampened with alcohol of 80 per cent. strength. The arrangement shonld be such that every part of the picture will be exposed to the alcoholio vapor.

Removal of Oily Matter from Wool, Etc., by Hynao-Caanon Vapor.—According to Simonin and Coffia, hy passing vapor hy any of the light hydro-carboas produced in the rectification of petrolonm (as naptha, otc.,) through wool, horse-hair, feathers, etc., placed on suitable open frames, it will take np the oily matter and retain it in solution after condensation. By distilliug this solution, and either passing the vapor through fresh portions of wool, etc., or condensing it, the oily matter is left as a residue, which can be purified aad utilized. Treatment with vapor is more effective than with liquid hydro-earbon, siuce it comes into more intimate contact with the suhstance to be purified.

What Oil to Buy. — Do not hny dark or very white kerosene—the light yellow is safest. Lamps with "sun hurners" economise the light most. There is a patent hanging lamp fasteuod to the ceiling by a strong, coiled brass string, which can be pushed up or pulled down to any hight at pleasure The apparatns is durahle. Such a lamp is nearly as coavenient as gas, and is ehcerful over the teatable or work-tahle.

To make tracing-paper, castor-oil is mixed with three or four parts of absolnte alcohol, and the homogenoas mixture spread over the paper with a brush. After the drawiag is made, the paper may be washed with alcohol, aad will return to its original condition.

Domestic Economy.

Farm House Chat.

[Written for the Press by Mary Mountain.]

A sweet young lady with thonghtful blne eyes snd cheeks like roses followed me into the kitchen and said:—"Mrs. Mountain, I should really like to cook if I could do it easily and quietly like yon; hut I dirty all the dishes, and danh myself from head to foot with dongh, and cut my thnmbs aud burn my fingers, and scorch my face till it hlazes; and perhaps the things won't he very nice after all."

But, my dear, they *will* be nice; and yonr own perserverance will finally make smooth sailing through the domestic "sea of tronhles." Our awkwardness disappears as we gain confidence and fiad in this as in other things that practice makes perfect. Now this is the way to make

The Graham Pie-Crust.

Sift the pan abont half full of flour, then make a hole in the center and dip in two cups of graham. Put in a little salt, a small teaspoonful of pulverized soda, and ruh in thoronghly a heaping tahlespoonful of cold sweet lsrd or hutter. Then mix with a cup and a half of buttermilk and stir until the dough is stiff enough to mansge nicely with the hands; then knead it for a while and you caa soon tell when it seems just right and no longer sticky.

Now separate a portion, a little more than one-third; sprinkle flour on the hoard and roll this piece ont till about ¼ of an inch thick, and spread evenly upoa it with a knife ahout a spoonful of the lard or butter. Sprinkle flour thickly npon that, double over the sides, roll it up snugly from end to end and there you have your "upper crust." Using the fine flour freely upon the board you will find that both under and upper crust will roll out as nicely as any pastry; will not be very tough, will look well enough and *digest without a pang.* Plenty of cream in place of the lard or bntter would make a more truly "hygienic pie;" but the average stomach finds no fanlt with these.

The amount of dough just made will do for three or four pies, according to eize of plate; and oae soon learne to divide the dough and make all thinge come even.

"What shall I do to prevent fruit pies from boiling ont in the oven?"

Sprinkle a spoonful of flour in with the sugar and that will absorh and thicken the jnice somowhat, hut very much depends upon the arrangement of the crust. I roll the upper crust large enough to leave a margin all around the plate. Then having wet the edge of the under crust the two adhere pretty firmly, and the projecting margin ie neatly tucked under snd "fenced around" with a gentle pressure of fork-tines. A eliced apple pie requires long cooking, and if water is added in the make-up, it is very apt to break through the crust and away go the rich jnices into the oven, burning, emoking,—such a discouraging muss! So, if yonr apples are at all juicy, add no water until after the pie is baked, hut then as soon as taken from the oven iutroduce throngh a slit in ia the crust a few spoonfuls boiling hot. This I learned from good Aunty S——, whose deep, delicious apple pies are a "dainty dish, fit for a king."

"How mnch sugar onght I to pnt in?"

Well, that depends npoa the tartness of the apple with most cooks, but if not very sour I always add a little tartaric acid; for a flat, iasipid apple pie wonld upset the complaisance of Henry Ward Beecher and perhaps spoil a sermon! So you see how important that it should be tonod np.

"But everyhody is not so critical and epiourean as Beecher."

Yes, but we may as well have a high standard and work np to it. I have never forgotten his description of

"The Perfect Apple Pie,"

And since reading it, I have made several that I would not he ashamed to set before him; but as for letting him eat them all before they are qnite cool—that is a little too much for any well regulated woman.

Once a week ia winter and twice a week in summer, is often enongh to make pies when the housekeeper is also the honsemother, and striving to value jnstly the claims of sonls and stomachs, aad sll the clamorous rangs of duties at home and abroad.

"Do tell me just how the Beecher pie is made."

Oh, he conldn't tell himself how to make it! oaly *how it should taste*, aud the exalted sensations of a man slowly aad thankfully eating his way throngh a very hig piece of the perfect apple pie.

But this is my way. Lay the sliced apple upon the bottom crust until abont half is thus placed, then spread over a cnp of nice sugar, a large spoonfnl of flonr, a little dash of sslt, a slight sprinkle of nutmeg, several small lumps of butter, and if the apple is not very tart, a hit of tartaric acid as large as half a nutmeg—powdered of course. Then lsy on the rest of the apple; fix the npper erust carefully; bake rather slowly, with even, steady heat; add the hot water as a finishing touch, and the pie, cold or warm, will comfort the stomach if it cannot inspire the hrain.

"I thonght they needed a great deal of nutmeg."

No. I learned from Faith Rochester that a little gives delicate flavor like lemon, while a large quantity is simply coarse aad bitter.

"And now the brown hread, please, before I go home."

Yes, I must hurry thst up directly; it takes so long to bske. Making it so often I havo no need of an exact rule, but here is one for you if you like.

Brown Bread.

Three cups corn-meal, one cup graham, one cup fine flour, two-thirds cup syrnp, teaspoonful of salt. Mix with three cnps hnttermilk and one cup warm water, in which dissolve heaping teaspoonfnl of soda. Bake in moderate oven three hours, covering closely sfter the first hour, or after it is browned over.

I hake in a deep tin basin and put a stove-cover under it in the oven to prevent burning. The quantities of meal and flour may he much varied. Hslf corn-meal and half graham make a very good loaf, nerhaps the hest, when your corn-meal is ground pretty fine. But if cosrse corn-meal is nsed, the additiou of a little fine flour make the loaf cut more smoothly. If you have no graham, two parts corn-meal and one part fine flour, or middlings, will make excellent hrown hread.

"Why do you pnt so much water with the soda?"

Because if mixed wholly with hutter-milk the loaf is too tender and crumbling. Sour milk is not eo rich and if that is nsed there would be no special need for so much water. And if you like it sweeter than this (I mean if your father or—hushand?—would like it sweeter,) put in a whole cup of syrup, or ponr without stint or measure, like the woman who declared the minister's tea "would be none too good if 't was all 'lssses." After a little practice yon can make experiments and never fear spoiling the moist, ruddy, coarse loaf.

"And will this do just as well steamed?"

Yes, I think so; but my good Stewsrt stove bakes so nicely I have almost given up the steaming proeess. Covering the loaf protects the crust and the long-continned heat gives the rnddy color.

"Now I want to know one thing more. How can you always tell how much soda is needed? All the rules are snre to say a tesspoouful, bnt sometimes that is too much and spoils things."

We must learn, my dear, to

Cultivate Our Noses.

Stir np hriskly the huttermilk or sonr milk, and a gentle, critical "sniff" will tell us whether it ie elightly acid or very sour. If fresh and new, a pint of buttermilk will need about a hslf teaspoonful soda, while another pint a few days old would neutralize a heaping teaspoonful.

One must learn to judge of all degrees of acidity hy smelling or tasting, *and by careful observation of results.* If dry soda ie mixed with meal or flour it must he very finely powdered and thoronghly mixed. If dissolved in water or milk it must he added *the last thing*; then the batter well beatea is ready for the hot oven or griddle. Nearly all old cooks understand this; but beginners can "make a note of it."

Good Health.

About Fried Food.

We copy the following from a foreign paper because we believe there is a good deal of sense in it:

One of the first ecraps I light npon is one I picked up somowhere, evidently from an Amerioan newspaper, from the dishes mentioued, about the health of farmers. What singular combinations of odibles they make nse of in tho United States! This jotting, after assuring us that farmers ont in the west are not so long-lived as other classes, although under proper dietetic conditions they ought to be more so, proceeds to say: Fried dishes several timos a day, with several fried articles at each of the threo meals, is one of their common dietetic abominatioas; driod beof, old cheese and pickles, are among the common relishes, while lard and saleratus make their richer daiuties infectious and canstic. We bave seon ou a farmer's table fried pork, fried eggs, fried potatoes and fried griddle cakes for breakfast; fried ham, fried hominy and fried parsnips for dinner, and fried sausages and fried doughnuts for supper—all the frying doae in lard.

No class is so troubled with canker, erysipelas, tumors, cancers and hnmors, as farmers; snd tho excessive uee of pork, lard, fiae flour, rich cakes and greasy pastry, is enongh to account for it. In dietetic habits onr farmers are sadly misled hy the agricultural journals, nearly all of which pander to their prejndices and flatter their morbid appetites by recommending and commending swine hreeding and pork eatiag, while they fill their Kitchen Colnmn with receipts for making "rich and pslatable" puddings, pies, cakes and other complicated dishes, which no stomach ever carried inside of a human body could long tolerate without death or dyspepsia. The essential need of our farmers is plain, wholesome food, properly cooked. This would give them mnch more available power for work, relieve them of many of the distresses and expenses of sickness, add many years to their life, and reader old sge "green" and normal instead of dry and docrepid, as it is in most cases under existing hahits.

Plants as Doctors.

In addition to the pleasure that may be derived from horticultnre, the sanitary valne of flowers and plants is a feature of the subject so important ss to call for special meation. It was known many years ago that ozone is one of the forms in which oxygea exists ia the air, snd that it possesses extraordinary powers as oxident, disinfectsnt, and deodorizer.

Now, one of the most important of late discoveries in chemistry is that made by Professor Manegazza, of Paris, to the effect thst ozone is generated in immenso qnantities by all plaats and flowers possessing green leaves and aromatic odors. Hyacinth, migaonette, heliotrope, lemon, mint, lavcnder, narcissus, cherry, laurel, and the like, all throw off ozone largely on exposure to the sun's rays; and so powerful is this great atmospheric purifier, that it is the belief of chemists that whole districts cau be redeemed from the deadly malaria which now infests them by simply coveriag them with aromatic vegetatiou. The bearing of this upon flower culture in our large cities is also important.

Experiments have proved that the air of cities contains less ozoue than that of the surrounding country, and the thickly inhahited parts of cites less than the more sparsely huilt, or than the parks snd open squsres. Plants and flowers aad green tress oan alone restoro the balance; so that every little flower-pot is not merely a thing of heauty while it lasts, hnt has a direct and heneficial influence upou the health of the neighborhood in which it is found. Surely it is a beautiful provision of Nature thst something which is at once the most daiaty of occupation and most delightful of amusements shonld he intimately bound up with the solntion of problems so important as the health of our cities aad the redemption of fever-infected districts in the country.—*Appleton's Journal.*

Prof. Tyndall arguee against the commonly taught notion that man requires absolutely pure air and water. Chemically pure air—air that is without a trace of ammonia, carhonic acid, or water—is, he ssys, not to be found, and the one thing certain about it is, that if it were, no one could live in it. Neither is pure water ever fonnd in nature; snd observation of the whole animsl creation, incinding man himself, tonds to show that pure water ie not necessary, nor even demonstrahly desirahle. Every sunbesm which enters a darkened room shows how thick with solid impuritiee is the air which man hreathes—yet no one on thst account fears to breathe it; the same thing holds true in regard to water, hut this need not necessarily make sny one afraid to drink it. Neither all foreign matters, nor even all foreign organic matters, are of necessity unwholesome, and the votaries of strict science too often represent msn ss a being who mnst submit the world to a series of severe chemical operations before it is fit for him to live in.

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Legal Tender Rates.—S. F., Thurs., Dec. 11—buying, 91; selling, 91¾.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—The Cuyamaca Grant Decision; Sprague's Combined Sash Lock, Sash Holder and Weather Strip; The Largest Gold Bar; Veneer Key, 369. Hydraulic Engineering on the Pacific Slope, 376-7. Ball's Sweeping Dredger, 377. Giant Powder; Patents and Inventions, 380.
ILLUSTRATIONS.—Sprague's Combination Sash Lock, 369. Hydraulic Engineering on the Pacific Slope, 376-7.
MECHANICAL PROGRESS.—Gas-Burning Locomotive; Liquid Slate for Roofs; Power for Saws; A Mammoth Boiler; Glass Cloth; Writing Machines; Diamond Saw; Fire-Proof Joists, 371.
SCIENTIFIC PROGRESS.—Revolution in the Alkali Manufacture; Fusion of Platinum; Purifying Iron; Defecation of Drinking Water, 371.
MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 372.
MINING SUMMARY from various counties in California, Arizona, Colorado, Idaho, Lower California, Montana, Nevada, 372-3.
USEFUL INFORMATION.—Punching Holes in Straps; Drawing Straps; To Destroy Field Mice; Dyeing Sheep Skins; Restoration of Oil Paintings; Removal of Oily Matter from Wool, Etc., by Hydro-Carbon Vapor; What Oil to Buy; To Make Tracing-Paper, 375.
DOMESTIC ECONOMY.—Farm House Chat, 375.
GOOD HEALTH.—About Fried Food; Plants as Doctors, 375.
MISCELLANEOUS.—Grass Valley Mines; The Franklin Mill; International Mill; San Jose Mining Company; Find Claims; Mineral Lands in California; Carihou Mines; Mint Coinage, 370. Scenes in the High Sierras.—Yosemite; Fashion and Fire; The Globe Iron Works; To Remove Marking Ink, 374. The Loyola Scientific Academy; Affairs in Ely District; The Harbor of San Francisco; Substantial Water Works; Academy of Sciences; Gold on the Yellowstone; Rich Discoveries; Ore Shipment; Sitka Gold Mines; Mining Accident; Miraculous Escape of Three Miners, 378. The State Geological Survey, 379.

UTAH MINE SWINDLES.—We have been thinking for some time of keeping the heading to this item in type constantly, as we have, unfortunately, to use it so often. The Utah people are certainly out of luck in having so many mining sharpers among them, as it does the interests of the country incalculable damage. In future the man who tries to float a Utah mine will have his hands full. We notice that capitalists at the east are making a general onslaught upon those who have robbed them with Utah mining property. John N. Whitney, a prominent mining operator, has been arrested and taken east on a requisition by the governor of Michigan, charged with fraud in the sale of the Eureka mine, Tintic. Three more requisitions are at hand for other parties. The trouble about all this is, that the swindlers never get punished.

COURSE OF LECTURES.—The trustees of the Mechanic's Institute, in conjunction with the State University, have provided for a course of fourteen lectures, to be given by the Professors in the University, during the winter, as heretofore, on Saturday evenings. The price of tickets for the course has been fixed at $2, which is expected to cover expenses. The course will commence Saturday, January 3d. and he as follows: January 3d, President Gilman, on *Modes of Promoting Scientific and Industrial Education in Large Towns*. January 10th, President Gilman, *On the Use and Conduct of Modern Universities in Free and Prosperous States*. Lectures will also be delivered by Professors James Le Conte, Carr, Soule, John Le Conte, Kellogg and Swinton.

Hydraulic Engineering on the Pacific Slope.

Virginia and Gold Hill Water Works—Iron Pipe under a Vertical Pressure of 1,720 feet—A Great Undertaking Working Successfully.

Ever since the silver mines were first opened on the Comstock lode, it has been a question of importance how to supply the towns that spring up in the vicinity, and more especially the mills and hoisting works, with water. A company was organized at an early day, which proposed to use the water from several old tunnels above the level of Virginia City, for the purpose of supplying this want. After a few years they found that the supply would not be sufficient, but by drifting additional tunnels at different locations, they increased the volume of water, which has been plenty up to within the past two years. As the shafts on the Comstock lode were sunk deeper and lower levels run, the supply from the tunnels, etc., diminished sensibly. The water necessary for the growing towns of Virginia and Gold Hill, as well as the new and enlarged hoisting works, required that additional steps should be taken to supply this deficiency. A company which is composed of such enterprising men as Flood and O'Brien, John Skae, Mr. Hobart, Alvinza Hayward, James Fair and John Mackay, directed their attention to the eastern slope of the main Sierra Nevada mountains and especially to the so-called Dall's creek, which is within a distance of 21 miles on the line of the water course to Virginia. They also purchased the necessary lands and a lake called Marlette lake, situated at an elevation of about 1,500 feet above C street, Virginia, and within a mile of the eastern shore of Lake Tahoe, but about 1,000 feet above its level. This lake has an area of about 300 acres and is 15 feet deep when full in the winter.

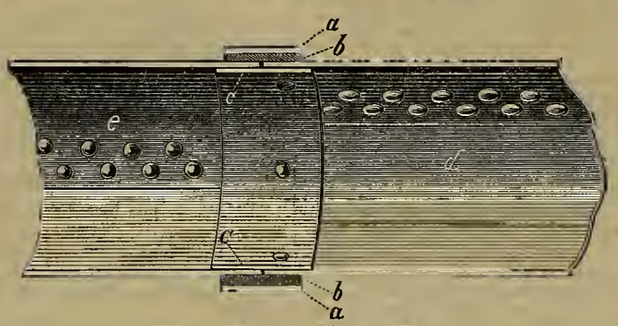

FIG. 1. LEAD JOINT IN DETAIL.

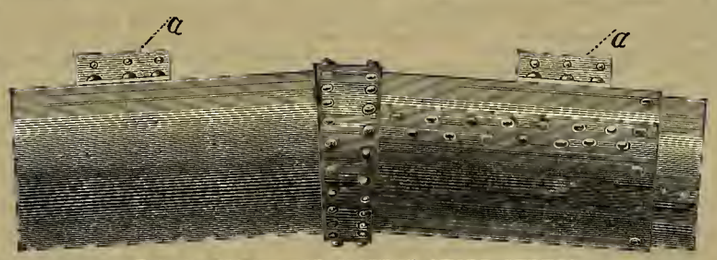

FIG. 2. ELBOW FOR MAKING SHORT CURVES.

The Great Difficulty

In bringing the water from these places over the proposed route, was the necessity of crossing a valley seven miles in width, with steep and precipitous sides, where the pipe in the shape of an inverted siphon would have to sustain a pressure of over 1,700 feet perpendicular.

The Work Inaugurated.

In the fall of 1871, the company referred to engaged Mr. Hermann Schussler, of the Spring Valley and other water works, to examine into the feasibility of their project. He reported favorably, and gave the company the assurance of the entire practicability of the scheme. In the spring of 1872 operations were begun, and Mr. Schussler made the necessary surveys personally, and furnished the proper requisitions for rivets and iron, which, by the way, consisted of ten different numbers of the Birmingham gauge, graduated from No. 16 to No. 0. The project was then well under way. The firm of McCrindle & Co., of this city, furnished the Scotch iron, and Geo. C. Johnson & Co., of this city, the rivets, which were of American manufacture. The contract was awarded to the Risdon Iron and Locomotive Works, for making the pipe according to the specifications and under the personal supervision of Mr. Schussler. The Risdon Works, especially owing to the great care of their superintendent, Mr. Joseph Moore, acquitted themselves of their difficult task to their great credit. The Risdon Works make a specialty of this class of work and in many of the various hydraulic enterprises with which they have been connected have made the necessary calculations, and always guarantee their work to do what they promise. They have made a large proportion of the iron pipe now in use in the hydraulic mines in this State, more especially where high heads are used. They have special tools for turning out this work, and Mr. Moore's great experience in this line has enabled him to make accurate calculations as to size of pipe, iron, nozzles, questions of fall, head, etc., so that the Risdon Works make nearly all the pipe used in our mines, always having orders of this kind on hand.

Although during the first month that the water was turned in and through the pipe, a great deal of difficulty was experienced with the

Lead Joints in the Pipes,

On account of expansion and contraction, yet by the application of proper apparatus, shown in the accompanying illustrations, the pipe was made perfectly tight and safe, so that at the present day, after three months' use, the pipe has proved wonderfully successful. It is worthy of remark, as showing the kind of pipe turned out by the Risdon Works, that there was absolutely no leakage in the pipe joints, it only occurring at the lead joints where the pipes are joined together.

Figure 1 shows one of these lead joints, which is made between every two lengths of pipe of 26 feet 2 inches in length each; *a*, is a wrought iron collar, always one-sixteenth of an inch thicker than the thickness of iron in the respective pipe, leaving a play of ⅛ of an inch between the inside of the collar and the outside of the pipe. The collar is five inches wide; *b*, is the lead which is run in and then caulked up tight from both sides, the thickness being ¾ of an inch; *c*, is a nipple of No. 9 iron, 6 inches in width, riveted in one end of each pipe by means of six ⅝ rivets.

Figure 6 shows the method of

Tightening Leaky Joints;

a, shows the clasp and its application for forcing back the lead, where it had worked out on account of the longitudinal working of the pipes by expansion and contraction. This is shown both in perspective and in cross section. The clamp, *b*, in Fig. 6, is used to keep the lead in place after it has been forced back by the clamp, *a*. The two lower sketches of this clamp, *b*, show both a side view and elevation.

The Pipe,

The most difficult feature of the undertaking, begins at an elevation of 1885 feet above the track of the Virginia and Truckee railroad, at a point about two miles west of Lake View Toll House, and thence follows by an easterly course the crest of the spur from which it starts; crosses the valley at the toll house referred to, and gradually ascends to its outlet end, making the entire length 37,100 feet. The water at present is taken from Dall's creek by an 18 inch flume four miles long, to the inlet, or western end of the pipe. From the outlet or eastern end of the pipe, the water is conveyed through a flume of the same size, 9 miles long, into Virginia and Gold Hill, where it connects with the present city pipe system. In the future the water from Marlette lake will be conveyed to the inlet of the pipe and be added to the supply from Dall's creek.

All the iron pipe used is coated, inside and out, with a mixture of asphaltum and coal tar, thoroughly boiled together, each separate piece being plunged and rolled about in a bath of this mixture for from seven to ten minutes before being shipped to its destination. The average diameter of the pipe is 11⅛ inches, and its entire weight about 700 tons. Nearly one million rivets were used to manufacture it and some 35 tons of lead were required in making the joints. At the point of heaviest pressure the iron is No. 0 thick, and is hot riveted with ⅝ inch rivets, there being a double row on the straight seam and a single row on the round seam. The pressure gradually decreases as the ground rises to the east and west, and the iron decreases in thickness from five-sixteenths to one-sixteenth of an inch toward both inlet and outlet. But on its course to the outlet, it having to cross a great many spurs and sags, the iron varies of course according to the pressure, as the diagram (Fig. 7) shows.

Pressure on the Pipe.

The inlet has a perpendicular elevation above the outlet of 465 feet, but just now only 300 feet is used, as this head will supply ten times as much as the two towns have heretofore had. This head carries into Virginia about 2,000,000 gallons every 24 hours, and by increasing the head to its fullest capacity, the supply can be increased to 2,350,000 gallons per day. When the water is running with its present supply, as used at Virginia city, it has a pressure of 1,720 *feet perpendicular* or 750 *pounds to the square inch*. But while the extra tests were being applied the pressure was brought as high as 800 pounds to the square inch without injuring the pipe in the least. The pipe and a joint were tested at the Risdon Works before shipment and stood a pressure of 1,400 pounds to the square inch.

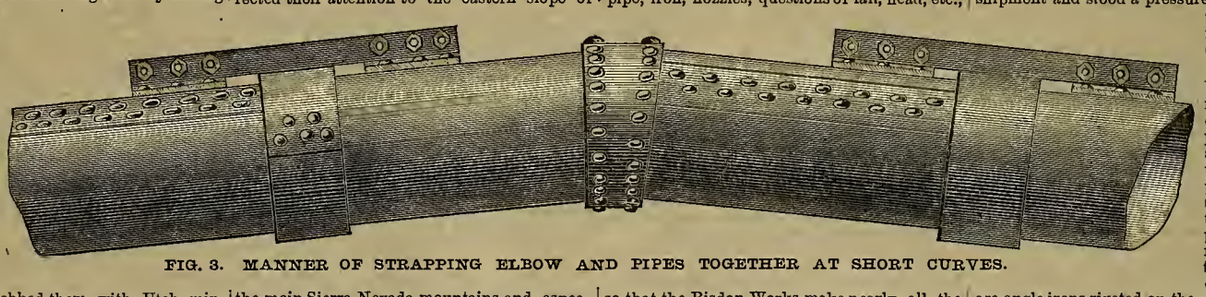

FIG. 3. MANNER OF STRAPPING ELBOW AND PIPES TOGETHER AT SHORT CURVES.

Crossing the Gorges and Spurs

Was a difficult matter to carry out with the pipes. Fig. 2 shows the elbow used for the purpose of making short curves in the line of the pipe around rocky bluffs, through sharp ceñons, etc; *a*, *a*, are angle irons riveted on the pipe on the outside of the curves, which, by means of iron straps, were connected with the corresponding angle iron on the next pipe.

Fig. 3 shows the manner in which the pipes and elbows were strapped together, wherever the curve was sufficiently short to require this precaution against an outward movement. The iron strap is put on the outside of the curve to strengthen the pipe.

Fig. 4 shows the blow-off used in every low place, and marked with a triangle in Fig. 7.

Fig. 5 shows the self-acting

Air, or Vacuum Valve

used at each high point on the line of pipe. When the water is on, the valve, *a*, is kept wide open; the small valve, *c*, is shut, while the valve, *b*, is shut by the pressure. If any air accumulates in the pipe, on the elevation where this air cock is placed, it is occasionally blown off, by opening the cock, *c*. Should a break occur in the main pipe line at a point lower than the air cock, and within its district, the valve, *b*, falls down and admits the air into the main pipe so as to prevent a vacuum. Should the valve, *b*, get out of order, the valve, *a*, is shut, and the other valve, *b*, taken off and repaired. After a break on the main line is repaired, and the water let on again, the valve, *b*, being

down or open, the air rushes out at *b*, its stem being weighted by the weight, *d*, so as only to close when the solid water commences to rush out.

Engineering Difficulties.

Fig. 7 will give our readers an idea of the country over which this undertaking was carried out, as it shows a profile of the pipe. The triangles below the lines indicate the location of the blow-offs. *O*, above the line, represents the cocks. The numbers shown along the undulating line show the numbers of iron used under the various pressures. The perpendicular columns of figures from 100 to 1,700 indicate the pressure on the pipe at the points where the parallel lines strike the profile.

Quick Work.

From the time of commencing the manufacture of the pipe until the water ran into Virginia City, only five months elapsed, the water arriving there about the first of August. To construct a work of such magnitude in so short a space of time, and with such success, reflects great credit on the engineer, the foundry and all concerned. The diagrams used in connection with this article were kindly furnished us by Mr. Schussler, and we produce them here to give the mechanical world an idea of the details of construction of the line. As an undertaking in hydraulic engineering it was difficult, as the body of water had to be passed through a huge inverted siphon over seven miles long, in doing which such an enormous pressure as 1,720 feet had to be overcome.

Greatest Pressure in the World.

Up to the completion of these water-works, the Cherokee Flat pipe, which is under 930 feet pressure, was sustaining the greatest pressure of any in the world. Mr. Schussler was also consulting engineer in that enterprise, and figured the exact thickness of iron and quantity required at different pressures, number of rivets, etc. The pipe which we have been describing sustains nearly double the pressure of the Cherokee Flat, and stands now the greatest in the world, the ordinary pressure being 1,720 feet. It was an engineering feat of no small magnitude to carry this enterprise to a successful completion; and in view of the difficulties to be overcome, it will attract the attention of engineers all over the world.

Mr. Hermann Schussler,

The constructing engineer of this work, though quite a young man, has been engaged in nearly all the prominent hydraulic engineering enterprises carried out on this coast for some years. He is a graduate of the Prussian Military Academy of Oldenburg, of which he was a member from 1859 to 1862, being promoted lieutenant on the first of January, 1862. In the fall of that year he took leave of absence for two years, and during that time attended the civil engineering schools of Znrich and Carlsruhe, for the purpose of perfecting himself in his intended profession of civil engineer, as he desired giving up a military life. In the fall of 1864, having had his leave of absence changed into a definite leave from military service, he came directly to San Francisco, where he entered into the service of the Spring Valley water works, first as assistant engineer, but was promoted afterwards to chief engineer of the undertaking, which was finally completed to the satisfaction of every one in 1871. From this time his career in other large works on the Pacific coast commenced. He was connected, as consulting engineer, with the Oakland water works, San José water works, Vallejo water works and Stockton water works; was chief engineer of the Marin county water works and those of Virginia City and Gold Hill. During the past year he was chief engineer of the Sutro tunnel company, where, as our readers will remember, he made the very close connection between the header and shaft No. 1, on the 27th of September last.

Outside of all these duties, Mr. Schussler has been employed partly as consulting engineer and partly as projector in various hydraulic enterprises in different parts of the State, which have always been carried out successfully. He surveyed the ditch of the La Grange Hydraulic Mining Company, in Stanislaus county, and was consulting engineer, as before mentioned, of the Cherokee Flat mining pipe. He projected the present Pioche water works, in Nevada, where he makes a five inch pipe of No. 16 iron, 6 miles in length, sustain a vertical pressure of 600 feet. The private water works of General Miller, in Napa valley, were built under his supervision, as were the fire protection works at the New Almaden mine. We might mention numerous other undertakings with which he has been connected, if space permitted, but have instanced enough to give our readers an idea of his ability in hydraulic engineering.

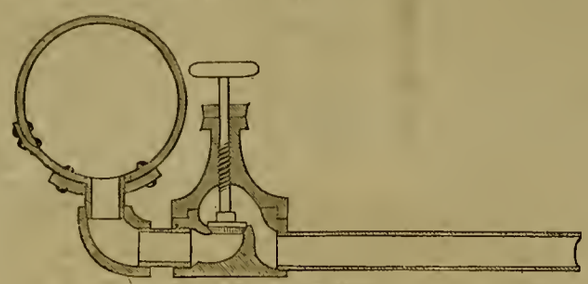

FIG. 4. BLOW-OFF IN EVERY LOW PLACE.

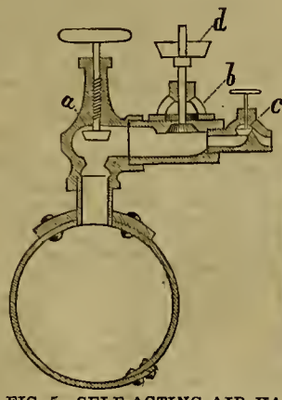

FIG. 5. SELF-ACTING AIR VALVE.

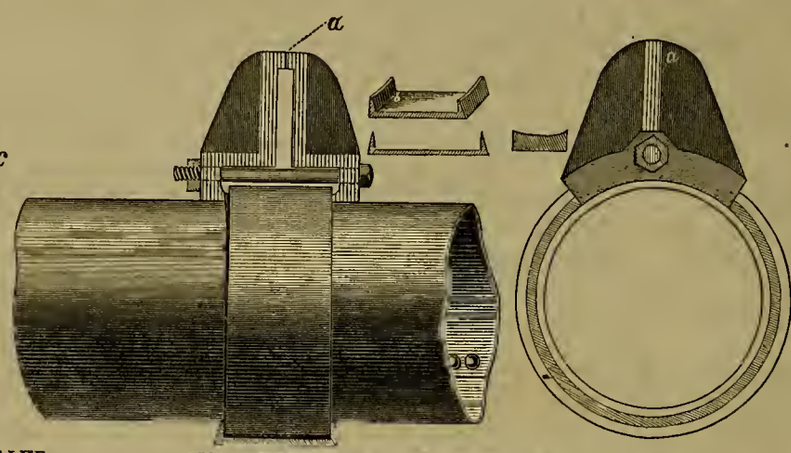

FIG. 6. METHOD OF TIGHTENING LEAKY JOINTS.

Ball's Sweeping Dredger.

Operations were commenced this week to deepen the water on the Oakland bar, across the mouth of Alameda creek. The dredge being used is of a new and peculiar description, the invention of John A. Ball, of Oakland. The buckets run on an endless chain, but operate very differently from those on the ordinary endless chain dredge. The buckets are made to pass down on top of the chain and up underneath, contrary to the usual method. They are made of wrought iron, the nose only being of steel. They cut forty inches across and each one will carry a cubic yard of mud. Each bucket with attachments will weigh about 750 pounds, and the machine carries twelve in all, though only four are rigged at present.

The buckets are made rectangular in form, and ride on two chains on either side, which has one end pivoted to each side of each bucket by a rod which passes across inside of the bucket; the opposite end of the link being connected with a curved advance rod. By this means the upper portion of the bucket, as it reaches the top and in turning the pulley, is made to swing out from the curve of the chain and rise in a perpendicular position. While in this position it discharges its load automatically, the curved rod acting as an arm to hold the bucket in its perpendicular position.

The bottom of the bucket is hinged to the side farthest from the chain and a roller or small cylinder is supported at each end by the two chains just below the free end of the bottom when it is closed. It will be readily understood that when the bottom is closed and the bucket stands in a line with the length of the chains the roller will support and keep the bottom closed, but when the bucket moves around the upper drum the lower end will be forced outward and upward by the short turn which the bucket must make, and thus free the bottom from the roller so that it will fall open and allow the load to drop out. As soon as the bucket turns the upper drum and starts down the chain again, the bottom closes automatically and the roller again moves up against it and keeps it closed. The device for operating the valve and holding the bucket in proper position until it is discharged is very simple and effective.

The chain which carries the buckets is a peculiar one, being an improvement perfected by Seth Wetherbee, of this city, who has the contract for dredging the bar. Each alternate link is cast iron, and the chain weighs a little over 30 pounds to the foot. The chain on each side is 114¼ feet long. Each cast link is three inches wide and the wrought ones are 2⅛ inches wide by one inch. The cast link is made with a steel bushing, and a steel pin turns in this bushing, but is otherwise kept in a stationary position. A powerful set screw is arranged to take up any slack in the chains and keep an even tension on both of them.

The barge which carries the machinery is a heavy one, 70 feet long, by 20 in width. The machine was originally made for the Central Pacific Railroad Company, and cost some $14,000. The expense of putting in Mr. Ball's improvement will amount to from $4,000 to $5,000. The engine is of 40 horse power, with a 12 inch cylinder and 28 inch stroke. The engine is connected with the driving shaft of the machine by a system of gearing so as to increase the power.

The "ladder," at the top and bottom of which are the pulleys which carry the chain on which the buckets ride, is 50 feet long, the pulleys increasing it to 56 feet. This allows them to dig 30 feet deep if necessary. This ladder is hoisted and lowered by the engine, so as to vary with the depth of the water. The chain will make a revolution every ten minutes.

Mr. Ball calls his invention the "sweeping dredge," from the peculiar manner in which he proposes to operate it. At the bow or opposite end from the dredging machinery is placed a large triangle made of heavy timbers, which is some 70 feet long. At the pointed end of the triangle is a heavy stake pointed at the bottom and pivoted to the triangle at the top. This whole arrangement is raised by machinery. On beginning operations the triangle is dropped and the pointed "spud" sticks in the mud firmly. An anchor is put out on both sides at the extreme edge of the channel and the dredge is hauled from one side to the other by guys on the dredge. As the spud on the triangle keeps the machine from going ahead or backward, it is "swept" from side to side by the guys to the anchors passing over pulleys attached to the machinery. By this means the machine can take off four feet ahead each time, and can by lengthening or shortening the triangle take in a sweep of 30 feet long and as wide as the length of the triangle will admit. The apparatus requires an engineer, a fireman and a man to "feed" the machine. All the iron work on the buckets, chains, etc., was done at Scoville's machine shop in Oakland, and a very good job he has made of it. At the preliminary trials, made this week, the machine worked well, and active work commences as we go to press. At present the triangle proposed by Mr. Ball is not in use, the barge having a plain "spud" attached in the bow. The contractor has four months to complete the contract.

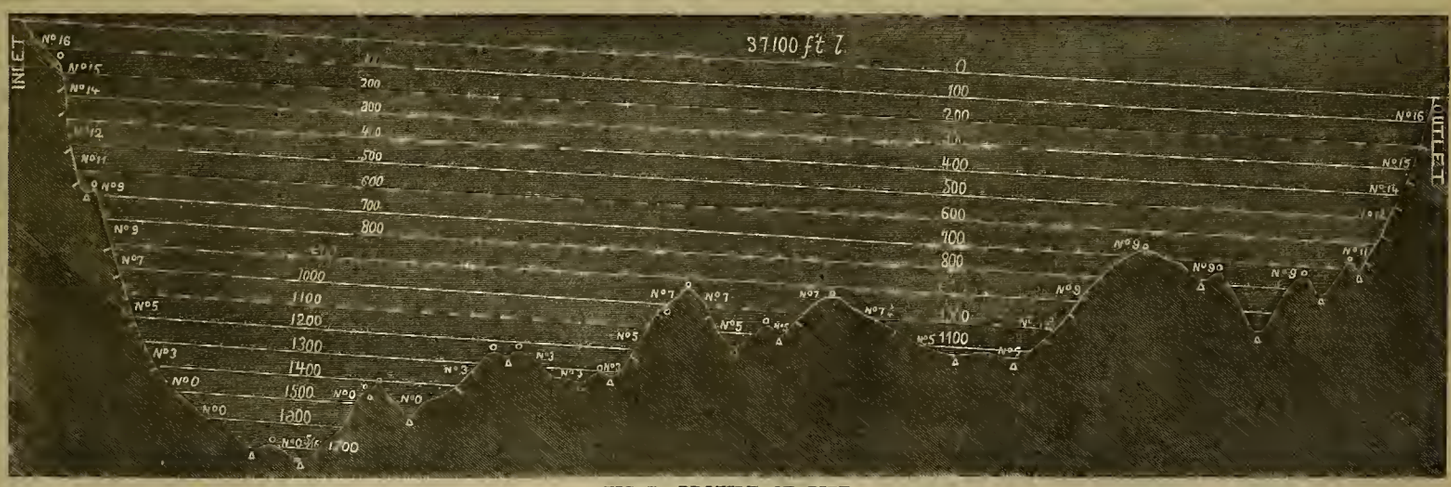

FIG. 7. PROFILE OF PIPE.

MINING ACCIDENTS.—John Mulcahy was instantly killed and his body terribly mangled by falling seven hundred feet down the main shaft of the Hale & Norcross mine, at 8.30 on the 8th inst. Seemingly in a fit of absent-mindness he ran a car into the open shaft. The sudden jerk of the car pulled him after it. He fell from the surface to the 700-foot level. His head was taken off from his chin upward; he was cut in two at the hips and both legs cut off near the knees.

Daniel O'Donnel was killed in the Eureka mine, Sutter creek, on the 10th by a rock falling and striking him on the head.

The Loyola Scientific Academy.

The Loyola Scisntific Academy is the nsms of a society which was permansntly establishsd by Fsther Jossph M. Neri, of St. Ignatius College, in this city, in Msy of this year.

This junior academy is intendsd for yonng gentlemen who wish to cultivate ths natural sciences, principally in the branchss of general physics, chsmistry, mineralogy and geology. Any gentleman of good standing, who has devotsd some time to the study of thess branchss of scisncs is eligibls to msmbership, upon a written application, sndorssd by some of the active memhsrs of this Academy. If admitted, they attend first as junior memhers; and after having given sufficient evidence of their interest, proficiency aud capacity, they may be promoted to the position of senior members and receive then a certificate of membership.

The academy numbers already many talented young men; is in a very prosperous condition in its very iufancy, and from all appearances promises to he very nseful and important.

The meetings take place regularly, twice a month. At the scientifio meetings, which fall on the first Monday of every month, visitors are always welcome; and several of them have improved the opportunity and made good nse of the privilege.

The regular exercises consist—First, of an original essay, upon a suhject previously assigned. Second, a scientific conference, or diecnssion upon a stated suhject, carefully prepared, in which four or six members take part, each on a certain portion of the subject allotted to him. Third, a paper of scientific intelligence, or a notice of recent facts and discoveries, improvements, inventious, etc. Fourth, solution of queries and problems, previously proposed, and assigned for solution to the various members of the academy. Fifth, volnnteer scientific notices, and discussion on the same, by any of the members, active or honorary. Then new subjects, queries and problems are proposed, adopted and assigned for the next Monday; and thus two or three hours are very usefully, interestingly and pleasantly spent by all.

At one of the late meetings a very interesting essay wss giveu hy Mr. J. F. Sullivan, A. M., on the importance and advantages of the study of natural science.

A conference on diamonds; their composition, properties, localities, and means of detecting them, by Messrs. T. D. Riordan, A. B., Jerome Hughes, Thos. H. Griffin, A. B., etc.

Another couference, or discussion, on atmospheric air; its physical and chemical properties; its composition; the functions of its components, their transformations, consumption and eupply, by Jno. T. Fogarty, Alf. Kelley, James Boland, and J. Hughes. A paper of scientific intelligence on the discoveries of 1873, by Rohert Tohin, A. M.

The following queries and problems were aolved by other memhers:—Why has California a dry and a wet season? Why is lightning forkèd? Why do cloudsflost in thoair? Do we see the sun and stars in the exact place they occupy? Iufluence of aqueous vapor on climate; causes and influence of the Gulf stream; why is the conntry more healthy than the town? etc.

The next scientific meeting will he held on the first Monday of next month, Janusry 5th, 1874, when the essay will he on the beauty aud importance of the study of physics, proper. The conference will be on coal; its formation, localities, means of extraction, abundance, uses and products, and its influence on progress.

Among other questions, the following will be answered:—Ou flame and combustion; the action of nitric acid upon iron; the soluhility of substances; why does the south wind bring rain to San Francisco? On certain sounds rising in pitch as they approach our ears, etc. Important scientific notices will be given, and visitors are welcome to propose new problems and queries for solution.

A library has been already commencsd, which, it is hoped, hy the help of patrons and promoters of science, will soon contain the most valuable scientifio books of the time, and will be the means of spreading useful knowledge, besides aiding the memhers to prepare their regular exercises.

Affairs in Ely District. — The Pioche *Record* of the 30th nlt. says: A perusal of our separate review of the different mines referred to in our present issue cannot fail to give hope to the despondent and inspire with renewed oourage the more hopeful of the community. Only one prospecting party has left Pioche eince our former review, and we hear of none which contemplates an early departure. Matters are apparently fast adjusting themssl ves by the departure to other localities of the discontented portiou of the population, leaving those who remsin more opportunities for obtaining work. We have no items from any of the districts adjaoent to our own, and heuce this week's review will not he lengthy. Coneidering that we are upon the eve of "pay day," times are not so dull. With the dishursement of a large amount of money to the nnmerous employés of the different mining companies, we look for a better state of affairs before the end of the week.

The Harbor of San Francisco.

Governor Booth spssks as follows in his message concerning ths harbor of San Francisco:

In November, 1863, the Stats took posession of ths water-front at Ssn Francisco, and has since that dats managsd it through her Board of State Harbor Commissioners. The Board has collectsd $2,196,094.64, and has expsnded $1,929,388.23. The only improvement of a permanent character that has been made, is a sea-wall embankment 3,252 feet in length. The Act authorizing the construction of this bulkhead requires it to he 8,337 fsst long, but the work was suspsnded three years ago becauss ths rsvsnuss from port charges were insufficient to prosecute the work and to pay current expenses.

In national importance, the port now ranks third in the respect of duties paid on imports, and in other respscts ranks equal with any; and as a subject of vital interest to the State, it is entitled to and demands the most serious, deliherate and lahorious attention.

The wharves are constructed of such material aud in such a manner that from the moment of their completion there is the certainty that they must he rebuilt, partially within three years, and (excepting a few) wholly within a few years more. The harbor is constantly and persistently shoaling. The sewerage system of the city increases the evil. The water front presents to tidal currents a series of obstructions which produce eddies, and a euccession of angular traps for mnd and sediment. With an increasing commerce, there is no adequate increase of accommodation, hut on the contrary there is danger of a deorease. The State has expended $115.33 per day since Novemher 1, 1863, for dredging in slips and at docks, levying a tax upon commerce to pay the aggregate of $401,361.10 and the work has simply given temporary accommodation to vessels. It has not been of the least permanent benefit.

The ravages of the *toredo navalis* and the *limnoria terebrans*, destructive marine worms, preying constantly upon wooden piles; the various methods of protectiug and preserving suhmerged wood; the shoaling at the docks; the dredging, repairing, rehuilding and creating new facilities for commerce; and especially the radical change in the outline of the water-front necessary to a system of wharvos and docks constructed npon engineering principles are ably and elahorately discussed in the report of the State Harhor Commissioners. It is apparent that if the State continues to mauage the water-front, it would be difficult to devise a plan for the purpose more effective and economical than the present one, honestly administered as it now is; and if the only deductions that can be drawn from ten years' experience with it may be accepted as correct, the fact has been demonstrated that in order to create a water-front worthy of the important position, and to remove the world-wide stigma of exorhitant port charges in our harhor, the State must resign direct control and management. This is the nnavoidable conclusion of the theory of making commerce pay for the harbor improvements. The revenues will suffice to pay current expenses, and to make ordinary repairs, but no genuine advantsge will be gained or substantial improvement made, nor will the surplusage of receipts enable the best management to meet the requirements of an annually increasing tonnage.

But one alternative presents itself, and that is the increase, hy taxation of property, of the revenues devoted to the construction and maintenance of wharves, docks and piers.

Without discussing the question or cousidering here whether snch a tax were most appropriately laid on the property throughout the State, or on that in San Francisco alone, I recommend the latter, and in my opinion the city of San Francisco should be vested with entire charge of the water front, under carefully devised and well considered restrictions, and under a statutory scheme that will eventually result in a free port, and in establishing shipping facilities in our harhor that shall be second to none in the world. Ship aud car should be giveu all possihle facilities for coming together; and as the waters are open to all ships, so should the railrosd tracks along the piers he open to all the cars, of all companies, forever.

Substantial Water Works. — The *News* says: The Crown Point, Yellow Jacket aud Keutuck mining companies, together with the Virginia and Truckee railroad company, own in partnership a large tank situated just above tho American Flat grade. A six-inch cast-iron pipe wae the first employed to convey water from the tank to the hoisting works and to the railroad depot. The pressure upon the pipe, however, was so great that it hursted at several points. The several companies named above procured an eight-inch wrought iron pips, which has heen laid, and answers well all the purposes for which it was intended.

The Plumas *National* states that during the past three or four weeks Mr. A. C. Light has taken from his little ledge, located on the mountain south of Indian Valley, Plumas Co., Cal., something over $5,000. The hest part of it is that he hae pounded it out with a hand mortar, aud has plenty more of the same rock left. Mr. Light has recently purchased a little ranch of Mr. Frank Fox, which was in the cañon below his mine, and he will make arrangements to sluice off the ground under the ledge during the coming water season.

Academy of Sciences.

Our usual rsport of the meeting of the California Acadsmy of Sciences wss orowdsd out lsst week. The mssting was held on the 1st inst. and Msssrs. J. R. Scripharn, Henry Kimhall, Dr. E. J. Fraser, S. P. Carusi and W. W. Lockington wsre electsd msmhsrs.

The following donations to the Cabinet were received: From Hsnry Edwards, a fishing drsss wovsn of soms kind of cordage fahrio growu on Fiji Islands and nsed hy the females, probahly to protsct thsmselvss from injury hy ths coral rocks. From Captain George E. Bslknap, of the United States steamship *Tuscarora*, a lump of Nanaimo coal, from the Chase River seam, with fossils and fossil leaves distinotly marked in it. From Captain William E. Metzger, two shell fish of the genus *Pinna*, ahout a foot aud a half in length, taken from the hay of Espiritu Santo, near La Paz, Lower California. From Castle Bros., two suits of Japanese armor, suitahle for a Daimio and attendant. From Professor Agassiz, a splendid edition of the "Revision of the Echini," beautifully illustrated. From the New Zealand Institute, a copy of the "Transactions of the New Zealand Institute." From Mrs. J. C. North, a collection of plants from Norway. Erom Mrs. Swift, of San Francisoo, two volumes of the United States Astronomical Expedition to Chile. Three photographs of the moon snd various miscellaneous pamphlets and magazines were also donated.

Professor Bolander described by the aid of the blackboard the different lilies of California.

Professor Davidson made a few remarks with regard to the advantages of a circular diamond saw for sawing stone.

Gold on the Yellowstone.—A correspondent of the *Montanian*, writing from Bozeman, Montana, ssys: The Yellowstone gold excitement ie inteusifying here. Every day or two a party quietly slips out of town to find and follow the trail of Professor Vernon, the reported discoverer. But the excitement has the peculiarity of being of a semi-suppressed character; nohody cares to acknowledge confidence in the Professor's story, yet it is evident that confidence therein is daily growing strongsr. I will briefly give the particulars. for the benefit of your mining readers. The Professor started from Bismark last spring, with Geu. Stanley's command, aud accompanied it as far up as it came, when he left the expedition and came on through here to Bozeman, his old home. Arrived here, he told astonishing stories ahout the richness of hill, gulch and bar diggings he had found "ahont 300 miles down the Yellowstone valley;" said he "could pan out more money in a week than he could make teaching school an entire year;" that "the gold was coarse and the gronnd prospected from the surface down," and that "the working facilities could not be beat." His friends tried in vain to influence him to defer his trip until spring; he said, in reply to their remonstrances, that there was liahle to he a rnsh to the new diggings from the railroad, as two men returned there who were with him when the discovery was made, and he didn't want others to get in ahead of him. The Professor is of rather excitable nature, and, some say, more than ordinarily imaginative; hut would any aane man start ont on such a trip, at this season of the year, on anything short of "a sure thing?" This is the consideration which has inspirsd such general confidence among our citizens. And then the Professor was plainly informed that his followers might become *desperate* if he disappointed them.

Rich Disooveries.—The *Bedrock Democrat* (Baker City, Oregon) says: The new quartz ledge, the discovery of which we mentioned last week, created considerable excitement in our city, and started several other parties on the look for other ledges in the vicinity of the new discovery, and there have at least three others been discovered; two by Rockefellow, and one hy Fred Bohna. The James Gordon ledge, to the extent of 1,560 feet, including the discovery, is owned hy W. H. Rockefellow, E. W. Reynolds, John Brattain and J. A. Reid, who have hsd an assay of the rock, which showed a richness of over $200 to the ton. The proprietors intend to have some twenty tons of their rock, which they are already taking out, crushed and worked at the Virtue mill to test its richness by the milling process. They have great faith in the richness of their new ledge, and we hope they may not be disappointed in their expectations. The other ledges, at the time of this writing, have not been tested hy an assay of the rock—the rock is good looking, and we would not be surprised if it was found to be equally as rich as that of the James Gordon. If these ledges prove good, it will give a new start to Baker City such as it has never yet experienced, Baker and Grant counties ahound in rich mineral deposits, and with capital to work and develop our mines, are hound to become two of the richest counties in the State; they have all the elements to make them so.

Ore Shipment.—We learn from Mr. F. A. Smiley, the ohliging telegraph operator at Gold Hill, that during the month of Novemher 2,279 car loads of ore passed over the Virginia & Truckee railroad to the various mills in Silver City, on Carson river and in Six-Mile cañon.—*Gold Hill News.*

Sitka Gold Mines.

The *Alta* is indebted to Mr. Theodore Haltsrn, a passenger by the lsst stsamer from Portland, for the following particulars of the rsosnt gold discovsries in Sitka. and for a sight of the rock which has tnrnsd the heads of our Alsskan nsighbors. The larger piece is of white quartz, with occasional masses of snlphurets of iron, snd very fine streaks of free gold, but clearly visibls to the naked eye.

The Main Ledge,

That owned by ths Alaska Quartz Mining Compsny, wss discoversd last winter by Mr. Haley, a miuer from Nevada, who had worked in ths Chollar-Potosi and Ophir. Mr. Haley went prospecting with some friends in Sitka, and discovsred this ledge at the foot of a ravine. The first specimens were pounded in a hand-mortar, and yielded sstisfactory results, and then work was prosecuted qnietly. Major Stewart, commander of the post, Mr. Millitech, and several other residents of Sitka, formed a company to furnish the means, and a tunnel was rnn in fifteen feet, the rock still giving encouraging returns. Specimens sent to San Francisco for assay, were found to yield $276 to the ton. Two tons were now sent for a working test, aud the reenlt is looked for every day.

The Extent of the Discovery.

Having satisfied themselves as to the richness of the rock, the discovers now inspected their property carefully, to find how mnch of snch ore they could expect to get. The ledge was found to be six feet in width, and widening as the tnnnel progressed; the ledge is distinctly traceable to the top of the mountain, 800 feet high, and inclining back so far as to give a penetration of 300 feet hy tunnel to strike directly under the highest point of the ledge. They estimate that at least 10,000 tons of the ore can thus be said to be in sight. Having settled the points of richness and quality, the oompany will now endeavor to get the necessary capital to work the mine and become millionaires. They have rich ore, plenty of timber, lots of water, good climate, and accessibility—all they want is the ready money to put up machinery.

Another Ledge.

The ledge first spoken of is three miles from Silver bay, which is twelve miles north of Sitka. Another ledge has since been discovered only two miles from this bay, and is said to be richer than the first. The width of the seam of rock is said to be eleven feet. Haley also discovered this ledge, and has formed a company with Mr. Rogers, Captain Olmstead and other officers of the post at Sitka.

How to Get There.

Silver bay is twelve miles from Sitka, and has deep water snfficient to float vessele of any size, and good anchorage. The mountains are heavily timhered with pine and cedar, and therefore vessels are nsed from Sitka to the bay, rather than to attempt to make a wagon road. Sitka is reached by steamers from Portland once a month, carrying the mails. The fare is $70; fare from San Francisco to Portland $30.

The people of Sitka are much elatèd over the discoveries, which they fell confident will bring a large population to Mr. Seward's purchase. And, hy the way, they brag of their climate, which is very mild, enabling minera to work both winter and summer.

Mining Accident.—An accident occurred in the Savage incline at 11 o'clock last night, by which one man had a leg broken and was literally skinned alive, and another was badly bruised. Sevon men of the shift retiring at 11 o'clock were ascending the incline from the 1,700 to the 1,600 foot level, on the monster giraffe "Comanche," and when near the latter level the huge engine flew the traok and did some ground and lofty tumbling. "Coon" Morgan, one of the miners on board, was thrown between the jumping giraffe and the side timhers of the incline, whereby his right leg was hroken just above the ankle, and the skin, and in places the mnscles of his back were torn off. Pat Burke, another of the passengers, was thrown npon the track in front of the giraffe, which passed over and bruised him badly, without fracturing any bones. The other five men were considerably shaken up and hadly scared, but fortunately the ascent of the giraffe was stopped hefore further damage than that mentioned was inflicted.—*Virginia Chronicle, December* 2d.

Miraculous Escape of Three Miners.—Yesterday morning, about 8 o'clock, the foreman of the Silver Hill mine and two of his workmen were precipitated to the bottom of the main engine shaft, a distance of 330 feet, and yet, wonderful to relate, escaped with their lives. They had no more than stepped upon the csge at the surface, for the purpose of descending into the mine, than the cahle hegan slipping on the reel, aud they went to the bottom with lightning-like rapidity. Luokily, there was a considerable depth of water in the dump at the bottom of the shaft, which broke the force of their fall.. Although a good deal cut and hruised, they managed to crawl into another compartment of the shaft, whsnce they were hoisted to the surface and properly cared for. Trnly the perile of the miner are many, and we may add, past finding out.—*Virginia Enterprise.*

The Crown Point Mining Company paid ont to their employés $76,000 on the 3d inst.

The State Geological Survey.

Governor Booth speaks as follows of the State Geological Survey in his message:

In establishing and continuing this work, the State has appropriated $246,600, and the State Geologist now reports $100,000 as the minimum appropriation adequate to the publication of the works in hand.

Admitting and regretting my own want of technical knowledge of the various subjects in connection with the geological survey, I think that the reasonable expectations of the people of the State, founded in great degree upon the reports and assurances of the State Geologist, have not been fulfilled by the results accomplished.

Early in February, 1872, for the purpose of obtaining definite information concerning work proposed, to be done, I addressed a letter to the State Geologist. The reply, dated February 12, 1872, stated that the volumes of ornithology, botany, conchology, and possibly palæontology, would probably be into the publisher's hands within a year. By his report, transmitted herewith, it will be seen that, notwithstanding the lapse of nearly two years, and the expenditure of $34,000, no new maps have been published which were not exhibited in proof sheets in 1872, and no new volumes have been published, nor have any been sent to the printer, except a portion of that on botany, "which will be in type, if no unexpected delay occurs, before the end of 1874."

The present condition of the survey is, that there have been published one volume of geology, two volumes of palæontology, one volume of ornithology, the Yosemite books, map of the vicinity of the bay of San Francisco, map of the Sierra Nevada adjacent to the Yosemite, map of the Yosemite Valley, and a portion of the map of Central California, and that there is a large quantity of work in various stages of preparation.

The operations during the past two years, as shown by the report, have been confined to trips to Yosemite, Alpine and Calaveras counties, the earthquake region in Inyo county, and a geological excursion from San Diego to Los Angeles.

Work was also done on that particular geology of the San Francisco Bay map, the immediate publication of which was promised eleven years ago. No other geological work was done; nothing in the mining district. It cannot be doubted that in authorizing the commencement of this scientific work, the Legislature contemplated that within a reasonable period of time, there would be published, and made accessible to all, one or more volumes of Economical Geology, embracing the mines and useful minerals of California, with abundant geological and mining maps and illustrations, and containing useful generalizations touching the several branches of what was then our leading and peculiar industry, together with important delineations of the gravel mines and ancient rivers. No such books or maps have been published, and, so far as the survey is concerned, the world is yet in ignorance of the geological features of the mining region on the western slope of the Sierra Nevada, excepting such information as can be gleaned from the generalizations and scientific descriptions contained in the one volume of geology published. A scientific description, and the accurate geological mapping of the auriferous area bounded by the Stanislaus river, Spanish Peak, in Plumas county, the Sacramento river, and the summit of the Sierra, would be of greater service to us than all that has been accomplished and made public, though, perhaps, less tributary to a wide renown.

The topographical maps are beautifully executed, exhibiting original and compiled work of great value; but no maps have been published showing elevation of areas, and there is nothing in the books, maps, or reports, unless incidentally, that will assist to solve the great problems of drainage, irrigation, or reclamation—problems so purely dependent upon the aid of science of the exact nature invoked by the State in this survey.

I am well aware that the published volumes are entitled to and have obtained the high appreciation and commendation of scientific institutions in the Old World and in the Eastern States, but I do not believe that it has been, or now is, the deliberate policy of the State to place her own best interests last in any scheme, however comprehensive, for the advancement of abstract science.

There are now in preparation, and it is contemplated to eventually publish, the following volumes, together with numerous maps: Physical Geography, General Geography, Economical Geology, Ornithology, Botany, Palæontology, Fossil Plants, Ichthyology, Conchology, and an Atlas Folio.

I recommend the appointment of a committee, whose duty it shall be to examine and ascertain the exact condition of all of these; to determine what shall be published, and when and how such publication shall be made; and to discover the amount necessary to be appropriated, in order to prevent loss to the State of work already done. And I am of the opinion that if the Geological Survey were connected with the University of California and made a part of its work, the best possible results could be secured, both from the materials on hand and those yet to be accumulated.

It is rumored that in the course of his expedition to Central Africa, Sir Samuel Baker discovered gold deposits of great richness.

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Giant Powder.

In our laet issne we published an extract from the Trnckee *Republican* on "Giant Powder in Fishing;" intending at the time to make some comments on the erroneous statements in the item. The writer says "it is so little understood, even hy scientific men, that no rules can he laid down for its use," which is entirely a mietake. It ie understood hy scientific men and rules are laid down for its nse. It is only when these rnles are violated that there ie danger of accident. If we violate the rules of common sense with common gunpowder, accidents will occur as well as with Giant Powder. The *Republican* states that "the nitro-glycerine oozes out of the earth with which it is mixed," when it is no safer than nitro-glycerine.

Theee statements would not have been made if the writer in the *Republican* had read an article on the manufacture and use of Giant Powder, which appeared in onr iesue of July 12th, 1873, after the exploeion at Virginia City. The Giant Powder ie transported everywhere on onr steamers, care and wagone, but the infueorial earth of which it is made holds the nitro-glycerine in such a manner that there is no danger of explosion. If ignorant people make foolieh experiments with it, they are apt to "come to grief," ae they would with any powder; and if people are careless and ignore totally the rules of common senee as well as the rules for using the powder, they have nohody to hlame hnt themselves. Unless exploded with the peculiar cap made for the purpoee, there is no danger from Giant Powder. When the explosion of nitro-glycerine occurred here at the company's works, there were 12,000 pounds of Giant Powder within 30 feet of the nitro-glycerine, and although the hoxes were torn to pieces, the powder did not explode. When the *Meteor*, on Lake Michigan, hurned up last year, there were 8,000 pounds of Giant Powder on hoard which *burned* up also, hut did not explode.

The powder is nsed to a great extent on this coast and elsewhere. Wherever any accident hae occurred, iuvestigation has proven that it was the result of stupidity, carelessness and from not following the directions issued by the company. So it is not "extremely dangerous in the hands of the most careful," ae the *Republican* seems to think. If that paper desired to deter parties from murdering fish hy using the powder, it took a good course to save them from it hy explainining its danger, and we appreciate its motive; hnt the statements need are exaggerated, and apt to convey a wrong impression of a very nseful article.

NEW MAP.—The State Geological Survey Map of California and Nevada, to which we referred at length in onr issne of Octoher 25th, has heen issued to the public. The scale ie 18 miles to an inch, and it is ahout 44x38 inches in size. The map is finely execnted, and in accuracy and appearance excele anything puhlished heretofore. The canvaesing agent, Mr. Sleator, is now calling at offices and places of hueiness generally, to receive the names of those wiehing to procure the map. It costs $3.50.

THE storm of the past week hae extended al over the coast and even San Diego got some of the rain. The San Diego river, which has been dry for eome five yeare, was running fnll at laet acconnts. Snow, hail, wind and rain have held high carnival for over a week and the ahundant enow supply in the mountains will eneure a good mining season, and good times for the miners.

A BED of marl has been struck in excavating for the stone dry dock at the Mare Island Navy Yard. It ie almost identical with the well known New Jersey marl, nearly and prohably ite equal ae an enricher of the soil.

MINERAL LAND.—Thirty-eight claims to mineral land have haen filed in the Stockto n Land Office during this year, covering 2,619 acres. Mineral lande sold, 2,159 acres, for $6,170.

CHISPA.—A Spaniard mining on Spring creek, Shasta connty, laet week found a nugget of gold weighing $300, near where Rochon took out a $3,000 chunk laet year.

THE caee involving the ownership of the Geysers and a numher of quicksilver mines adjacent thereto, has heen concluded and a deciion will soon he rendered:

THE NEW AGE.—Thie journal, the official organ of the I. O. of O. F. in this State for nine yeare, has recently reduced its eubscription price from $5 to $3 a year.

PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., Nov. 4, 1873.

FOR WEEK ENDING OCT. 21ST, 1873.*

TENONING MACHINE.—William M. Sack, Oakland, Cal.

REISSUE.

WAGON SPRING.—Edmnnd P. McCarthy, aesignor to self and John B. Grant, S. F., Cal.

By Special Dispatch, Dated Washington, D. C., Dec. 9th, 1873.

FOR WEEK ENDING NOV. 25TH, 1873.*

STEAM PLOW. — Isaac S. Allen, Montelions, P. Browen and Charles W. Lathorp, S. F., Cal.

GRAIN SEPARATOR.—Samuel Daw, Corvallis, Oregon.

FLY-TRAP.—Cyrns Packard, Eureka, Nevada, and Syranus Standieh, Pacheco, Cal.

SPRING POWER. — Theodore Ebeling, S. F., Cal.

ROAD SCRAPER.—Roland F. Read, S. F., Cal.

MANUFACTURE OF COPPER INGOTS FOR ALLOYING GOLD AND SILVER.—John Feix, S. F., Cal.

PROCESS FOR PURIFYING QUICKSILVER. — James B. Randol and Charles W. Wright, New Almaden, Cal.

SHANK CASTER.—W. H. Hanna, Chico, Cal.

TRADE MARK.

CIGARS AND TOBACCO.—The Consolidated Tobacco Company, Gilroy, Cal.

——*The patents are not ready for delivery hy the Patent Office nntil some 14 days after the dato of issne.

NOTE.—Copies of U. S. and Foreign Patents furnished hy DEWEY & Co., in the ehortest time possihle (hy telegraph or otherwise) at the lowest rates. All patent husiness for Pacific coast inventors transacted with greater eecurity and in much less time than by any other agency.

KIND WORDS.

The Associated Reformed Presbyterlan says—For years Perry Davis' Pain-Killer has been known as a most useful family medicine. For pains and aches we know nothing so good as the Pain-Killer. For many internal diseases it is equally good. We speak from experience, and testify to what we know. No family ought to he without a bottle of Davis' Pain-Killor.

MESSRS. PERRY DAVIE & SON, Prov., R. I.—

Gents:—Although a stranger to you I am not to your invaluahle medicino, Pain-Killer. I formed its acquaintance in 1847, and I am on most intimate terms with it still; my experience in ite use confirms my hoief that there ie no medicine equal to Pain-Killer for the quick and sure cure of Summer Compisints, Sore Throat, Croup, Brulsee and Cuts. I have used it in all and found a speedy cure in every case.

Yours Truly, T. J. GARDINER, M. D

Judging hy our own experience whoever once makes a trial of Perry Davie' Pain-Killer, will not fail to recommend it widely as an unequalled liniment, and valuahle internal remedy for colds and various other complaints.—*Every Month.*

The efficacy of Perry Davis' world-renowned *Pain-Killer* in all diseases of the howels, even in that torrible scourge, the Asiatic cholera, has heen amply attested hy the most convincing authority. Missionariee in China and India have writted home in commendation of this remedy in terme that should carry conviction to the most skeptical, while its popnlarity in communities nearer home is ample proof that the virtues claimed for it are real and tangible. Among family medicines it stands unrivaled.—*Boston Courier.*

The *Saturday Even'g Gazette* of Boston, eays:

It ie impossible to find a place on thie hroad land where Perry Davis' PAIN-KILLER is not known as a most valuable remedy for physical pain. In the country, miles from physician or apothecary, the Pain-Killer ie cherished as the exclusive psnacea, and it never deceives.

"PERRY DAVIS' PAIN-KILLER is really a valuable medicament, and, unlike moet of the articles of the day, is used hy many physicians. It is particularly desirable in locations where physicians are not near; and, hy keeping it at hand, families will often save the necessity of sending out at midnight for a doctor. A hottle should be kept in every house."—*Boston Traveller.*

"We have tested the PAIN-KILLER, and aseure our readers that it not only possesses all the virtues claimed for it, hut in many instances surpasses any other remedy we have ever known."—*Herald of Gospel Liberty*

SEVEN SAFEGUARDS AGAINST CONSUMPTION are nnited in *Hale's Honey of Horehound and Tar*. It calms the most violent cough and cures the worst colds in a few hours, and averts all danger. Crittenton's, 7 6th Avenue. Sold by all Druggists.

Pike's Toothache Drops oure in 1 minute. *

PHOTOGRAPH PAINTING done in the most satisfactory manner at 426 Kcarny street, from the smallest card to full life size, on very moderate terms by EMILY R. EAETMAN, Artist, 426 Kearny street, San Francisco. *

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NO LIFE INSURANCE COMPANY has a better record or more permanently popular reputation than the CONNECTICOT MUTOAL LIFE INSURANCE Co. J. E Roherts, 315 California Street, San Francieco, ie general agent for this Coast. Send to him for circulars and information of thie rchiable, first-claes company.

Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements

Black Mountain Coal Mining Company—

Location of principal place of husiness, City and County of San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 8th day of Octoher, 1873, the several amounts set opposite tho names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Case, Iham	24	100	$2 50
Cropper, (not issued)	29	100	2 50
Flanigan, Thomas	28	100	2 50
Hurgston, Jos.	27	100	2 50
Hughes, John (not issued)	40	2764	69 00

And in accordance with law, and an ordor of the Board of Directors, made on the Eighth day of October, 1873, eo many shares of each parcel of said stock as may be neccssary, will he sold at public auction, at the office of the said Company, No. 602 Montgomery etreet, Room No. 23, San Francieco, on the 29th day of Decemher, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13

Bunker Hill Quartz Mining Company—Lo-

cation of worke, Amador, Amador Connty, California.

Office, No. 19 First street, San Francieco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment (No. 12) of Ten Dollars per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 19 First street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 20th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with coste of advertising and expenses of sale. By order of the Board of Directors.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francieco, Cal. no15

Cupel and Tiger Silver Mining Company.

Principal place of husiness, San Francisco, Cal. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 25th day of Octoher, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J P Ridgeway	86	1006	$200 00
J P Ridgeway	87	1000	200 00
J P Ridgeway	88	1000	200 00
J P Ridgeway	89	1000	200 00
J P Ridgeway	90	1000	200 00
J P Ridgeway	91	100	20 00
J P Ridgeway	92	100	20 00
J P Ridgeway	94	100	20 00
J P Ridgeway	95	100	20 00
J P Ridgeway	96	100	20 00
J P Ridgeway	97	100	20 00
J P Ridgeway	98	100	20 00
J P Ridgeway	99	100	20 00
J P Ridgeway	100	100	20 00
William Miller	49	500	100 00
William Miller	50	500	100 00
William Miller	51	500	100 00
William Miller	52	500	100 00
William Miller	53	500	100 00
William Miller	55	500	100 00
William Miller	56	500	100 00
William Miller	57	500	100 00
William Miller	58	500	100 00
William Miller	59	500	100 00
William Miller	61	100	20 00
William Miller	145	50	10 00
William Miller	146	100	20 00
William Miller	147	100	20 00
William Miller	148	100	20 00
William Miller	149	100	20 00
W H Smith	24	25	5 00
W H Smith	25	25	5 00
W H Smith	28	20	4 00
W H Smith	29	20	4 00
W H Smith	30	20	4 00
W H Smith	31	20	4 00
W H Smith	32	20	4 00
W H Smith	140	1000	200 00
W H Smith	142	25	5 00
W H Smith	143	50	10 00
W H Smith	177	1200	240 00
Henry Raymond	13	200	40 00
W H Raymond	65	500	100 00
W H Raymond	66	500	100 00
W H Raymond	67	500	100 00
W H Raymond	68	375	75 00
T E Jewell, Trustee	33	500	100 00
T E Jewell, Truetee	34	500	100 00
T E Jewell, Trustee	35	500	100 00
T E Jewell, Trustee	36	500	100 00
T E Jewell, Trustee	37	160	32 00
E Martin Smith, Trustee	38	1000	200 00
E Martin Smith, Trustee	39	500	100 00
Augustus Laver	9	200	40 00
Augustus Laver	139	1000	200 00
Julius Renault	85	100	20 00
Jullus Renault	133	100	20 00
Julius Renault	134	100	20 00
Julius Renault	179	500	100 00
Horatio McPherson	11	200	40 00
Eugene Chenot	46	50	10 00
Honore Lacoste	48	100	20 00
A Noel	74	25	5 00
L M Gautier	75	50	10 00
Joseph Vernet	76	50	10 00
George Reiter	79	50	10 00
George Reiter	81	100	20 00
George Reiter	82	100	20 00
George Reiter	83	75	15 00
George W Drake	136	50	10 00
James R Martin	137	50	10 00
J C Warren	161	50	10 00
J C Warren	162	50	10 00
J C Warren	163	50	10 00
J C Warren	160	50	10 00
W O Sleeper	164	25	5 00
John M Murphy	165	100	20 00
M Kraszyneki	167	30	6 00
M Kraszynski	168	30	6 00
M Kraszynski	169	30	6 00
Charles Spencer	17	100	20 00
Charles Spencer	40	100	20 00
Charles Spencer	42	100	20 00
Charles Spencer	43	100	20 00
Charles Spencer	101	1000	200 00
Charles Spencer	102	1000	200 00
Charles Spencer	103	1000	200 00
Charles Spencer	104	1000	200 00
Charles Spencer	105	1000	200 00
Charles Spencer	106	100	20 00
Charles Spencer	107	100	20 00
Charles Spencer	108	100	20 00
Charles Spencer	109	100	20 00
Charles Spencer	110	100	20 00
Charles Spencer	111	100	20 00
Charles Spencer	112	100	20 00
Charles Spencer	113	100	20 00
Charles Spencer	116	1000	200 00
Charles Spencer	117	1000	200 00
Charles Spencer	118	1000	200 00
Charles Spencer	119	1000	200 00
Charles Spencer	120	1000	200 00
Charles Spencer	121	100	20 00
Charles Spencer	122	100	20 00
Charles Spencer	123	100	20 00
Charles Spencer	124	100	20 00
Charles Spencer	125	100	20 00
Charles Spencer	126	100	20 00
Charles Spencer	127	100	20 00
Charles Spencer	128	100	20 00
Charles Spencer	120	100	20 00
Charles Spencer	130	100	20 00

And in accordance with law, and an order of the Board of Directors, made on the twenty-fifth day of Octoher, A. D., 1873, eo many shares of each parcel of said stock as may he necessary, will be sold at public auction, at the office of the Company, room No. 12 Express Building, San Francieco, California, on Saturday, the twentieth day of December, A. D., 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. J. EATON, Secretary.

Office, room No. 12 Express Building, San Francieco, California. oc29

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and County of San Francieco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Eighth day of Octoher, 1873, the eeveral amounts set oppoeite the names of the respective shareholdere ae follows:

Names.	No. Certificate.	No. Sharee.	Amount.
Alexander, J.	52	50	$12 50
Cohhledick, James	131	25	6 25
Comelins, W.	174	490	122 50
Crocker, A E.	142	5	1 25
Forcster, B.	132	5	1 25
Forrester, B.	147	25	6 25
Forrester, J.	4	100	25 00
Harrop, Sarah	133	20	5 00
Hughes, Thos J.	10	50	12 50
Laruc, J.	2	100	25 00
Strader, W.	110	25	6 25
Strader, W.	111	25	6 25
Strader, W.	113	10	2 50
Strader, W.	122	5	1 25
Strader, W.	123	5	1 25
Washburn, C A		50	12 50

And in accordance with law, and an order of the Board of Directore, made on the 8th day of Octoher, 1873, eo many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 402 Montgomery street, Room No. 23, San Francisco, Cal., on the 15th day of Decemher, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with coete of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. no29

Forest Coal Mining Company—Princi-

pal place of husinees, City and County of San Fraocisco. Location of works, Santa Cruz County, Cal.

Notice is hereby given, that at a meetiog of the Board of Directors, held on the Eighth day of Decemher, 1873, an assessment of 33½ cents per share was levied npon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at his office, No. 402 Montgomery street, Room No. 23, San Francisco.

Any stock upon which this assessment shall remain unpaid on the Fifth day of January, 1874, will he delinqnent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 26th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHARLES B. BURROUGHS, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13-4w

Gold Mountain Mining Company.—Prin-

cipal place of husiness, San Francieco, California. Location of works, Lower Rancheria, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 21st day of October, 1873, an assessment of 25 cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at No. 115 Leidesdorff etreet, San Francieco, Cal. Any stock upon which this assessment shall remain nnpaid on the 13th day of Decem-

ber, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the Fifth day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. AUG. KNAPP, Secretary.
Office, 116 Leidesdorff street, San Francisco, Cal. no8

Great Blue Gravel Range Mining Company

—Location of Principal Place of Business, San Francisco, California. Location of Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of November, 1873, an assessment of Ten cents (10c.) per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on Monday, the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

WM. H. WATSON, Sec'y.
Office, Rooms 5 & 6, No. 302 Montgomery street.

Hayden Hill Mining Company—Location

of principal place of business, San Francisco, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 29th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Geo M Pinney, Trustee	10	500	$75 00
Geo M Pinney, Trustee	12	500	75 00
Geo M Pinney, Trustee	13	500	75 00
Geo M Pinney, Trustee	15	500	75 00
Geo M Pinney, Trustee	17	500	75 00
Geo M Pinney, Trustee	18	500	75 00
Geo M Pinney, Trustee	3	100	15 00
Geo M Pinney, Trustee	4	100	15 00
Geo M Pinney, Trustee	129	40	6 00
S A Raymond	1	100	15 00
H S Brown, Trustee	100	20	3 00
W H Gawley	19	500	75 00
W H Gawley	20	500	75 00
A W Blair, Trustee	38	50	7 50
A W Blair, Trustee	44	50	7 50
A W Blair, Trustee	46	100	15 00
A W Blair, Trustee	47	100	15 00
A W Blair, Trustee	48	100	15 00
A W Blair, Trustee	49	100	15 00
A W Blair, Trustee	51	500	75 00
A W Blair, Trustee	52	500	75 00
A W Blair, Trustee	04	500	75 00
A W Blair, Trustee	05	500	75 00
A W Blair, Trustee	66	500	75 00
A W Blair, Trustee	67	100	15 00
A W Blair, Trustee	68	100	15 00
A W Blair, Trustee	69	100	15 00
S A Raymond, Trustee	77	250	37 50
S A Raymond, Trustee	78	250	37 50
S A Raymond, Trustee	79	250	37 50
S A Raymond, Trustee	80	250	37 50
S A Raymond, Trustee	81	100	15 00
S A Raymond, Trustee	82	100	15 00
S A Raymond, Trustee	83	100	15 00
S A Raymond, Trustee	84	100	15 00
S A Raymond, Trustee	85	100	15 00
S A Raymond, Trustee	86	100	15 00
S A Raymond, Trustee	87	100	15 00
S A Raymond, Trustee	88	100	15 00
S A Raymond, Trustee	89	100	15 00
S A Raymond, Trustee	91	3000	450 00
S A Raymond, Trustee	93	50	7 50
S A Raymond, Trustee	99	660	99 00
Louis R Lull	73	100	15 00
W F Dorrance	132	50	7 50
W H Knight	75	100	15 00
A F Brown, Trustee	101	100	15 00
A F Brown, Trustee	102	100	15 00
A F Brown, Trustee	103	100	15 00
A F Brown, Trustee	104	100	15 00
A F Brown, Trustee	105	100	15 00
A F Brown, Trustee	106	100	15 00
A F Brown, Trustee	107	100	15 00
A F Brown, Trustee	108	100	15 00
A F Brown, Trustee	109	100	15 00
A F Brown, Trustee	110	100	15 00
A F Brown, Trustee	111	100	15 00
A F Brown, Trustee	112	100	15 00
A F Brown, Trustee	113	100	15 00
A F Brown, Trustee	114	100	15 00
A F Brown, Trustee	115	100	15 00
A F Brown, Trustee	115	100	15 00
A F Brown, Trustee	117	100	15 00
A F Brown, Trustee	118	100	15 00
A F Brown, Trustee	119	100	15 00
A F Brown, Trustee	120	100	15 00
A F Brown, Trustee	121	500	75 00
A F Brown, Trustee	122	500	75 00
A F Brown, Trustee	123	500	75 00
A F Brown, Trustee	124	500	75 00
A F Brown, Trustee	125	500	75 00
A F Brown, Trustee	126	500	75 00
A F Brown, Trustee	127	200	30 00
A F Brown, Trustee	128	60	9 00
Jas A Pritchard, Trustee	130	6250	937 50
O P Warren	131	50	7 50
W H Knight, Trustee	134	24920	3738 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 331 Montgomery street, room 18, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. H. KNIGHT, Secretary.
Office—331 Montgomery street, San Francisco, California. no29

Ida and Rhoda Lewis Consolidated Mining

Company. Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave county, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of October, A. D., 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Eugene Pardini	292	20	$2 00
E D Dement	303	25	2 50
E D Dement	304	25	2 50
E D Dement	305	25	2 50
E D Dement	306	25	2 50
T B Wingard	313	200	20 00
L Eleser	314	50	5 00
L Eleser	315	50	5 00
L Eleser	316	50	5 00
L Eleser	317	50	5 00
L Eleser	318	50	5 00
L Eleser	319	50	5 00
J E Slinkey	341	20	2 00
Joseph Sharon	342	250	25 00
Joseph Sharon	343	250	25 00
Joseph Sharon	344	250	25 00
Joseph Sharon	345	250	25 00
F Chappellet	348	1000	100 00
F Chappellet	349	100	10 00
N Steiner	350	100	10 00
John Clarcey, Trustee	73	200	20 00
John Clarcey, Trustee	77	200	20 00
John Clarcey, Trustee	78	100	10 00
John Clarcey, Trustee	85	50	5 00
John Clarcey, Trustee	86	50	5 00
John Clarcey, Trustee	90	50	5 00
John Clarcey, Trustee	91	50	5 00
John Clarcey, Trustee	92	25	2 50
John Clarcey, Trustee	93	25	2 50
John Clarcey, Trustee	96	25	2 50
John Clarcey, Trustee	97	25	2 50
John Clarcey, Trustee	100	20	2 00
John Clarcey, Trustee	352	25	2 50
John Cody, Trustee	147	50	5 00
G P Martinoni, Trustee	202	100	10 00
G P Martinoni, Trustee	263	25	2 50
G P Martinoni, Trustee	264	25	2 50
G P Martinoni, Trustee	265	25	2 50
G P Martinoni, Trustee	266	25	2 50
J Cohn, Trustee	357	1000	100 00
J Cohn, Trustee	358	1000	100 00
J Cohn, Trustee	359	1000	100 00
J Cohn, Trustee	360	500	50 00
J Cohn, Trustee	361	313	31 30
M J McDonald	268	200	20 00
William Welsh	362	367	36 70
J T Bradley	363	133	13 30
J T Bradley	364	37	3 70
J M Thompson	305	100	10 00
J M Thompson	366	97	9 70
L A Johnson, Trustee	132	100	10 00
L A Johnson, Trustee	133	100	10 00
L A Johnson, Trustee	134	100	10 00
L A Johnson, Trustee	152	100	10 00
L A Johnson, Trustee	270	25	2 50
L A Johnson, Trustee	278	25	2 50
L A Johnson, Trustee	279	25	2 50
L A Johnson, Trustee	280	25	2 50
L A Johnson, Trustee	282	25	2 50
L A Johnson, Trustee	284	50	5 00
L A Johnson, Trustee	285	50	5 00
L A Johnson, Trustee	286	50	5 00
L A Johnson, Trustee	287	50	5 00
L A Johnson, Trustee	288	50	5 00
L A Johnson, Trustee	289	50	5 00
L A Johnson, Trustee	290	50	5 00
L A Johnson	269	187	18 70
J A Lukin, Trustee	295	100	10 00
F R Lewis, Trustee	158	100	10 00
F R Lewis, Trustee	101	100	10 00
F R Lewis, Trustee	163	50	5 00
F R Lewis, Trustee	164	50	5 00
F R Lewis, Trustee	168	25	2 50
F R Lewis, Trustee	169	25	2 50
F R Lewis, Trustee	170	25	2 50
F R Lewis, Trustee	171	25	2 50
F R Lewis, Trustee	172	25	2 50
F R Lewis, Trustee	173	20	2 00
F R Lewis, Trustee	174	20	2 00
F R Lewis, Trustee	175	20	2 00
F R Lewis, Trustee	176	20	2 00
F R Lewis, Trustee	177	20	2 00
J de Sta Marina, Trustee	31	500	50 00
J de Sta Marina, Trustee	32	500	50 00
J de Sta Marina, Trustee	33	500	50 00
J de Sta Marina, Trustee	40	100	10 00
J de Sta Marina, Trustee	42	100	10 00
J de Sta Marina, Trustee	43	100	10 00
J de Sta Marina, Trustee	45	100	10 00
J de Sta Marina, Trustee	53	50	5 00
J de Sta Marina, Trustee	206	20	2 00
J de Sta Marina, Trustee	227	100	10 00
J de Sta Marina, Trustee	221	1000	100 00
A C Morso, Trustee	187	20	2 00
A C Morso, Trustee	198	500	50 00
F R Lewis	370	5000	500 00
Charles Spencer	230	100	10 00
Charles Spencer	244	500	50 00
Obsrles Spencer	245	500	50 00
Charles Spencer	216	334	33 40
Ambrose Sorba	104	400	40 00
Ambrose Sorba	111	100	10 00
Ambrose Sorba	112	100	10 00
Ambrose Sorba	116	100	10 00
Ambrose Sorba	117	50	5 00
Ambroeo Sorba	118	50	5 00
Ambrose Sorba	121	50	5 00
Ambrose Sorba	126	25	2 50
Wm. H. Sbarp	357	10,000	1,000 00
P. C. Lander, Trustee	371	3,500	350 00

And in accordance with law, and an order of the Board of Trustees made on the twenty-seventh day of October, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, Room No. 12 Express Building San Francisco, California, on Wednesday the twenty-fourth day of December, 1873, at the hour of 12 M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

O. J. EATON, Secretary.
Office, Room No. 12, Express Building, San Francisco, California.

Land Purchasers Association—Office, No.

425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of this corporation, held on the 19th day of November, 1873, an assessment of ten dollars per share (being the 38th monthly installment on the subscription to the stock) was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent, and advertised for sale a public auction, and unless payment is made before, will be sold on the 13th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

O. S. WRIGHT, Secretary.
Office, No. 425 Kearny street, San Francisco, California.

Moreau Machine Manufacturing Company.

Principal place of business, San Francisco, California.

Notice is hereby given that at a meeting of the Directors of said company, held on the third day of December, 1873, an assessment (No. 4) of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the company, No. 304 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 17th day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the ninth day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. W. B. ISAACS, Secretary.
Office, 304 Pine street, San Francisco, Cal. de6

Thompson Coal Mining Company—Location

of principal place of business, city and county of San Francisco.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the Eighth day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Crocker, A E	165, 154	50	$1 25
Crocker, A E	155, 170	60	1 50
Crocker, A E	171, 172	40	1 00
Crocker, A E	175	50	1 25
Crocker, A E	179, 181	600	15 00
Crocker, A E	258	1000	25 00
Crocker, A T	111, 115, 121	75	1 87½
Crocker, A T	123, 124	200	5 00
Crocker, A T	125, 127	200	5 00
Crocker, A T	129	50	1 25
Luscombe, Robert	183, 184	50	1 25

And in accordance with law, and an order of the Board of Directors, made on the Eighth day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the said Company, No. 402 Montgomery street, Room No. 23, San Francisco, on the 29th day of December, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.
Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13

Mina Rica Mining Company—Office of the

Mina Rica Mining Company, No. 320 California Street, Room No. 5, San Francisco, California. San Francisco, Nov. 26th, 1873.

In accordance with a resolution adopted at a meeting of the Board of Trustees of the Mina Rica Mining Company, held this day, a special meeting of the Stockholders of said Company is hereby called; the same to be held at the office of the Company, No. 320 California street, Room No. 5, San Francisco, California, on Monday, the 29th day of December, 1873, at two o'clock P. M., of said day, to take into consideration and decide upon the proposition to increase the Capital Stock of said Company, from one million dollars, ($1,000,000) divided into ten thousand shares, of the par value of one hundred (100) dollars each, the present Capital Stock, to Two Million ($2,000,000) Dollars, divided into twenty thousand (20,000) shares, of the par value of one hundred (100) dollars each.

O. F. GIFFIN,
J. H. H. WILLIAMS, } Trustees.

North San Francisco Homestead and

Railroad Association—Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 1st day of December, 1873, an assessment of Two Dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at his office, 314 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 3d day of January, 1874, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 26th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of the sale.

A. D SMITH, Secretary.
Office, 314 California street, San Francisco, Cal.

Ophir Copper, Silver and Gold Mining

Company—Location of works, Ophir, Placer County, State of California. Principal place of business, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment of Ten Cents per share was levied upon the capital stock of the Corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 4, Duncan's Building, 411½ California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 13th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 6th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

O. H. BOGART, Secretary.
Office, No. 411½ California street, San Francisco, California. no15

Pacific Asbestos Mining and Manufacturing

Company—Principal place of business, San Francisco, Cal. Location of works, Placer County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 17th day of November, 1873, an assessment of Six Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

H. E. CONGDON, Secretary.
Office, No. 306 Montgomery street, San Francisco, Cal.

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

Notice.—There is delinquent upon the following described stock, on account of assessment (No. 5), levied on the 27th day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
B L Brandt	185	125	$12 50
J M Buffington, Trustee	65	100	10 00
J M Buffington, Trustee	67	100	10 00
J M Buffington, Trustee	375	100	10 00
J M Buffington, Trustee	399	371	37 10
J M Buffington, Trustee	400	175	17 50
J M Buffington, Trustee	402	55	5 60
J M Buffington, Trustee	434	31	3 10
J M Buffington, Trustee	435	652	65 20
J M Buffington, Trustee	438	268	26 80
J M Buffington, Trustee	440	475	47 50
W Bryan	152	12	1 20
J C Bollinger, Trustee	426	100	10 00
M Bettman	258	100	10 00
M Bettman	259	100	10 00
M Bettman	260	50	5 00
M Bettman	261	50	5 00
M Bettman	262	31	3 10
T Bryan	302	100	10 00
T Bryan	303	25	2 50
T Bryan	305	25	2 50
T Bryan	306	25	2 50
T Bryan	307	50	5 00
T Bryan	308	50	5 00
T Bryan	309	50	5 00
T Bryan	310	50	5 00
T Bryan	311	10	1 00
T Bryan	312	10	1 00
T Bryan	313	10	1 00
T Bryan	314	10	1 00
T Bryan	315	10	1 00
T Bryan	316	10	1 00
T Bryan	317	10	1 00
T Bryan	318	10	1 00
T Bryan	319	10	1 00
T Bryan	320	10	1 00
T Bryan	321	20	2 00
T Bryan	322	20	2 00
T Bryan	323	20	2 00
T Bryan	324	20	2 00
T Bryan	325	7	70
T Bryan	327	5	50
Frank Clayton, Trustee	427	662	66 20
H W Beau, Trustee	389	131	13 10
L Englander	100	31	3 10
S Haas, Trustee	384	50	5 00
S Haas, Trustee	422	258	25 80
T C Hutchinson	417	25	2 50
Samuel Marks	25	50	5 00
Samuel Marks	28	50	5 00
Samuel Marks	29	50	5 00
R W Simpson	354	5	50
Daniel Sheeban	414	50	5 00

And in accordance with law, and an order of the Board of Directors, made on the 27th day of October, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 37 New Merchants' Exchange, California street, San Francisco, on Monday, the 22d day of December, 1873, at hour of 12 o'clock M., of said day, to pay said Delinquent Assessment thereon, together with costs of advertising and expenses of the sale.

J. M. BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco, Cal.

Umpire Tunnel and Mining Company.

Principal place of business, San Francisco, Cal. Location of works, Big Cottonwood, Salt Lake County, Utah.

Notice.—There are delinquent upon the following described Stock, on account of assessment No. 2, levied on the 21st, day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows.

Names.	No. Certificate.	No. Shares.	Amount.
John T Lynch, balance	217	50	$1 50
John T Lynch, balance	218	100	3 00
John T Lynch, balance	219	100	3 00
John T Lynch, balance	220	100	3 00
T A Brawley, balance	221	100	3 00
T A Brawley, balance	222	100	3 00
T A Brawley, balance	223	100	3 00
T A Brawley, balance	224	100	3 00
T A Brawley, balance	225	70	2 10
J W Finch, balance	226	100	3 00
J W Finch, balance	227	100	3 00
J W Finch, balance	228	100	3 00
J W Finch, balance	229	100	3 00
J W Finch, balance	230	100	3 00
J W Finch, balance	231	100	3 00
J W Finch, balance	232	100	3 00
J W Finch, balance	233	100	3 00
J W Finch, balance	234	100	3 00
J W Finch, balance	235	100	3 00
J W Finch, balance	236	50	1 50
Saml Edgerly, balance	237	100	3 00
Saml Edgerly, balance	238	100	3 00
Saml Edgerly, balance	239	100	3 00
Saml Edgerly, balance	240	100	3 00
Saml Edgerly, balance	241	100	3 00
Saml Edgerly, balance	242	100	3 00
Saml Edgerly, balance	243	100	3 00
Saml Edgerly, balance	244	100	3 00
Saml Edgerly, balance	245	100	3 00
Saml Edgerly, balance	246	100	3 00
Saml Edgerly, balance	247	100	3 00
Saml Edgerly, balance	248	100	3 00
Saml Edgerly, balance	249	100	3 00
Saml Edgerly, balance	250	100	3 00
Saml Edgerly, balance	251	100	3 00
Saml Edgerly, balance	252	100	3 00
Saml Edgerly, balance	253	100	3 00
Saml Edgerly, balance	254	100	3 00
Saml Edgerly, balance	255	100	3 00
Saml Edgerly, balance	256	100	3 00
H A Gains, balance	257	40	1 20
Saml Edgerly, balance	50	20	60
Saml Edgerly, balance	51	20	60
Saml Edgerly, balance	54	20	60
Saml Edgerly, balance	59	20	60
Saml Edgerly, balance	61	20	60
Saml Edgerly, balance	62	20	60
Saml Edgerly, balance	63	20	50
Saml Edgerly, balance	64	20	60
Saml Edgerly, balance	65	20	60
Saml Edgerly, balance	66	20	60
Saml Edgerly, balance	67	20	60
Saml Edgerly, balance	68	20	60
Saml Edgerly, balance	72	20	60
Saml Edgerly, balance	75	10	30
Saml Edgerly, balance	76	10	30
Saml Edgerly, balance	77	10	30
Saml Edgerly, balance	79	10	30
Saml Edgerly, balance	80	10	30
Saml Edgerly, balance	81	10	30
Saml Edgerly, balance	82	10	30
Saml Edgerly, balance	83	10	30
Saml Edgerly, balance	91	50	1 50
Saml Edgerly, balance	104	100	3 00
Saml Edgerly, balance	110	100	3 00
John Rundle	199	10	60
J D Dunsstb	201	130	7 80

And in accordance with law, and an order of the Board of Directors, made on the 21st day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the Auction Sales Rooms of John Middleton & Son, No. 310 Montgomery street, San Francisco, Cal., on Monday, the 15th day of December, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

P. A. EAKINS, Secretary.
Office, No. 230 Kearny street, San Francisco, Cal.

Virginia Consolidated Mining Company.

Location of principal place of business, San Francisco, State of California. Location of works, Kearsarge Mining District, Inyo County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 13th day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
R M Sbuey	7	1364	$68 20
R M Sbuey	63	151	7 55
George Hearst	11	4090	204 50
Georgs Hearst	64	454	22 70
Edward Moban	53	224	11 20
Edward Moban	54	910	45 50
Edwaid Mobsn	55	455	22 75
Edward Moban	55	1355	68 25
Edward Mohan	67	455	22 75
Edward Moban	72	378	18 90

And in accordance with law, and an order of the Board of Directors, made on the 13th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 317 Montgomery street, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.
Office, No. 318 California street (Room No. 13), San Francisco, Cal. n22

Wyoming Gold Mining Company—Location

of works, Nevada County, California. Location of principal place of business, 410 Montgomery street, San Francisco, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the 13th day of September, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
S Haas	177	100	$25 00
J E Legge	97	100	25 00
Mrs Martha Mann	55	100	25 00

And in accordance with law, and an order of the Board of Directors, made on the 13th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 410 Montgomery street, San Francisco, Cal., on Monday, the 8th day of December, 1873, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. J. GUNN, Secretary.
Office, 410 Montgomery street, San Francisco, Cal.

Washington Mining Company—Location

of principal place of business, San Francisco, State of California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 30th day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
J W Gasbwiler	82	700	$700 00

And in accordance with law and an order of the Board of Directors, made on the 30th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 317 Montgomery street, San Francisco, Cal., on the 31st day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.
Office, No. 318 California street, room No. 13, San Francisco, Cal. de13

Machine Builders.

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	James D. Walker.	

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JOSEPH MOORE..Vice-President and Superintendent
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24v17-qy

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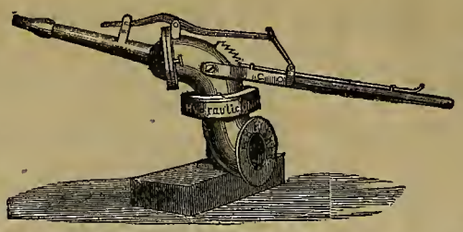

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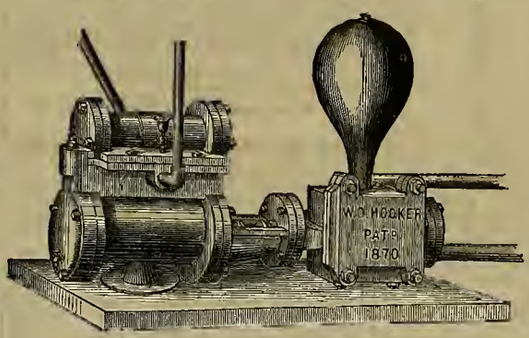

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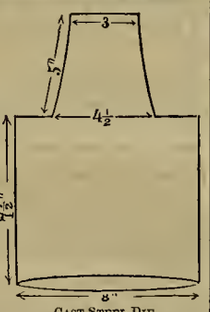

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OCCIDENTAL FOUNDRY,

137 and 139 First street.....SAN FRANCISCO.

STEIGER & BOLAND,

IRON FOUNDERS.

IRON CASTINGS of all descriptions at short notice. Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

NOTICE.—Particular attention paid to making Superior Shoes and Dies. 20v26.3m

☞ BUY BARBER'S BIT BRACE. ☜

CALIFORNIA BRASS FOUNDRY,

No. 125 First street, opposite Minna,

SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. H. WEED. V. KINGWELL.

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured. 24v16qr

JOS. THORNHILL, 1612 Mason Street, near Green.
C. W. WHITE, 47 Clay Street.

JOS. THORNHILL,

Bricklayer and Contractor

Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

PURCHASERS please say advertised in Scientific Press.

Machinery.

TO HYDRAULIC MINERS.

I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

His patrons have already paid over Five Thousand Dollars for license to use machines purchased of the self styled

"Only Reliable Party in the Business Who Protects His Customers."

Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

All persons infringing on either of these patents

WILL BE PROMPTLY PROSECUTED.

I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

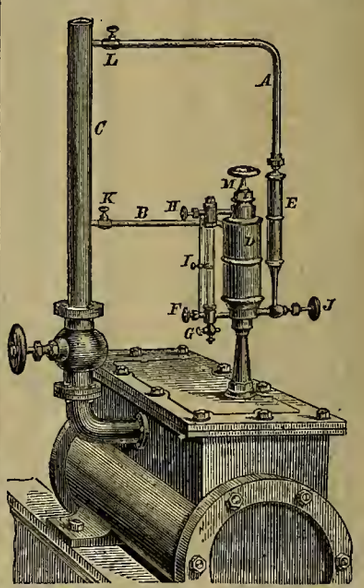
If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

For further particulars apply to

R. HOSKIN, Dutch Flat,
R. R. & J. CRAIG, 304 Montgomery st., S. F.
Or WILLIAMSON & CORY, Marysville.

Dutch Flat, August 1, 1873. 6v27-2m

N. Seibert's Eureka Lubricators.



THE HIGHEST PREMIUM

Awarded by the Mechanics' Institute Fair, San Francisco, and State Fair, Sacramento, 1871.

These Lubricators are acknowledged by all engineers to be superior to any they have ever used; feed constantly by pressure of condensed water, supplied by pipe A, regulated under the oil by valve J, and forced out through check valve and pipe B into the steam pipe C; it then becomes greasy steam, passes to all the valves and cylinder at every stroke of the engine; glass tube I indicates amount used per hour. Packing on rods and stems lasts longer, and the rings on the piston will not corrode. One pint of oil will last from three to six days, according to speed and size of engine; K, sliding gauge; K, valve to shut off when engine stopps; H, F, valves to shut off in case of frost; steam does not enter the cup; it is always cool; warranted to give satisfaction. Patented February 14, 1871. Manufactured by California Brass Works, 125 First street, S. F. 24v23tf

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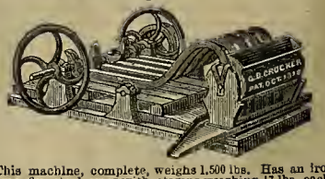
CROCKER'S PATENT

TRIP HAMMER QUARTZ BATTERY.



This machine, complete, weighs 1,500 lbs. Has an iron frame, five steel arms with stamps weighing 17 lbs. each, which strike 200 blows per minute, in a mortar provided with screens on both sides, and crushes FINE 600 lbs. per hour, requiring one-horse power to drive it. Has been thoroughly tested, and is guaranteed to give good satisfaction. PRICE, $400.

G. D. CROCKER,
17v26-tf 315 California street, San Francisco.

Brittan, Holbrook & Co., Importers of Stoves and Metals, Tinners' Goods, Tools and Machines; 111 and 11 California St., 17 and 19 Davis St., San Francisco, and 178 J St., Sacramento. mr.-1y

THEODORE KALLENBERG,

MACHINIST,

and Maker of Models for Inventors. All kinds of Dies Stamps and Punches made. Also, all kinds of Small Gears Cut.

Repairing done on very Reasonable Terms and in the best manner. No. 32 Fremont street, S. F. 19v23-3m

STEAM ENGINES AND BOILERS

Of all sizes—from 2 to 60-Horse power. Also, Quartz Mills, Mining Pumps, Hoisting Machinery, Shafting, Iron Tanks, etc. For sale at the lowest prices by

10v27tf J. HENDY, No. 32 Fremont Street.

Metallurgy and Ores.

JOHN TAYLOR & CO.,

IMPORTERS OF AND DEALERS IN

ASSAYERS' MATERIALS

Chemical Apparatus and Chemicals,

Druggists' Glassware and Sundries,

PHOTOGRAPHIC GOODS, ETC.,

512 and 514 Washington street, SAN FRANCISCO

We would call the special attention of Assayers Chemists, Mining Companies, Milling Companies Prospectors, etc., to our large and well adapted stock o

ASSAYERS' MATERIALS

—AND—

Chemical Apparatus,

Having been engaged in furnishing those supplies since the first discovery of mines on the Pacific Coast.

☞ Our Gold and Silver Tables, showing the value per ounce Troy at different degrees of fineness, and valuable tables for computation of assays in Grains Grammes, will be sent free upon application.

7v25-tf JOHN TAYLOR & CO.

Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottome, as desired.

This Amalgamator Opsrates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces,—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill-men are invited to examine these pans and setlers for themselves, at the office, 229 Fremont Street, San Francisco

Nevada Metallurgical Works,

21 Firet street.....San Francieco.

Ores worked by any process.
Ores sampled.
Assaying in all its branches.
Analysis of Ores, Minerals, Waters, etc.
Plans furnished for the most suitable process for working Ores.
Special attention paid to the Mining and Metallurgy of Quicksilver.

E. N. RIOTTE,
C. A. LUCKHARDT,
Mining Engineers and Metallurgiete.

KROM'S DRY ORE CONCENTRATOR

Separates the METALLIC ore from the BARREN gangue by means of AIR instead of WATER. Cost nominal; concentration perfect. Every miner and businese man interested in this invention, which renders the working of low grade and "refractory" ores PROFITABLE. The machine is in operation daily between 10 and 1, at 105 First street.

For information and pamphlets address

W. H. STERLING, M. D.,
Corner Taylor and Vallejo,

FRANK MOYER,
oc25tf 137 Third street, San Francisco.

G. W. STRONG. W. L. STRONG.

C. W. STRONG & CO.,

Metallurgical Works,

No. 10 Stevenson Street, near First, SAN FRANCISCO

We purchase Ores, Bullion, etc. Ores worked and Tests made with care. Also, Assays of Gold, Silver, Copper, Lead, Tin and other Metals. 23v22tf

Richardson & Co., Copper Ore Wharves, SWANSEA.

RICHARDSON & CO. have been for thirty years established in Swansea as Agents for the preparation, Sampling, Assaying, and sale of Copper, Silver, Gold, Lead, Zinc, and all other Ores and Metals, for which they have extensive Warehouses and Wharves under cover, 1,000 feet of Quay Frontage within the Floating Dock, and the most complete Machinery and Appliances. They are also prepared to make advances against Ores in anticipation of realization, and to guarantee all payments when required. 25v26-1y

ANDREW CRAIG, A. C. PUTNAM. | JAS. W. WHITLATCH, JNO. L. MURPHY.

The Califlornfa Ore Crushing and Sampling Company,

Nos. 413 and 415 Mission st., San Francisco.

Our works are the largest, and afford the best facilities for CRUSHING and SAMPLING ORES on the Coast. Work done at the Shortest Notice.

Prompt attention to all orders. 22v27-3m

Important to Miners and Mill Men.

Silver-Platsd Copper Amalgamating Platss, for Saving Gold.

Of all sizes and in any quantity, furnished to order. Full instructions sent for operating. Particular attention given to plating goods for Builders, Plumbers, etc. Hotel and Restaurant work replated.

SAN FRANCISCO GOLD AND SILVER PLATING WORKS, 655 Mission street, San Francisco.

2v25-3m E. G. DENNISTON, Proprietor.

RODGERS, MEYER & CO.,

COMMISSION MERCHANTS,

ADVANCES MADE

On all kinds of Ores, and particular attention

PAID TO

CONSIGNMENTS OF GOODS.

4v16-3m

LEOPOLD KUH,

(Formerly of the U. S. Branch Mint, S. F.)

Assayer and Metallurgical CHEMIST,

No. 611 Commercial Street,

(Opposite the U.S. Branch Mint.

SAN FRANCISCO OAL. 7v21-3m

CHARLES F. KIRCHNER,

Sampler and Crusher of Ores,

NO. 11 DRUMM STREET,

San Francieco.

COPPER ORES.

The undersigned, agent of Messrs. POPE, COLE & Co., proprietors of the Baltimore Copper Works, purchases for cash all grades of Copper Ore above 16 per cent, paying the full value of same in Baltimore less Freight, Insurance, Interest and Commission.

HORACE D. RANLETT,
16v27 218 California st., San Francisco.
P. O. Box 2945.

ORE BAGS FOR SALE

IN QUANTITIES TO SUIT.

Apply to

CROSS & CO.,

stf 316 California street, San Francisco.

PLATINUM

Vessels, Apparatus, Sheet, Wire, Etc., Etc.

For all Laboratory and Manufacturing Purposes

H. M. RAYNOR,
25 Bond street, New York.

Platinum Scrap and Native Platinum purchased.

SHEET IRON PIPE.

THE

Risdon Iron and Locomotive Works

Corner Howard and Beale Streets,

Are prepared to make SHEET IRON AND ASPHALTUM PIPE, of any size and for any pressure, and contract to lay the same where wanted, guaranteeing a perfect working pipe with the least amount of material.

Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

SAN FRANCISCO

SCREW BOLT WORKS,

PHELPS BROTHERS, Proprietors

MANUFACTURERS OF ALL KINDS OF

Machine Bolts, Bridgs Bolts, and Ship or Band Bolts,

13, 15 and 17 Drumm Street, San Francisco. 4v24ly

BLISS & WILLIAMS,

167 to 173 Plymouth street, Brooklyn, N. Y.,

Manufacturers of Presses, Dies and Tools

FOR MAKING

SALMON, FRUIT AND OTHER CANS,

And working Sheet Metals in all forms. Catalogues furnished upon application. 20v27-3m

The California Powder Works

No. 314 CALIFORNIA STREET,

SAN FRANCISCO.

Manufacturers and have constant on hand

SPORTING,

MINING,

And BLASTING

POWDER,

Of SUPERIOR QUALITY, FRESH FROM THE MILLS. It being constantly received and transported into the interior, is delivered to the consumer within a few days of the time of its manufacture, and is in every way superior to any other Powder in Market.

We have been awarded successively

Three Gold Medals

By the MECHANICS' INSTITUTE and the STATE AGRICULTURAL SOCIETY for the superiority of our products over all others.

We also call attention to our

HERCULES POWDER.

Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other compound now in use.

A circular containing a full description of this Powder can be obtained on application to our Office.

16v20-3m JOHN F. LOHSE, Secretary.

BLACK DIAMOND FILE WORKS.

TRADE MARK.

G. & H. BARNETT,

Manufacturers of Files of every Description,

Nos. 30, 41 and 43 Richmond street,

Philadelphia, Pa.

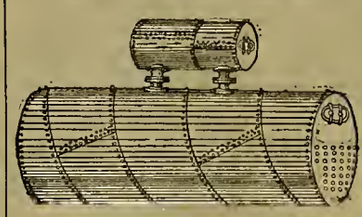
Sold by all the principal hardware stores on the Pacific Coast. 18v25.1y

San Francisco Boiler Works,

123 and 125 Beale Street.....SAN FRANCISCO

F. I. CURRY,

(Late Foreman of the Vulcan Iron Works,) Proprietor.



High and Low Pressure Boilers of all Descriptions.

SOLE MANUFACTURERS OF THE CELEBRATED

SPIRAL BOILER.

SHEET IRON WORK of every description done at the Shortest Notice.

All kinds of JOBBING and REPAIRING promptly attended to. 17v25-3m

Steam Boiler Manufactory

—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

Oregon street, below Front, San Francisco.

All Sorte of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st., between Fremont and Beale, San Francisco.

Gravel Claims and Hydraulic Mining.

Special attention given to the development of this important interest in California.

SURVEYS AND REPORTS MADE—COMPANIES ORGANIZED.

Mills, Mines, Mining Machinery, Wood and Timber Lands.

REAL ESTATE BUSINESS OPPORTUNITIES.

Best of References.

W. B. SKELLENGER,
No. 422 Montgomery street, San Francisco.
13v27-3m

Diamond Drill Co.

The undersigned, owners of LESCHOT'S PATENT for DIAMOND-POINTED DRILLS, now brought to the highest state of perfection, are prepared to fill orders for the IMPROVED PROSPECTING and TUNNELING DRILLS, with or without power, at short notice, and at reduced prices Abundant testimony furnished of the great economy and successful working of numerous machines in operation in the quartz and gravel mines on this coast. Circulars forwarded, and full information given upon application.

A. J. SEVERANCE & CO.
Office, No. 315 California street, Rooms 16 and 17.
24v26-tf

Friel's Patent Paragon Vapor Stove.

PATENT GRANTED MAY 20, 1873.

Great Labor Saver of the Household.

ECONOMY, CONVENIENCE AND SAFETY COMBINED.

JUST THINK OF IT—No Wood, no Coal, no Coal Gas, no Stove Pipe, no Chimney, no Smoke, no Ashes, no Dirt, no Wood Boxes, no Coal Scuttles, no Kindling Wood, but a Friction Match, and the

Fire in Full Blast in Half a Minute!

OVEN HOT IN TWO MINUTES.

Steak broiled in seven minutes! Baked Beans in thirty minutes! The fire extinguished in a moment And the house unheated!

It has no rival in all kinds of Cooking and Flat Iron Heating, and combines Economy, Convenience, Neatness, Safety and Durability! The Ladies welcome it: a little Child can operate it, and

All Recommend It.

Prices from $5 to $25, according to size. Manufactured and sold by WM. FRIEL,

69 and 71 Fourth street, San Francisco.

N. B.—Agents wanted in every town in the State. On payment of $5, one Stove will be sent as sample.

22v25-2amly

PACIFIC LAMP MANUFACTORY.

EMILE BOESCH,

PATENTEE AND MANUFACTURER OF

LAMPS, LANTERNS AND REFLECTORS,

802 MONTGOMERY STREET, SAN FRANCISCO.

New Mining & Mill Lights.

21v27-eow-3m

THE CALIFORNIA

OLEOMARGARINE

Manufacturing Company

Would respectfully inform the public that they are now prepared to supply the market with the

BEST QUALITY

—OF—

FRESH BUTTER,

In Lots to Suit Purchaeers, at Greatly Reduced Pricee.

OFFICE AND MANUFACTORY:

405 and 407 Sansome St., San Francisco.

WEST EVANS, President.
HENRY PHILIPS, General Manager.
JOHN G. BAKER, Secretary.
21v27-3m

JUST PUBLISHED.

Froiseth's New Sectional, Topographical and Mineral

MAP OF UTAH.

SIZE, 40 BY 56 INCHES; SCALE, 8 MILES TO AN INCH.

Handsomely engraved on stone, colored in counties, and mounted on cloth, showing the Counties, Towns, Rivers, Lakes, Railroads, Mines and Mining Districts throughout the Territory, and all GOVERNMENT SURVEYS made to date. Price, mounted, $8; Pocket form, $6.

—ALSO—

New Mining Map of Utah,

Showing the boundaries of the principal mining districts, some 30 in number, adjacent to Salt Lake City. Price, pocket form, $2.50.

—ALSO—

Froiseth's New Map of Little Cottonwood Mining District and Vicinity,

Showing the location of some 400 mines and tunnel sites, together with the mines surveyed for U. S. Patent. Price $3. For sale and mailed to any part of the globe, on receipt of price, by A. L. BANCROFT & CO., A. ROMAN & CO., and LECOUNT BROS. & MANSUR, San Francisco. 10v26-tf

COAL MINE.

We have a partially developed coal mine within a half mile of the C. P. R. R., in the State of Nevada, for sale, or would dispose of an interest to a party, who would assist in the further development of the mine.

Specimens can be seen at the office of the "Scientific Press." Address,

HUMBOLDT COAL CO.
Care of A. J. HATCH,
oc18-2m Reno, Nevada.

SAN FRANCISCO METAL MARKET.

WEDNESDAY M., Dec. 10, 1873.

Quicksilver is held by dealers at $1.20 ℔ lb., but there is some uncertainty as yet about the price, buyers being hardly up to it. Sales have been restricted on this account. In the general metal market there is no change.

Scotch Pig Iron, ℔ ton	$32 00	@	— —
White Pig, ℔ ton	52 00	@	— —
Refined Bar, had assortment, ℔ lb	— —	@	— 3¾
Refined Bar, good assortment, ℔ lb	— —	@	— 4
Boiler, No. 1 to 4	— 05½	@	— 06
Plate, No. 5 to 9	— 06¾	@	— 07
Sheet, No. 10 to 13	— 07½	@	— —
Sheet, No. 14 to 20	— 6	@	— 7
Sheet, No. 24 to 27	— 08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	— 9½	@	— —
Norway Iron	— 8	@	— —
Rolled Iron	— 6	@	— —
Other Irons for Blacksmithe, Miners, etc.	— 5	@	— —
COPPER.			
Braziers	— —	@	— 40
Copper Tin'd	— 50	@	— —
O. Nail's Pat	— 55	@	— —
Sheathing, ℔ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ℔ box	14 00	@	14 50
Plates, I C Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ℔ lb	— 40	@	— 42½
STEEL.—English Cast, ℔ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
ZINC.	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5¾	@	— 8
QUICKSILVER, per lb	—	@	1 20

LEATHER MARKET.

[Reported for the PRESS by Dolliver & Bro.]

WEDNESDAY, M., Dec. 10, 1873.

City Tanned Leather, ℔ lb			26@29
Santa Cruz Leather, ℔ lb			26@29
Country Leather, ℔ lb			25@28
Stockton Leather, ℔ lb			26@29
Jodot, 8 Kil., per doz	$50 00	@	54 00
Jodot, 11 to 19 Kil., per doz	66 00	@	85
Jodot, second choice, 11 to 16 Kil. ℔ doz	55 00	@	70 00
Cornellian, 12 to 16 Ko	57 00	@	67 00
Cornellian Females, 12 to 13	58 00	@	64 00
Cornellian Females, 14 to 16 Kil	66 00	@	74 00
Beanmorville, 15 Kil	60 00	@	— —
Simon, 18 Kil., ℔ doz	61 00	@	63 00
Simon, 20 Kil. ℔ doz	65 00	@	67 00
Simon, 24 Kil. ℔ doz	72 00	@	74 00
Robert Calf, 7 and 9 Kil	35 00	@	40 00
French Kips, ℔ lb	1 00	@	1 35
California Kip, ℔ doz	40 00	@	60 00
French Sheep, all colors, ℔ doz	8 00	@	15 00
Eastern Calf for Backs, ℔ lb	1 00	@	1 25
Sheep Roans for Topping, all colors, ℔ doz	9 00	@	13 00
Sheep Roans for Linings, ℔ doz	5 50	@	10 50
California Russet Sheep Linings	1 75	@	4 50
Best Jodot Calf Boot Legs, ℔ pair	5 00	@	5 25
Good French Calf Boot Legs, ℔ pair	4 00	@	4 75
French Calf Boot Legs, ℔ pair	4 00	@	— —
Harness Leather, ℔ lb	30	@	37½
Fair Bridle Leather, ℔ doz	48 00	@	72 00
Skirting Leather, ℔ lb	34	@	37½
Welt Leather, ℔ doz	30 00	@	50 00
Buff Leather, ℔ foot	19	@	22
Wax Side Leather, ℔ foot	17	@	19
Eastern Wax Leather	—	@	— —

GENERAL MERCHANDISE.

BAGS.

Eng, stand, Wh't	12	@	13
Detrick's Mesh e	—	@	— —
Sewed, 22 x 36,	—	@	— —
Gilroy 1s	12	@	13¼
do, 22x36, do W	12½	@	14
do. 22x40, do	14½	@	15
do, 23x40	—	@	15
do, 24x40	15	@	16
Flour Sacks ½s	13	@	16
" ¼s	8½	@	9½
Stand. Gunnies	20	@	22
" Wool Sacks	60	@	65
" Barley do	—	@	15
Hessian 45-in. gds	—	@	11½
do 60	—	@	17
Burlaps, yard	—	@	10¾

CANNED GOODS.

Assort'd Pie Fruits in 2½ lb cans	2 75	@	3 00
do 3 lb do	—	@	2 75
Jems & Jellies	4 00	@	4 50
Pickles ½ gl	—	@	3 50
Sardines, qr box	2 00	@	2 25
do hf box	2 50	@	3 75

COAL—Jobbing.

Australian, ℔ ton	10 00	@	11 00
Ooce Bay	— —	@	10—
Bellingham Bay	— —	@	8 50
Seattle	— —	@	11—
Oamberl'd, cks	25 00	@	28 00
do bnls	22 50	@	25 00
Mt. Diablo	6 50	@	8 50
Lehigh	14 —	@	15—
Liverpool	11 00	@	12—
West Hartley	12 00	@	14—
Scotch	9 50	@	10 00
Scranton	10 00	@	—
Vancouver's Isl	12 00	@	14—
Charcoal, ℔ sk	75	@	—

COFFEE.

Sandwich Island	19½	@	—
Costa Rica per lb	21¾	@	22
Guatemala	21½	@	22
Java	—	@	30
Manilla	—	@	21½
Ground in ce	25	@	27
Chicory	10	@	—

FISH.

Pac. Dry Cod, new	5½	@	7
cases	8	@	8½
Eastern Cod	7	@	8
Salmon in hbls	8 8	@	9 00
do ½ bbls	5 00	@	5 50
do 2½ lb cans	—	@	—
do 2 lb cans	2 80	@	3 00
do 1 lb cans	2 25	@	—
Do Col. R. ½s	—	@	—
Pick. Cod, hbls	22 00	@	—
do ½ bbls	11 00	@	—
Box. Sm'k'd Her'g	40	@	50
Mack'l, No. 1, ½ bbls	—	@	12—

NAILS.

Assorted size, lb	6	@	7

NAVAL STORES.

Tar & Pitch, ℔ bl	7	@	8
Oak'm pr bale	50 lb 4	@	4 50
Rosin	6 00	@	6 50
Anchors	8	@	8½
Chains	7	@	7½

OILS.

Pecific Glue Co. Neat F't No. 1	—	@	1 00
Pure	1 25	@	1 40
Castor Oil, No. 1	1 40	@	1 45
do do No. 2	1 25	@	1 35
Cocoanut	55	@	60
Olive Plagniol	5 00	@	—
do Foseli	4 75	@	5 00
Palm	9	@	—
do Bagicalupi	—	@	—
Linseed, raw	1 05	@	1 05
do boiled	1 05	@	1 10
China nut in oe	—	@	80
do bulk	70	@	72
Sperm, crude	—	@	1 40
do bleached	—	@	2 00
Coast Whale	40	@	45
Polar, refined	55	@	70
Lard	85	@	95
Coal, refined Pet	37½	@	40
Oleophine	—	@	33
Devoe's Bril't	43	@	45
Long Island	—	@	34
Eureka	37½	@	40
Devoe's Petro'm	37	@	39
Barrel kerosene	30	@	—
Downer Kerose'e	50	@	52½
Gas Light Oil	—	@	34

PAINTS.

Atlan. W. Lead	9	@	11
Whiting	1½	@	1¾
Putty	4	@	4½
Chalk	—	@	1½
Parie White	2½	@	—
Ochre	2½	@	3
Venetian Red	3	@	3½
Red Lead	8	@	11
Litharge	10	@	11
Eng. Vermillion	—	@	1 35

RICE.

China No. 1, ℔ lb	5½	@	6¾
do 2, do	5	@	5½
Japan	6	@	7½
Siam Cleaned	7	@	—
Patna	7	@	—
Bawaiian	6½	@	7½
Carolina	10	@	10½

SALT.

Cal. Bay, per ton	12 00	@	15—
do Common	5 00	@	6 00
Mexican	14 00	@	15 00
Carmen Island	14 00	@	30—
Liverpool fine	21 00	@	22 00
do coarse	18 00	@	19 00

SOAP.

Castile ℔ lb	10½	@	11
Local brands	5	@	9

SPICES.

Allspice, per lb	—	@	16
Cloves	37½	@	40
Cassia	—	@	24
Nutmeg	1 07	@	1 10
Whole Pepper	25	@	26
Pimento	—	@	15
Gr'nd Allsp'rd'z	—	@	1 00
do Cassia do	—	@	1 50
do Cloves do	—	@	1 25
do Mustard do	—	@	1 50
do Ginger do	—	@	1 00
do Pepper do	—	@	1 25
do Mace do	1 20	@	1 30

SUGAR, ETC.

Cal. Cnfe per lb	11½	@	—
Circle A cruehed	11½	@	—
Powdered	—	@	11¾
Granulated	—	@	11
Dry granulated	11½	@	—
Extra do	—	@	—
Bawaiian	8	@	10
California Best	10½	@	11¾
Golden C	10	@	—
do E. Y. grade	7	@	—
Cal. Syrup in bls	—	@	7½
do in ½ bls	—	@	50
do in kegs	—	@	55
do Hawaiian	20	@	22½

TEA.

Colong, Canton, lb	19	@	25
do Amoy	28	@	50
do Formosa	50	@	80
Imperiel, Canton	25	@	80
do Pingsuey	45	@	80
do Moyune	60	@	1 00
Gunpo'der, Cant	30	@	42½
do Pingsuey	50	@	90
do Moyune	65	@	1 25
Y'ng Hy., Canton	28	@	40
do Pingsuey	40	@	70
do Moyune	65	@	85
Japan, ½ chests, bulk	30	@	75
Japan, lacquered hxs, 4½ lbs	46	@	67
Japan do, 3 lb hxs	45	@	90
do pl'n hx, 4½ lb	35	@	65
do ½ gl lb paper	30	@	55

TOBACCO—Jobbing.

Bright Navys	50	@	60
Dark do	45	@	50
Dwarf Twist	57	@	62½
12 inch do	57	@	62½
Light Pressed	65	@	75
Hard do	60	@	70
Conn. Wrap'r	40	@	50
Penn. Wrapper	35	@	45
Ohio do	30	@	40
Virg'a Smok'g	90	@	95
Fine ot ohe'g, gr	8 50	@	9 25
Fine ont ohewing, bue'ts, ℔ lb	76	@	90
Banner fine cut	8 75	@	9 25
Eureka Cala	8 00	@	8 50

TURPENTINE.

Eastern	60	@	62½

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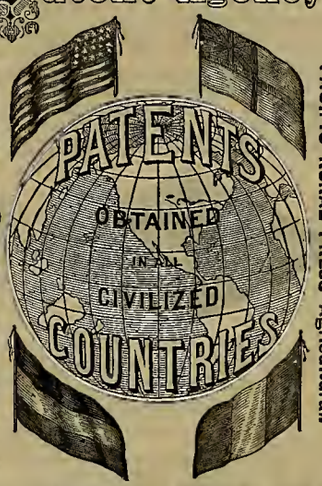

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[Under the New Code—January 1, 1873.]

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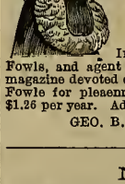

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The system of transporting material, such as Ores, from the mine to the mill, Earths for embankments, Rock from quarries, etc., by means of steel wire rope, has been well tested and found more economical, advantageous and reliable than any other method of transportation; and to the annexed certificates in connection therewith I beg to call the attention of those interested:

EUREKA, Nevada, July 10, 1872.

T. M. MARTIN—My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear ont. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, O. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO.,
Little Cottonwood, Utah,
Superintendent's Office, Sept. 23, 1872.

T. M. MARTIN, Esq.—SIR: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a cheap and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevated wire tramway, which carries its load of ore as quietly and easily as if there was no winter or snow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 6, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 22, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

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MINING AND SCIENTIFIC PRESS.

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SAN FRANCISCO, SATURDAY, DECEMBER 20, 1873.

VOLUME XXVII Number 25.

Wright's Bucket Plunger Steam Pumps.

Several varieties of Wright's bucket plunger steam pumps are manufactured by the Valley Machine Co. of East Hampton, Mass. They are extremely simple and compact, vertical steam pumps provided with a crank and fly-wheel. The pump is of the combined piston and plunger variety, and has but two valves, though possessing the same advantages as respects a steady delivery, as the ordinary double-acting pumps. It is a double-acting piston pump, the piston having a trunk on top. It has but one receiving and one discharge valve. The water is received only on the upward stroke, the amount being equal to the full capacity of the cylinder; only one-half, however, is discharged, owing to the smaller area of the upper side of the piston. On the downward stroke the water in the cylinder is forced out by the piston, one-half being discharged and the other half flowing into the upper end of the cylinder. It is well-constructed, compact and in a convenient form. The judges of the American Institute Fair, N. Y., in 1871, considered it as effective as the best of the *four* valve double-acting pumps now in use, with the advantage of having but two water valves to keep in order or to cause trouble.

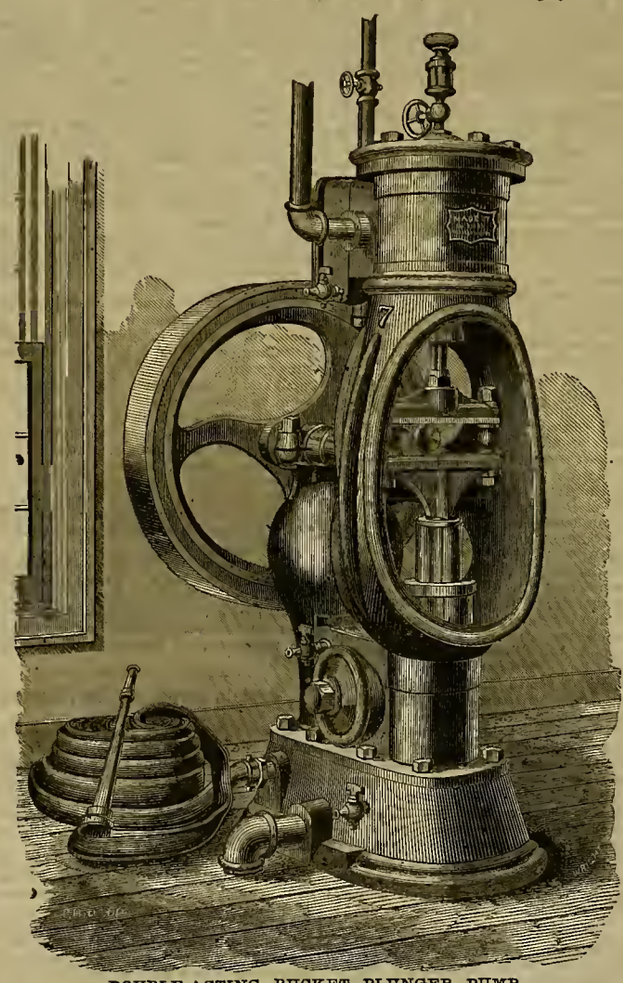
It is well known that but a small proportion of the power of the engine of a steam pump is expended in getting the water into the pump cylinder through the suction valves, most of the power being used in discharging it; in this pump the water cylinders are made twice the area in comparison with the steam cylinders of the ordinary double-acting steam pumps. By this means one-half of the number of water valves is dispensed with, as the quantity discharged in the upward stroke is thrown out through an opening in the top of the pump cylinder and does not pass through the valve opening; hence the advantage of the bucket plunger.

The particular style of bucket plunger pump illustrated on this page is called the fire pump. It will take water readily and can be run with the greatest rapidity without jarring or thumping. As it is made for service of the hardest kind there is little danger of breaking down at a critical moment. The manufacturers of these pumps exhibit numerous testimonials to their efficacy.

New Mining Bill.—Now comes some Chicago man who wants to put a little tax on the mines in the shape of a new law. The individual in question is the Hon. Jasper D. Ward of Chicago, who intends introducing a bill in Congress to amend the mining law so as to compel mining corporations to pay for their lands, which they now neglect to do. The less legislation there is on the subject of mining, the better mining interests are off as a general thing, especially when men who know nothing about mining attempt to give themselves prominence by mis-directed efforts. Miners have enough work to develop their mines without having additional burdens placed upon them.

The American Trade Dollar has been officially adopted by the Chinese authorities for payment of duties and general circulation. An assay has been made by the Chinese officials at Canton, by which it was shown that one hundred of these coins are worth 100.07 new Mexican dollars, and 101.48 old Mexican dollars. A proclamation has been issued by the viceroy, forbidding the manufacture of spurious imitations, and he orders that the dollar must not be looked upon with suspicion.

Coal.—We received this week some specimens of coal from a vein situated near Carlin, Elko county, Nev. The mine was discovered some time since, but little work was done upon it until lately to determine its value or extent. Two tunnels have been run into the hill from the Humboldt river bottom. They are 600 feet apart, and one is 100 feet long and shows that the mine is a more extensive one than at first supposed. The tunnels tap it at a depth of 75 feet from the surface. The mine belongs to



DOUBLE-ACTING BUCKET PLUNGER PUMP.

Messrs. Parker & Moore of Carson, and A. J. Hatch of Reno, Nev. After reaching the water level, they were troubled with the flow of water and are now desirous of erecting hoisting and pumping machinery to work the mine systematically. The vein as far as prospected shows itself to be one of the largest in Nevada, but it has not been worked enough as yet to speak definitely of its size. They are unable to sink upon it for want of hoisting and pumping works.

The coal has been tested at a blacksmiths' forge at Carlin, in the machine shops of the Central Pacific Railroad. Mr. Hatch informs us that the "boss mechanic" there says that it is as good coal for welding as he ever saw. All the coal procured from the mine so far has been obtained from above the water level, for when they reached the level of the river the water came so freely as to stop work. The vein is within half a mile of the railroad, in a good location for working, and the owners want to enlist capital to invest in machinery.

The Geological Survey.

Among other matters which will come prominently before the Legislature during the present session will be the consideration of the geological survey. This matter is one of no little importance, and one which should be approached with much care and caution. The progress of the survey, thus far, while it has called forth much commendation from the scientific world, and added largely to the reputation of California as a field for scientific research, has been a failure in all those points from which it has been examined by those who have to foot the bills. The consequence is that the work is not regarded by the people of this State, or their representatives, with a very high degree of favor.

Conceding the highest meed of praise for the scientific record which the survey has made, we feel constrained to say that in laying out, and prosecuting the work, thus far, there has been a manifest disregard of the wishes of the people and the pledges and promises of the head of the survey. It was promised and expected that the work would be made, at an early day, one of practical value to the people of the State—a contribution in aid of our material wealth and prosperity. But the result has been nothing of the kind; although the world of science has been largely benefited, and the reputation of the head of the survey, as a scientific investigator, vastly increased.

In authorising the establishment of the work, some eleven years ago, it was distinctly understood that, within a reasonable time, there would be published one or more volumes of economic geology, embracing the principal mineral regions of the State, accompanied by maps and illustrations, and giving such useful generalisations, touching our great leading industry of mining—particularly that portion of it connected with our immense gravel deposits and ancient rivers—as would be of much practical benefit to the people. But no such books, maps or illustrations have yet been published, and our people still continue in as great ignorance of the geology of the mining regions as though no geological survey had ever been established in the State.

Volumes and maps have, indeed, been published which are a credit to the compilers, to the State and to the eastern artists and printers, through whose mechanical and artistic skill they have been placed before the public. And we are told that there are still other similar publications ready for the press, and awaiting only the trifling sum of one hundred thousand dollars, so as to enable these also to be placed before the public. Among these publications are volumes on ornithology, botany, paleontology, fossil plants, ichthyology, conchology, etc. Some of these are in continuation of publications already made; others new. True, volumes on physical geology, general and economical geology, with maps, etc., are also promised, which may have a practical value.

The survey has already cost something like $250,000, and the general feeling seems to be against any further appropriation, except it be devoted exclusively and honestly to the publication of something which shall be of immediate and practical value. It is well known that surveys have been made and material collected from which such publications can be prepared, and we see no reason why the next money appropriated may not be for that especial purpose alone—holding the purely scientific matter in abeyance until some fitter time, when that also may be spread before the world.

In view of these facts we fully agree with the Governor in his message, that a committee be appointed whose duty it shall be to examine and ascertain the exact condition of all these things; to determine what shall be published—when and how, and to ascertain the amount necessary to be appropriated, etc.

Dividends and Assessments.—The mining companies of this coast which are listed on the Stock Board paid in dividends in 1873, the sum of $13,440,181. Assessments levied during the same time sum up $6,671,043. This leaves a balance of $6,814,000 which stock-holders have put in their pockets. The money paid for assessments was in a great part paid out for labor, so the miners and others were benefited by it. Of course the bullion production is much greater and has been coined and distributed in commercial channels and contributed to the general prosperity of the Pacific coast, as well as the world.

The Gwin mine in Calaveras county is doing well. A short run made last week with 36 stamps, cleaned up at the rate of $900 per day. The *Citizen* says of the mine that to every Calaveras man this news is of manifold importance, as this mine is one by which all our quartz interests are judged, and its failure would be extremely disastrous in its bearing on mining operations in this county.

CORRESPONDENCE.

Our Mining Laws.

EDITORS PRESS:—I have resd the remarks in the issue of November 6th of yonr vsluable paper, under the ahove headiug, and I wish to have an opportnuity to express briefly the miners' views of the matter, as far as come within my observation. It is admitted by all that the law might be improved; but it is the best law for the miners and for the development of the mines we have had or may hope to have for some time, so far as it relates to all kinds of lodes requiring capital and machinery to work them, or gravel deposits requiring ditches and hydraulio apparatus to work them successfully. And when you go over the State, you will find these two classes of mines include niuety-nine one-hundredths of our mines. On some of the great lodes of this cosst, as, for instance, the Comstock, in Nevada, you can make a great miue and an immense property on a few hundred feet. Bnt where is there another such?

In most localities it will take a large claim, and ofteu several of them consolidated, before a company can be induced to go in and develop a property that, under a judicious expenditure of money will become valuable, whioh, in sections, could never have paid expenses.

In what were known in "'49" as placer claims, with the rocker or tom, small claims were just what was wanted for one man or company of five or ten, even, which was a large company in those days. But in these times, valnable mines are made so only hy a liheral expenditure of money; and to work them, often one hundred to five hundred men must be at work, night and day. And is it in any reepect more nnfavorahle to the prospector, that one man should he allowed to take fifteen hundred feet, thau for that one who first strikes it rich, to locate a compsny of his frieuds with himself, as he could under no law, four or five thousaud feet long, or even more, as I have known cases. He then takes deeds to himself from his friends, and has all he located. This is the way it used to be done, and would be uow, but for the United Ststes law limiting a claim to fifteen hundred feet. I have seen something of prospecting, and my opinion is, the hold, enterprising mau who drives into the wilderness, risking time, outfit, and even life itself, ought in justice to have twice as much ground as the laws allow him. You try it, Mr. Editor, one season, and you will agree with me that the pioneer prospector has little enough for his pains.

I quite agree with yon that the "tunnel right" clause of the law as far as I have observed its working does not appear calculated to benefit anyhody, not even those who locate them, aa a rule, and in many cases may have kept back work on claims which would have been prospected and developed had not the tunnel claim been in the way. But for all this and its other defects, it is in the main a good law, and let us try and amend it rather than destroy it. And I must in closing, take issue with you in your closing paragraph, that the present law, or "system as at present pursued, discourages prospecting and retards mineral developments." There never has been a year since this coast had a mine on it, that there was as much prospecting done as this year, 1873. From the coast range to Sslt Lake, and from Alaska to the Mexican line, the country has been alive with prospectors, and there never was a time in this city when there were so many good claims seeking capital to assist in opening them. The prospector is never a man that has the coin to open a claim—if he had he would not be a prospector—and when he has a good find, he at once seeks the man with the coin to join him on the best terms he can make, to develop and work that which will make both rich if so developed, but without which, is nothing better than the elephant won in the raffle. Give us miners liheral laws that we may iuduce capital to join and help us, for we cannot develop the country without it, and notwithstanding the miners of "'50," thought the mines "played out," we of "'73" think they are in their infancy, and that those who mine here in 1973 will find this a mighty couu try when compared with the present. Give ns liheral laws, and do not be afraid that any one man or company is going to swallow up or control this country. There is and will be a hundred claims seeking capital for development, for one that can find it, and for want of this capitsl the ninety-nine have to wait.

MINER.

CAUGHT OUT.—The Nevada *Transcript* says that, notwithstanding the long season of opportunity the gravel miners have had to prepare for the winter rains, the late storm which has furnished plenty of water for mining operations, has found the miners unprepared for it, and that within a circuit of six miles of Nevada City there are not a half dozen companies ready to commence washing. The South Yuba Canal Company is running most of its water to the miners of Dutch Flat and Gold Run, Placer county, who are ready to avail themselves of the increased supply.

Alpine County Mines.

We extract from a general mining review of Alpine county mines, published in the *Miner*, the following items:

Silver Mountsin district claims our first attention, for the reason thst it is the oldest district in the county, and hss stood ont in bold relief, while other less favored localities have qnietly snuk into obscnrity, or have been entirely ahandoned. During the years of the great excitement in "Washoe," when the entire population of the Pacific were mining mad, Silver Mountsin took high rank, and gave promise of that richuess and prosperity which she had never yet attained, but which is yet possible in the near future. With moderate capital judiciously expended. there are many mines in this district that could be made to yield fair returns to their owners, and thus add to the bullion product, which to a great extent is the vital element of our national finances.

The Mountain company is one of the oldest and most prominent locations in the district, and for yesrs was held in high estimation by the owners, and looked upon with favor by all mining experts who ever examined into its merits. A tunnel was driven through the ledge at an altitude of over 1,000 feet above the town, which demonstrated two things—first, that they had a true fissure vein, and second, that it carried the precious metals in paying quantities. The cost of building a road to the mine on this high level, the comparatively limited amount of ore that could be extracted above the tunnel level, and the expense of erecting hoisting machinery to work below that level, led the company to suspend operations at that point snd to drive a long tunnel from the base of the mountain to onen up their precious treasure at a depth commensurate with its magnitude. With the light of experience the managers of the mine had at that early day in silver mining, their acts were in conformity with puhlic opinion, and therefore free from that odium and censure which has been so freely vented upon their folly, as it is now termed. After a perseveraunce of six or seven years in horing into one of the solid ribs of the Sierras, the company became too impecunious to go further, and thus the work stopped at a point just short of fruition. With the acquired experience of the prosent day in this specics of mining, and tho modern appliances in extracting and transporting ore over heretofore inaccessihle routes to the plsce of reduction, this mine might be msde a good paying investment.

The George Washington, in the same mountain range with the Mountain mine, is another location that once excited great hopes in the breasts of its owners, and caused them to expend a largo amount in its development. This too, like ite predecessor, never repaid the outlay upon it; not because there was not ore in paying quantites in the mine, but because in that day of limited knowledge in the efficient working of refractory ores it could not be worked at a profit. A test of the common grade ore as it comes from the mine was made hy B. E. Hunter, Esq., at the Scheuectady Co's mill, the past summer, aud gave a return, hy the wet method, of a fraction over $23 per ton. It is understood that a Chicago company have either bought the mine or are negotisting for it.

The Pennsylvania mine, on the opposite side of the town of Silver Mountain, and ahout two miles therefrom, is another old location upon which a large amount has been expended, under the exciting stimulus of a bold outcrop, showing good evidences of richness when once fairly opened up. A tunnol of about one thonsand feet was driven throngh the solid granite, piercing the ledge at a vertical depth of ahout eight hundred feet. At this point the ledge was found well defined and csrrying ruby silver in limited quantities. When it cost $25 per ton for reducing ore at the local mills, moderate grade ore could not be worked, so this promieing mine, like its predeceesors, had to succumb to the imperious law of destiny. A recent working of the average ore of this mine at the Schenectady mill gave a yield of over $50 per ton. The owners of the mine, being few iu nnmber and poor m n, are compelled to wait for the influx of capital to make their mine available.

The Scandinavian Canon.

In this interesting locality are situated the only active mines in the district. If reports are true, this region is destined to prove a second Ophir. The mines are numerous aud carry large quantities of the various grades of ruby ore from the eurface down. We are not sufficiently well versed in the stage of development in this locality to enter at all into details, hut hope to see a yearly review of operations in this quarter published in the *Alpine Chronicle*.

MINING SURVEY COMPLETED.—We understand that Col. Lewis has completed the underground survey of the boundary line between the Crown Point and Belcher mines. The colonel is a veteran surveyor, and is held in high repute hy his hrother surveyors. His survey no douht will he sccepted as authorativo in determining the boundary line between the above named mines.—*Gold Hill News.*

N. G. ANDREWS hss been appointed foreman of the Savage mine, in place of Mr. Balch, who has gone to the Crown Point. Mr. Andrews is a thorough miner, and was for a long time connected with the Crown Point mine.

The Belmont Mine.

We extract the following description of this now famons mine from the Reese River *Reveille* of the 5th instant:

Entering the main incline, we descended until reachiug the 240-ft. or water level, where we alighted and traversed the drift, which is cnt through the ledge in a northerly direction, a distance of 517 feet to the winze, in which the marvelously rich body of ore now in sight waa struck. Note—It was in this 240-ft. level, at a distance from the incline, in a northerly direction, of 550 feet, that a body of ore 270 ft. in length and seven ft. in width was extracted last spring, and, as the strike in the winze, 80 feet below, is undoubtedly a continuation of the same chimuey, it is expected that the hody below will pau out at least 270 ft. in length.

Descending the winze we find that the ledge —which is a true fissure vein—has an angle or dip to the eastward of ahout 40 degrees for a depth of about 45 ft., when it suddenly takes a turn to the westward, assuming an almost vertical position. At the bottom of thie eight-ft. winze, a cross-cut has been rnn through the ledge, showing extremely high grade ore for a width of seven feet—the ore consisting of heavy black sulphurets, hardly a piece of which but shows wire silver. From thie croescut a drift has been run, north snd south, a distance of 175 ft. in all, stripping the ledge for that distance. Throughout the entire 175 ft. the ledge shows the ssme quality of ore, estimated to mill an average of $300 per ton—in our opinion, a low estimate. Three crosscuts have been run through the chimney which show a width of from 6 to 8 feet from wall to wall. From the winze level—that on which the ore body is exposed—a small winze 24 ft. in depth hss been run, and borings msde, which display ore of the same quality as that above. Wherever the ledge has heen struck it shows ore of the same quality. One hundred aud sixty feet below the 240-ft. or water, level (400 feet depth of incline) a level is being run, which is known as the lower level, which will tap this rich chimney. When this level is completed, stoping will he commenced and an enormous amount of ore can he extracted. It is expected that this level will be completed early in January.

The strike is in what is known as the Moore and Martin ground of the Belmont company, a coudensed history of whioh I will give in another plsce.

No ore is being extracted from the mine at present, and the reason is obvious: the development was made in advance of the facilities for tsking ont. The only means of extraction now existing is the 80 ft. winze—which is small and through which but a small quantity could be hoisted daily; thence, it would have to be transported a distance of 517 ft. along tho 240-ft. level to the incline, and hy means of the incline to the surface. From this, it will be seen at a glance that the expense of extrsction would necessarily be great and the amount capahle of being hoisted insignificant. When the connecting drift, or lower level, reaches the ore body, then ore csn he extracted cheaply and in large quantity.

Of the value of this immense deposit, or chimney, of ore in the Belmout mine there can he no doubt. That it is hoth rich and extensive is patent to the most casual observer, and when once the extraction of ore is commeuced, the shipments of bullion will astonish the world.

Captain Forbes vs. the Flagstaff.

On Saturday last an attachment was issued against the Flagstaff Mining Company at the suit of Chas. S. Forhes, lately representing the company as its agent. The attachment was served hy taking posessiou hy the officers of the law of a large amount of hullion, ore and other property of the company. On yesterday the company, by its attorneys, moved hefore Judge McKean, at Chambers, to discharge the attachment, on the ground that the debt was not dne, and thst it was secured by mortgage.

The connsel for the plsintiff stated in the course of an application to postpone the hearing that they were not aware when the suit was brought of having their client's debt secured by mortgage—and it would seem that the probabilities are that the suit will have to be discharged. The case was postponed one week to give Capt. Forhes time to arrive from San Francisco, and ascertain whether he has a mortgage to secnre his claim. And the plaintiff was also required to give an additional bond for damsgee in the meantime. The suit is for the sum of about $18,000, and it seems somewhat strsnge that an attachment should have been levied against a company as prosperous as the Flagstaff is, unless there was some purpose to affect the price of its stocks in the London market.

Mr. Maxwell, the superintendent of the compsny, says the operations of the mine and smelter were never more prosperous, and that it will soon be clear of all embarrassment resulting from the operations of the past eight months.—*Salt Lake Tribune.*

TEN tons of gold qnartz were recently sent from Baker county, Oregon, that netted $200 per ton, after paying all expeuses of extraction, shipment, etc.

Sheba Mine.

The Sheba mine is looking better than for some time past, snd hopes are entertained that the main ledge, dislocated by a dyke or "cross course" in the old works, has again heen found. At any rate, ore hss been discovered at a greater depth than ever before, and as the manner of its discovery might be of interest to prospectors, we will give the particnlars: In the early days of mining in this county, the Sheba was one of the most prominent and promising mines in the State, and sold readily at from $600 to $700 per foot. Large bodies of ore were developed hy a tunnel on the vein from the croppings to a considerahle distance undergrouud, from which sufficient ore wae extracted to run a ten-stsmp mill steadily for several months. At this juncture, when feet were high and everything running smoothly, the ledge was intersected by a "cross course." The superintendent and foreman being inexperienced miners, were at a loss what to do to recover the ledge, and after spending several thousand dollars in searching for it, on the "going-it-blind" system, the company, tired of assessments, suspended work on the mine. Several years afterwards the property passed into other hands, and work was resumed in the old works. The new company confined their operations exclusively to extracting ore from stringers and portions of the main ledge left by the old company between the tunnel and the surface, and made it pay. Recently, however, they concluded to drain a shaft sunk by the old company, in the tnnnel, and drift from it in the direction in which the ledge should be beyond the "cross course." Accordingly the shaft was drained and a drift run from it into the hill, which, at a distance of twenty-five feet, cut a vein of excellent ore, supposed to be the ledge lost in the upper works. Shonld their surmises prove correct, it will show how inexperienced superintendents and poor management depreciate the value of mining property; but whether the vein discovered in the drift is the main ledge or not, it contains sufficient ore of a high grade to amply repay the amount expended in seaching for it, and teachea a lesson which prospectors should remember; that is, when a shaft is sunk to find a ledge, and fails to do eo, always drift from it before you abandon it. The mine is in charge of Peter Woolcock, to whose mining experience is due the recent strike.—*Silver State, Dec. 4.*

DUTCH FLAT MINES.—From Dutch Flat, wo learn through the Truckee *Republican*, there are good tidings. A tunnel ie heing run to the old Somerset claim with good prospects of a successful development. The Cedar creek gold mines and water company have been employing a great number of men during the past summer and this fall, in cleaning and repairing its different ditches, flumes and reservoirs aud fitting up the various claims preparatory to washing the coming season. This company started a bed-rock tunnel last July, to run from the mouth of Dutch Flat cañon to the Deep Shaft claim, a distance of about 3,000 feet. This tunnel is being run by hand, but a Burleigh drilling machine is now on the way, which, when it arrivea and is set up, will press the work on at a rapid rate. The motive power for the drill is compressed air, led through an iron pipe into the tunnel. The machinery will he driven by water power, of which the company have plenty for this purpose the year around, the pressure at this point being 750 feet. Aside from the rock in the face of the tunnel, four shafts are to be sunk—one of which is already down ahout 140 feet, and the tunnel run from them—it being the intention to run from eight faces so as to complete the tunnel as eoon as possihle. The face of the main tunnel is now in about 200 feet, and it is expected will he completed in about eighteen months. The compsny have not had less than fifty men in their employ during the entire summer, and the coming water season will employ about 150 men in all. The London company have hought the greatest number of mines in this vicinity, and having an immense amount of capital will work them thoroughly.

STICKEEN MINES.—The Portland *Bulletin* of December 2d says: From a private letter received hy a gentleman in this city from parties in Victoria, we learn that the mining excitement is running very high with them at present, little else heing talked of. Some eighty or ninety miners are already en route up Stickeen river, intending to go across the country on the ice. A number more are at Fort Wrangle, awaiting the arrival of reinforcements before starting out. As soon as spring opens there will undoubtedly he a rush for the new diggings. Several gentlemen in this city are quietly completing arrangements for the trip, and will probahly start about the 1st of January, aud we have heard of two gentlemen that will go up on the next steamer.

CONSIDERABLE GOLD.—Mr. Ott, assayer and refiner in this city, says the Nevada *Transcript*, informs us that in looking over his hooks, of the amount of work done by him in melting and assaying gold for various companies and the bank, since 1858, over thirteen millions of dollars have passed through his hands. Allowing one pound of gold to be worth $200, sixty-five thousand pounds, or thirty-two and a half tons of gold have heen melted and assayed hy him since that time. He has made 34,119 assays of gold, and 4,369 of other metals, and is still husily engaged in the same business.

MECHANICAL PROGRESS.

On the Use of Steel for Boilers.

From a late number of the *Deutsche Industrie Zeitung* we learn that Mr. R. L. Haswell, Engineer of the Austrian State Railway Company, spoke on this subject in the Society of Austrian Engineers. He remarked that the accidents which had occurred on railways using locomotive boilers of steel had thus far been only ascribed to the material; yet this was due, on the one hand, to the preparatory working of the plates, and on the other, to the small thickness, as well as to the insufficient mode of assorting them before they were used. The State railway thus far has used about 50,000 cwt. steel plates, among which only 200 cwt. were thrown aside during the manufacture of the boilers.

Haswell only knows of five instances where such boilers got cracks, four of which occurred in the fire-box plate and one in the cylindrical part. Haswell ascribes their faulty condition to the fact that they were rolled when too warm. This shows that even by purchasing steel plates from the most renowned establishments and of the best quality, one cannot depend on their superiority for the purpose in question, without assorting them with the utmost care, because it can readily occur that in heating the plates one or more get spoiled. Hence, in the establishments of the State railway all plates are subjected to tests for their tensile strength, before they are used. That these tests are perfectly reliable is shown by the fact that of 350 boilers consisting of steel plate, only a single one was found torn thus far, and this in the cylindrical part. The box plates not having been tested, it is readily explained that four boilers were injured in those parts. But, although these plates had undoubtedly been impaired in their strength by overheating, they would probably not have been torn if the construction of the machines, namely, the boiler supports, did not involve an immense strength.

In order to obtain steel boilers answering all requirements, only correspondingly thick plates and plates of the best material, without any addition (for otherwise the steel is not homogeneous) ought to be used; they ought to be scrupulously assorted according to the texture and tensile strength. After boring or punching they should be carefully annealed; the riveting must be formed with pedantic care, and the bending only with wooden hammers. That steel plates manufactured in Austria are of excellent quality, is proven by the manner in which boilers are there constructed; the box front plate, down cover, and the sides of the tubes are only furnished with an edge or border, while in England they are compelled to use angle iron for these connections.

Steel plates are preferable to iron plates, owing to the fact that they possess the same degree of elasticity in all directions (from 12 to 15 per cent.); in iron plates it is in the direction of the fibers, and according to Kirkaldy, about 15 per cent., but in a cross direction only five per cent. If one proceeds in the manner indicated, says Haswell, steel plates may be used with perfect safety. The boiler manufacturer has the advantage that he finds less plates to throw aside, and the railways on the other hand will have more carefully constructed, stronger and in the end, cheaper boilers.

NEW FIRE ENGINE.—A new fire engine, the invention of Mr. Thomas Atkins, civil engineer, underwent an experimental trial on Thursday afternoon in a field at Ladywell, (England). The principle consists in saturating the water thrown on the flame with a gaseous compound, consisting of 18¾ parts of carbonic acid, 1¼ carbonic oxide, and 80 of nitrogen, manufactured from charcoal, and which possesses the important advantage of very slowly effervescing, although introduced at a high pressure. Its cheapness is another advantage, the cost not exceeding 1s. for 1,700 square feet. The working standard is, 150 lbs. to the inch, but it can be stored at 1,000. The experiment was fairly successful, and quite sufficient to give the inventor a claim to the attention of the public. A pile of faggoted cornshwood and shavings, well saturated with tar, and about twelve feet in length, was set fire to, and it speedily burst into a furious blaze. Mr. Atkins then attacked it with his hose, and in a few minutes completely extinguished the flames, with the expenditure of about 17 gallons of fluid, a good deal of which was evidently superfluous. One of the great merits of this invention is the complete destruction which it causes of the asphyxiating qualities of the smoke, which is rendered capable of being breathed without inconvenience, a property of which Mr. Atkins proposes to take advantage in rendering innocuous the fatal "choke-damp" of our coal mines.—*Iron.*

THE *Colliery Guardian* of late date says: "American manufacturers have, from the first, been only placed at a disadvantage with England in one particular, and that is in the comparative dearness of labor. To overcome this difficulty has been the task of inventive ingenuity and enterprise in the States for many years past, and the result is such a substitution of machinery for hand labor, and such an application of scientific methods to economize production, as can be matched probably by no other country in the world."

Manufacture of Wood Pulp for Paper.

Among the more interesting articles at the International Exhibition in London, in the summer of 1872, was a series of illustrations of the process devised by Mr. Houghton for converting wood into pulp for paper. It is said that the difficulty heretofore in using this material for the purpose mentioned has been the necessity of using such large quantities of alkali as to make the cost of the operation too great to be generally employed, at least abroad. This difficulty has been overcome by Mr. Houghton's process, and it is expected that large quantities of wood, heretofore wasted, will be made available. Every saw-mill in the United States has an immense amount of refuse material, which it is extremely difficult to get rid of, and in many instances large fires are kept burning night and day in order to destroy it. There will be nothing in the way, it is said, of treating this refuse so as to have it rendered available for paper-making, and thus, while utilizing an immense amount of waste material, to cheapen the cost of books and newspapers. In the process of Mr. Houghton, in the first place the wood is cut diagonally by a series of knives, so that the fiber easily separates by the splitting of the grain. These slices are again broken into smaller pieces, furnishing the raw material for the next manipulation. This consists in introducing them into a patent boiler, calculated to endure great pressure, and heated by hot water circulating in pipes, which traverse it in sections throughout its length, the heat being capable of most accurate regulation. The pressure employed in the process of treating the fiber is 180 degrees, and the wood is introduced into the boiler in wire cages running upon a set of rails, the small pieces after boiling being quite soft and of a dingy color. This is next treated by means of chlorine in a vat, and the bleaching finished by the use of permanganate of potash. The material is now a soft, pulpy, and highly fibrous substance, which is next subjected to the action of a hydro-extractor, a kind of wringer, which leaves it in the shape of a damp, fleecy mass. The liquid with which the fiber has been treated is then pumped into a vat, and subjected to the action of carbonic acid gas, which solidifies to some extent the resinous particles. It is next placed in a copper boiler, and heated exactly to the boiling-point. This produces a complete coagulation of the rosin, which falls to the bottom in large flakes. No use has been, so far, found for this resin, but it is expected that before long it may become of commercial value. There are many other details in the manipulation of the fiber, for which reference must be made to technical journals.

Asiatic Mechanical Tools.

The following notes, for which we are indebted to the *English Mechanic*, may be put under the head of "progress," by a sort of Hibernianism. They show, at all events, *our* progress:

In India, the tools used by the native artificers depend a good deal on whether the workman has come into contact with Europeans to any extent. In such places as Jumalpore, for example, where the East India Railway Company have established large workshops, natives may be seen using tools of every description—blacksmiths,' carpenters,' engineers,' etc.—and turning out work in first-class style, but, of course, under European superintendence. In the villages, however, where the native blacksmith or carpenter works according to his own "lights," as his fathers did before him for centuries past, he still clings to his own tools. The carpenter's sheet-anchor, so to speak, is his adze, with which he is very skillful. His lathe consists of two upright pieces of wood, driven into the ground at the requisite distance for holding the work, with spikes projecting horizontally. The work is held between these pikes, and made to rotate backwards and forwards by a bow held in the left hand, and the string of which is passed once round the wood. The chisel is held in the right hand, and the carpenter squats on his hams and guides it with his toes. The same dodge of the bow is made to turn a large gimlet with a loose head to the handle, where we should use a brace and bit. They use saws somewhat similar to ours, only differently shaped in the handle; chisels, planes, files, etc., but principally of native make, and inferior to our tools. Their blacksmiths use wrought-iron anvils, also vices, drills and chisels. A goldsmith's tools are usually few and simple. A little miniature anvil, one or two pairs of tweezers, a few files, a hollow reed or two for blow-pipes, some charcoal, and some borax, etc., with a hammer and a wire-drawer, will complete his list. Possibly, the skilled workmen of Delhi, where the gold filigree comes from, or of Cuttack, which is celebrated for silver filigree, may have more and better tools; but in the rural parts of upper Bengal the village "sonah" or goldsmith has a very limited assortment.

LOCOMOTIVE SNOW-BROOM.—Messrs. M. C. Isaacs & Co., of Chicago, are supplying railroads with a broom made of steel wire, and designed to be attached to locomotives forward of the truck-wheels, for the purpose of keeping the rails clear of light snow and other obstructions; They are arranged so as to be lifted clear of the rails when their use is not required. They have been tried on many roads and are found to be both durable and serviceable.

WIRE netting for plastering, we are informed, is being rapidly introduced to take the place of laths. It takes less labor to place on the walls, is more continuous and will not burn. Coarse netting with one inch mesh, and made of strong wire, is found to answer best. For ornamental cornice work it is especially valuable, as it can be bent into any desired form. Secured to iron studding in a brick building, our greatest danger on account of fire would be removed. A still further application of this plan is to make round bags of wire resembling barrels and to coat them inside and out with cement. When it hardens they resemble stone barrels. Filled with sand and sunk in rows and masses they make excellent material for breakwaters. Another extension of the idea has been tried with success in England. It consists in making iron framed buildings, covering them with wire netting, and spreading concrete on both sides. It is claimed that a house, walls, floors, roofs, doors, partitions and all, has been built that is strong, firm and absolutely incombustible. Various applications of the use of wire netting, and plaster or cement, readily suggest themselves, and the matter is worthy of the attention of mechanics and builders.

COOLING RAILWAY CARRIAGES.—A totally new way of cooling railway carriages has been lately designed by Mr. Daniel Reid, of the East Indian railway. By this plan it is proposed to obtain the necessary cold—if that unscientific expression may be allowed for convenience sake—not from the evaporation of water, but from the direct use of ice. Mr. Reid proposes to establish in the break-van, as the English call the breaksmen's car, of the train to be cooled, an apparatus consisting of a coil of zinc piping, the lower part of which is immersed in water, while the upper part is enclosed in a box packed with ice. Air is forced through the coil by means of a fan, and thence conducted in flues along the roofs of the carriages with outlets into each.

SCIENTIFIC PROGRESS.

New Plan for Obtaining a Powerful Light.

Herr Edelmann, of Munich, has devised a very simple and satisfactory mode of obtaining a powerful light, well suited for photographic purposes, if the materials employed be judiciously selected. He has found that the oxy-hydrogen flame produced from common coal gas and oxygen at ordinary pressure produces an intense light, of any desired color if, by means of it, we burn a mixture of picrate of ammonia with a suitable metallic salt.

To this end a hollow cone of hard gas carbon—similar to that used in electric lamps—is prepared of the following dimensions: Hight, one and three-quarter inches; diameter, one inch, tapering to three-quarters of an inch, and pierced by a tube tapering in the same direction from half to one quarter of an inch. This conical carbon tube is placed, narrow end down, upon an upright oxy-hydrogen jet, the compound nozzle of which fits into the narrow end of the converted cone of carbon. The oxy-hydrogen jet is the usual kind of double tube, the coal gas issuing round the oxygen nozzle; and when the gases are ignited, they burn through the center of the cone, which then resembles a small carbon furnace one and a half inches in depth.

The number of these cones to be made corresponds with the number of intensely bright colored flames required. When the gases burn in the ordinary way, scarcely any light results; but in order to produce the desired effects, we spread over the inner surface of a cone, with a spatula, a paste made by rubbing together in a mortar, picrate of amonia, the metallic salt desired, and alcohol. The cones are then allowed to dry at ordinary temperature, and placed over the double tube when light is required. To produce the flame, the oxygen tube, which should be movable in a vertical direction, is raised as high as possible, the coal gas lighted, and the oxygen then turned on. By moving the oxygen tube slowly downwards, and regulating the gas supplies, the point at which the greatest brilliancy is produced can be readily ascertained. The light obtained is very intense and steady while it lasts.

If a white light be desired, sulphide of antimony or magnesium filings can be mixed with picrate of ammonia; but if it be desired to use the light for showing on the screen metallic spectra, the chlorides of sodium yellow, thallium green, iridium blue, and calcium are most suitable; while Herr Edelmann finds that the chlorates or nitrates of strontium red, barium pale green, and copper deep green, afford the most satisfactory results. For photographic purposes the antimony would be most suitable, but it should be mixed with the picrate of ammonia with caution.

This plan for obtaining a powerful metallic light is specially recommended for illustrating some of the phenomena of spectrum analysis. At present it is usual to employ the electric light for the purpose of projecting spectra on a screen in order to exhibit them to a large audience. The cost and inconvenience of the electric light are, however, so great as to debar many from trying to exhibit these beautiful experiments. Edelmann now proposes the above plan for producing intensely brilliant metalic flames as a substitute for the electric method, states that he has succeeded perfectly in projecting the spectra on a considerable scale when using the very simple and inexpensive source of light above described.—*British Journal of Photography.*

TWO LIVE FROGS DISCOVERED IN PIT WORKINGS.—The season for the "frog in the rock" discovery seems to have come again, at least if the following, from the Newcastle (England) *Chronicle*, may be taken as an index of the spirit of the press. The item has got into general circulation—we are curious to see what remarks will be made upon it. The *Chronicle* says: As the sinkers at present engaged in constructing a shaft at Mainsforth Colliery, near Ferryhill, were engaged at their work on Saturday morning last, they came upon a live frog embedded in the limestone, 26 ft. from the surface. The utmost surprise was expressed by those who discovered the strange object, which was passed from hand to hand for examination, and it soon succumbed to the rough treatment to which it was thus subjected. A second live frog, however, was discovered, near to where the first one had been turned up, on Monday morning, and the foreman sinker, William Widdowfield, at once took possession of it, and prevented it sharing the fate of its predecessor. On examination, its mouth was found to be entirely closed, the gums having apparently adhered from the length of time of its imprisonment. A nail, however, was inserted, and the cavity of its mouth was soon opened. The animal was then placed, together with a little of the limestone from which it had been extracted, in a small box, and has since shown lively testimony of the amount of activity it possesses.

LENS FIRES.—Dr. H. C. Bolton, of Columbia College, New York city, states that on a recent occasion, at 9 A. M., on entering his laboratory he found a wooden table on fire, ignition having been occasioned by the rays of the morning sun, which fell upon a glass spherical flask containing water. The flask served as a lens which concentrated the rays and set fire to the wood. The author also alludes to the statement of Lactantius (A. D. 300) who mentions the use of glass globes filled with water, to be used in kindling fires; while Pliny recommends the use of lenses for the purpose of cauterizing the flesh of sick persons. As to the latter, one Mr. Barnes, of Connecticut, took a patent in this country some five years ago for the use of lenses for the purpose suggested by Pliny. In respect to fires occasioned by lenses, doubtless there are many examples. It is well known that vessels at sea have been set on fire by the bullseye glasses used to admit light to between decks. These glasses were formerly made convex on one side, thus forming powerful lenses. In consequence of the loss of property and danger, their use has been discontinued, and thick plates of glass, flat on both sides, have been generally substituted. Captain Scoresby and Dr. Kane used to astonish the natives of the polar regions by taking blocks of clear ice and cutting them into the form of lenses with which they instantly kindled fires.

ELECTRIC TOXOMETRY.—Many years ago, Professor Edmund Davy, of Dublin, devised a simple electro-chemical method of ascertaining the presence of different metals, applied to detect minute quantities of metallic poisons. He employed a voltaic arrangement of small slips of zinc and platinum, placed in contact, and forming a galvanic circuit with the interposed fluid suspected to contain the poisonous metal. The poison was deposited in crystals on the negative surface of the slips of metal; arsenic could be detected if only the five hundredth part of a grain were deposited; in some instances he could appreciate the two-thousand five-hundredth part of a grain. These minute quantities can be detected even when mixed with ordinary articles of diet, such as wheaten flour, bread, starch, rice, potatoes, sugar, vinegar, eggs, gelatin, gruel, various kinds of wine; and also in the saliva and bile. Besides arsenic, Professor Davy experimented with corrosive sublimate, acetate of lead, and sulphate of copper, and always with the same satisfactory result. In some instances where the common tests failed to act, or only acted fallaciously, he found the electro-chemical method act with the greatest certainty.

FIRE DETECTORS.—An experimental display of some of Professor Grechi's instruments for signaling the commencement of fires in any room, or in interspaces difficult of access, has been made in one of the corridors adjoining the Machinery Court at the International Exhibition at South Kensington. Small straw fires, inflamed with petroleum, were ignited, when the instrument caused the alarm bells to ring, and notified the particular locality by the fall of a numbered disc. A lantern was also lighted in one compartment by the falling of a small weight upon glass globules of sulphuric acid. The principle of the apparatus is this: a double spiral of zinc and platinum is soldered to a disc carrying an index and a small wire contact-maker. When the spiral expands by the heat the contact-maker is turned by the motion of the spiral, thus putting in action current from an electrical battery, by which alarum-bells and signal apparatus are action. The instruments are made, and cost about 2s a pie-

Weekly Variations in Stocks.

Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Dec. 17, 1873.

NAME OF COMPANY.	IN MINE.	FEET.	SHARES	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.							
Alaino Gold and S. M. Co	.....	.....	.....	3½	3¼	.....	.....
Alpha Consolidated	300	6000	57	42	17	.....	.....
Alta	3600	.....	.....	.....	.....	.....	.....
American Flat	.....	30000	9	2½	2½	.....	.....
Arizona & Utah	1900	18000	4	2	2	.....	.....
Bacon Mill & Mining Co.	65	24000	8	5	5	.....	.....
Baltimore Consolidated	.....	54000	9¼	5½	3½	.....	.....
Belcher	1040	104000	96	86	6	.....	.....
Best & Belcher	224	22400	29	22	4	.....	1
Bowers	20	5000	.....	.....	.....	.....	.....
Buckeye	.....	16000	3	1½	1	.....	.....
Bullion	2500	25000	31½	22½	10	.....	.....
Caledonia Silver M. Co.	3000	30000	37	22½	14	.....	.....
Central	150	10800	65	23	40	.....	.....
Central No. Two	100	20000	23	15	13	.....	.....
Chollar-Potosi	2800	28000	75	60¼	16	.....	.....
Confidence Silver M. Co.	130	24000	12½	8¾	4	.....	1
Cons. Gold Hill Quartz	34½	20000	3¾	3	.....	.....	.....
Consolidated Virginia	1160	108000	79	70	9	.....	.....
Cook & Geyer	1600	24000	.....	.....	.....	.....	.....
Crown Point G. & S. M. Co	2000	100000	107	98	9	.....	.....
Daney	1200	24000	2	2	.....	.....	.....
Dardanelles	70	25000	10	6	4	.....	.....
Eclipse	75	50000	6¾	5¼	1¾	.....	.....
Empire Mill & M. Co	400	50000	40	24½	15½	.....	.....
Exchequer	.....	.....	3½	3	⅜	.....	.....
Fairmount	3000	12000	.....	.....	.....	.....	.....
Flowery	.....	.....	3	2	1	.....	.....
Franklin	.....	30000	3	1⅞	1	.....	.....
Globe	1200	48000	23	19	7	.....	.....
Gould & Curry S. M. Co.	400	16000	54	43½	13	.....	.....
Hale & Norcross	184	100000	8⅜	6¼	2¼	.....	.....
Imperial	.....	.....	.....	.....	.....	.....	.....
Indus	2000	30000	1	1	.....	.....	.....
Insurance	.....	.....	.....	.....	.....	.....	.....
Jacob Little	.....	.....	1	1	.....	.....	.....
Julia Gold and S. M. Co.	2000	30000	6¼	5½	⅝	.....	.....
Justice	3000	21000	11¾	9¼	2½	.....	.....
Kentuck	95	30000	26	16	11	.....	.....
Knickerbocker	1200	24000	8¾	5¾	4¼	.....	.....
Lady Bryan	.....	.....	.....	.....	.....	.....	.....
McMeans	3600	36000	½	40c	.....	.....	.....
Mint Gold & S. M. Co	1600	50000	.....	.....	.....	.....	.....
Nevada	3000	30000	2⅜	2	.....	.....	⅜
New York Consolidated	3600	36000	4½	4	.....	.....	.....
Occidental	800	10000	11½	9	.....	.....	.....
Ophir Silver Mining Co.	1400	16800	156	101	68	.....	.....
Overman Silver M. Co.	1200	37400	60	42	3	.....	.....
Phil. Sheridan	1200	24000	.....	.....	.....	.....	.....
Picton	2000	30000	70c	40c	.....	35c	.....
Rock Island	.....	24000	3	1½	.....	1½	.....
Savage	800	16000	88	71	.....	17	.....
Segregated Belcher	160	6400	144	88	.....	27	.....
Segregated Caledonia	.....	16000	.....	.....	.....	.....	.....
Seg. Rock Island	.....	.....	1	½	.....	.....	.....
Senator Silver M. Co	.....	24000	1⅞	1¾	.....	1⅛	.....
Sierra Nevada	.....	20000	35½	32½	.....	5¼	.....
Silver Hill	.....	54000	17	9¾	.....	7¼	.....
South Comstock	.....	.....	.....	2⅜	.....	⅜	.....
South Overman	.....	24000	5	1¼	.....	½	.....
Succor Mill and M. Co	7600	22800	4⅜	3½	.....	⅞	.....
Sutro	.....	24000	5	3	.....	1	.....
Tremont	20	50 0	8	5	.....	.....	.....
Tyler	2200	33000	1¼	¾	.....	60c	.....
Union Consolidated	803	20000	15½	9¾	.....	7	.....
Utah	.....	20000	11¾	7⅞	.....	4¾	.....
Woodville G. & S. M. Co.	1400	28000	3⅞	1	.....	2¼	.....
Yellow Jacket	1200	24000	93½	67	.....	19½	.....
NEVADA.							
Adams Hill	.....	50000	.....	.....	.....	.....	.....
Alps Silver Mining Co	800	30000	½	70c	.....	.....	5c
Amador Tunnel & M. Co.	.....	.....	.....	.....	.....	.....	.....
American Flag M. & M.	.....	30000	4¾	3½	.....	.....	⅛
Arkansas	300	30000	.....	.....	.....	.....	.....
Belmont	.....	.....	26½	19	4	.....	.....
Bowery	.....	30000	1	65c	10c	.....	.....
Chapman Mill & M. Co.	.....	30000	.....	.....	.....	.....	.....
Charter Oak S. M. Co.	1000	30000	.....	.....	.....	.....	.....
Chief of the Hill	.....	30000	1½	1	.....	½	.....
Chief East Extension	.....	36000	35c	15c	.....	.....	10c
Columbus M. & M. Co.	10000	50000	.....	.....	.....	.....	.....
Condor	.....	25000	.....	.....	.....	.....	.....
El Dorado South	.....	.....	6½	4¼	.....	1⅝	.....
Eureka Consolidated	.....	50000	9½	9⅛	.....	.....	.....
Excelsior	800	12000	.....	.....	.....	.....	.....
Harper Silver Mining Co	.....	30000	.....	.....	.....	.....	.....
Hayes	.....	.....	1½	1	.....	.....	.....
Hermes	1000	30000	2½	2⅛	.....	.....	.....
Home Ticket	.....	.....	.....	.....	.....	.....	.....
Huhn & Hunt S. M. Co.	3600	30000	2	1⅜	.....	.....	⅝
Ingomar Silver M. Co.	1000	40000	60c	40c	10c	.....	.....
Ivanhoe	.....	30000	.....	.....	.....	.....	.....
Jackson	.....	50000	.....	.....	.....	.....	.....
Josephine	.....	.....	2	2	.....	.....	.....
Juniata Consolidated	5000	50000	.....	.....	.....	.....	.....
K. K. Consolidated	.....	.....	.....	.....	.....	.....	.....
Kentucky Gold & S. Co.	1000	30000	½	⅜	.....	.....	1¼
Kinston	1000	30000	.....	.....	.....	.....	.....
Lehigh	1000	30000	.....	.....	.....	.....	.....
Lillian Hall	1000	15000	.....	.....	.....	.....	.....
Louise	2400	30000	30c	27½	.....	.....	10c
McMahon	1000	30000	80	80	.....	.....	.....
Marion	.....	30000	.....	.....	.....	.....	.....
Meadow Valley	24023	60000	14⅜	13¾	.....	.....	⅛
Mocking-Bird	1200	30000	.....	.....	.....	.....	.....
Monitor-Belmont	.....	.....	6	5½	.....	.....	½
Murphy	2000	60000	.....	.....	.....	.....	.....
Newark Silver M. Co.	800	32000	2½	2	.....	.....	½
Pacific Tunnel & M. Co.	.....	.....	.....	.....	.....	.....	.....
Page & Panaca S. M. Co.	2400	40000	3¾	2¾	.....	.....	¼
Pearsine	1000	20000	.....	.....	.....	.....	.....
Phoenix	.....	50000	70c	½	10c	.....	.....
Pioche Silver Mining Co.	1000	20000	6¾	5⅝	.....	.....	⅜
Pioche West Extension	.....	35000	.....	.....	.....	.....	.....
Pioche-Phoenix	.....	40000	.....	.....	.....	.....	.....
Portland	.....	.....	.....	.....	.....	.....	.....
Raymond & Ely	5000	30000	55	49	.....	.....	5½
Rye Patch	.....	.....	12	9½	.....	1½	.....
Silver Pen	.....	30000	1⅝	1⅜	.....	.....	.....
SilverWest Consolidated	.....	.....	.....	.....	.....	.....	.....
Standard Mill and M. Co	.....	.....	.....	.....	.....	.....	.....
Star Consolidated	18000	50000	.....	.....	.....	.....	.....
Starlight	6900	25000	.....	.....	.....	.....	.....
Sterling	.....	20000	.....	.....	.....	.....	.....
Spring Mount	.....	35000	.....	.....	.....	.....	.....
Spring Mountain Tunnel	.....	20000	.....	.....	.....	.....	.....
Ward Beecher	.....	.....	.....	.....	.....	.....	.....
Washington and Creole	200	30000	4¾	3½	.....	.....	⅛
Watson	.....	.....	3	3	.....	.....	⅛
Yellowstone	.....	.....	.....	.....	.....	.....	.....
CALIFORNIA.							
Alpine	1200	12000	.....	.....	.....	.....	.....
Bellevue	8000	30000	.....	.....	.....	.....	.....
Calaveras Gold M. Co.	2200	20000	.....	.....	.....	.....	.....
Cederberg Gold M. Co.	.....	24000	5½	3½	.....	.....	⅜
Consolidated Amador	.....	.....	.....	.....	.....	.....	.....
Cottonwood Creek	.....	20000	.....	.....	.....	.....	.....
Dunderberg M. & M. Co.	.....	.....	.....	.....	.....	.....	.....
El Dorado Ind. Quartz M	.....	.....	.....	.....	.....	.....	.....
Eureka Gold Mining Co.	1650	20000	18¼	17¼	.....	.....	⅝
Gillie	.....	24000	.....	.....	.....	.....	.....
Independent Gold M. Co.	1800	25000	2¾	2¼	.....	.....	¼
Keystone Quartz	.....	10000	.....	.....	.....	.....	.....
Mt. Jefferson	1500	25000	.....	.....	.....	.....	.....
Oakville Quartz M. Co.	.....	.....	.....	.....	.....	.....	.....
St. Lawrence M. & M. Co	.....	.....	.....	.....	.....	.....	.....
St. Patrick	1600	20000	8	6½	.....	.....	½
Teonmseh	3000	30000	.....	.....	.....	.....	.....
Yule Gravel	400	10000	.....	.....	.....	.....	.....
IDAHO.							
Empire	.....	25000	5	4½	.....	.....	.....
Golden Chariot	750	30000	22	20	.....	½	.....
Ida Ellmore	1300	10000	6	4¼	.....	1⅝	.....
Mahogany G. & S. M. Co.	720	10000	6½	5½	.....	½	.....
Minnesota Gold & Silver	1070	20000	.....	.....	.....	.....	.....
Red Jacket	.....	.....	2	2	.....	.....	1
South Chariot	660	20000	12	10¼	.....	1½	.....
War Eagle	1000	10000	½	½	.....	.....	.....
WHITE PINE.							
General Lee	1000	20000	.....	.....	.....	.....	.....
Mammoth Silver M. Co.	1800	36000	¼	20c	.....	.....	.....
Noonday	1000	20000	.....	.....	.....	.....	.....
Orig. Hidden Treasure	800	21333	3	3	.....	.....	⅛
Silver Wave	.....	.....	.....	.....	.....	.....	.....
Ward Beecher	.....	24000	.....	.....	.....	.....	.....
UTAH.							
Deseret Consolidated	2400	30000	.....	.....	.....	.....	.....
Wellington	.....	50000	.....	.....	.....	.....	.....
OREGON.							
Virtue	2800	20000	.....	.....	.....	.....	.....

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thursday from Advertisemente in the Mining and Scientific Press and other S. F. Journals.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive of that date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—STOCKS ON THE LIST OF THE BOARDS.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business.
Arizona & Utah M. Co.	Washoe.	7	50	Nov 11	Dec 15	Jan 3	J. Maguire,	419 California st
Alpha Cons M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California st
Bowers Cons. M. Co.	Ely District.	4	50	Nov 5	Dec 16	Jan 9	C. E. Elliott,	419 California st
Baltimore Cons. M. Co.	Gold Hill.	4	1 00	Nov 18	Dec 23	Jan 14	D. T. Bayley,	401 California st
Caledonia S. M. Co.	Washoe.	6	3 00	Nov 13	Dec 18	Jan 8	R. Wegener,	414 California st
Caroline M. Co.	Ely District.	3	30	Nov 11	Dec 22	Jan 15	C. E. Elliott.	419 California st
Dardanelles M. Co.	Cal.		1 00	Nov 4	Dec 8	Dec 29	J. L. King,	434 California st
Gould & Curry S. M. Co.	Washoe.	20	1 50	Nov 14	Dec 16	Jan 7	A. K. Dcarborn,	Merchant's Ex.
Knickerbocker M. Co.	Am. Flat.	7	1 50	Nov 16	Dec 13	Jan 2	H. Boyle,	Stevenson's Bldg
Mammoth S. M. Co	White Pine		10 cts	Oct 23	Dec 1	Dec 22	J. L. King	434 California st
Mint G. & S. M. Co.	Washoe.		10	Nov 28	Dec 31	Jan 22	D. A. Jennings,	401 California st
Nevada Consolidated M. Co.	Cal.		10	Nov 12	Dec 13	Jan 5	O. H. Bogart,	411½ California st
Pioche S. M. Co.	Ely District.	5	1 00	Oct 30	Dec 10	Jan 6	C. E. Elliott	419 California st
Rye Patch Cons. M. Co.	Nev.		1 00	Nov 7	Dec 15	Jan 6	D. F. Verdenal.	409 California st
Silver Hill M. Co.	Washoe.	2	2 00	Nov 14	Dec 16	Jan 7	W. E. Dean,	419 California st
Savage M. Co.	Washoe.		2 00	Dec 3	Jan 6	Jan 26	E. B. Holmes	419 California st
Sierra Nevada S. M. Co.	Washoe.	37	2 50	Nov 14	Dec 22	Jan 12	R. Wegener,	414 California st
Senator S. M. Co.	Washoe.	9	50	Nov 26	Dec 29	Jan 19	Henry Boyle,	Stevenson's Bldg
Utah S. M. Co.	Washoe.	4	1 00	Dec 8	Jan 9	Jan 28	W. E. Dean.	419 California st
War Eagle M. Co.	Idaho.	3	1 50	Nov 18	Dec 24	Jan 15	L. Kaplan,	Merchant's Ex

OTHER COMPANIES—NOT ON THE LISTS OF THE BOARDS.

American Flag M. & M Co	Ely Dist	4	1 00	Dec 16	Jan 21	Feb 19	G R Spinney,	320 California st
Alpha Cons. M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California s
Auburn M. Co.	Placer Co.	6	50	Nov 17	Dec 23	Jan 13	R. Wegener,	414 Californ st
Bunker Hill Q. M. Co.	Amador Co.	12	10 00	Nov 12	Dec 20	Jan 12	W. L. Palmer,	19 Fir st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6	6	Oct 6	Dec 5	Jan 5	A. Noel,	419 California st,
Black Mountain Coal M. Co,	Cal.		2½	Oct 8	Dec 1	Dec 29	W. H. Parehley,	602 Montgomery st
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firlerer,	513 Montg'y st
Cuvel & Tiger S. M. Co.	Arizona.		20	Oct 25	Nov 26	Dec 20	C. J. Eaton,	Express Building
Columbus M. & M. Co.	Esmeralda Nev.		50	Nov 26	Dec 31	Jan 26	B. B. Miner,	411½ California st
Com Coal M Co	Cal		50	Dec 16	Jan 23	Feb 25	S. H Banson	402 Montgomery st
Eureka M. & S. Co.	Eureka, Nev.	3	25	Nov 11	Dec 13	Jan 2	T. P. Beach,	217 Sansome street
Esta Buena Cons. M. Co.	Nye Co. Nev.	3	50	Dec 3	Jan 8	Feb 7	A. Noel,	419 California st
Forest Coal M. Co.	Santa Cruz Co.		33½	Dec 8	Jan 5	Jan 26	C. B. Burroughs,	402 Montgomery s
Gold Canon Cons. M. Co.	Gold Hill.		5	Nov 21	Dec 30	Jan 19	A. A. Pardow,	420 California st
Great Blue Gravel R. M. Co.	Cal.		10	Nov 20	Dec 22	Jan 12	W. H. Watson,	302 Montgomery st
Gold, Mountain M. Co. Amador Co	Cal.		25	Oct 31	Dec 13	Jan 5	W. Aug. Knapp,	116 Liedesdorff st
Hidden Treasure M Co	White Pine		1 00	Dec 13	Jan 17	Feb 11	D A Jenninge,	401 California st
Ingomar S M. Co.	Ely District.	6	25	Nov 6	Dec 6	Jan 8	C. S. Neal,	419 California st
Independence Con. M. Co.	Grass Valley		10	Nov 3	Dec 9	Dec 29	F. J. Herrmann,	418 Kearny st.
Knickerbocker M. Co	American Flat	7	1 50	Nov 10	Dec 13	Jan 2	Henry Boyle,	Stevenson's Building
Lyons & Wisseler M. Co.	Arizona.		6	Dec 3	Jan 5	Jan 21	T. L. Kimball	419 California st
Lane & Kurtz Carihou M Co	Brit Col		3 00	Dec 11	Jan 12	Feb 2	B B Minor	411½ California st.
Moreau Machine Mfc. Co.	S. F.	4	10	Dec 3	Jan 17	Feb 9	W. B Isaacs,	304 Pine street
N. S. F. Homestead & Railroad Assn.			2 00	Dec 1	Jan 3	Jan 26	A. D. Smith,	314 California st
North Fork M. Co.	Plumas Co. Cal.	1	1 00	Nov 7	Dec 11	Jan 3	A Martin,	Sacramento City
Newark S. M. Co.	Ely District.	5	1 50	Dec 1	Jan 8	Feb 4	D. T. Bagley,	401 California st
New York Cons M Co	Washoe	7	50	Dec 13	Jan 15	Feb 2	H C Kibbe	419 California st
Ohio Con M Co	Cal		20	Dec 17	Jan 17	Feb 8	W Aug Knapp	116 Liedesdorf et
Pacific Asbestos Co.	Placer Co. Cal.		6	Nov 17	Dec 22	Jan 12	H B. Congdon,	306 Montgomery st
Rising Star M. Co.	Nevada Co. Cal.	6	10	Oct 27	Nov 29	Dec 22	J. M. Buffington,	Merchants' Ex.
South Chariot M. Co.	Idaho.	8	1 00	Nov 14	Dec 13	Jan 14	Frank Swift,	419 California st
St. Lawrence M. & M. Co.	Placer Co.	4	25	Dec 1	Jan 5	Jan 22	R. B. Noyes,	411½ California st
Thompson Coal M. Co.	Cal.			2½ Oct 8	Dec 1	Dec 23	W. H. Parehley,	602 Montgomery st
Union Consolidated M. Co.	Mariposa Co. Cal.		1 00	Oct 30	Dec 8	Dec 31	T. B. Wingard,	318 California st.
Woodville G. & S M. Co.	Gold Hill Nev.	4	1 00	Nov 12	Dec 16	Jan 5	A. Noel,	419 California st
Wonder G. M. Co.	Cal.	1	10	Nov 5	Dec 15	Jan 5	H. C. Howard.	332 Montgomery st
Wellington M & S Co	Utah	3	50	Dec 11	Jan 22	Feb 12	R Wegener,	414 California st
Ward Beecher Con M Co	White Pine		1 50	Dec 13	Jan 19	Feb 10	D A Jennings	401 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Antilles M Co	Ely District	E S Kerrst Pres	6 Liedesdorf et	Special	Jan 5
Cosmo Washoe M Co	Washoe	M White Pres	6 Liedesdorf et	Special	Jan 6
Cons Virginia M Co	Washoe	D T Bagley	401 California st	Annual	Jan 8
Gould & Curry S. M. Co.	Washoe.	A. K. Durbrow,	Merchants' Ex	Annual.	Dec 22
Heckerdorn G. M. Co.	Calaveras Co.	L. Terme,	734 Montgomery st	Special.	Dec 23
Oneida Mining Co.		Called by Trustees,	Merchants' Ex	Special	Dec17
Ophir Silver M. Co.		A. F. Benjamin,	430 California st	Annual.	Dec 22
St. John M. Co.		J. A. Pritchard.	401 California st.	Special.	Dec 22
Sanderson G. M. Co		Wm Stuart.	113 Leidesdorff st	Annual.	Dec 26
Sutro M Co	Nev	W R. King	434 California st	Annual	Dec 23
Phenix S M Co	Nev	J Maguire	419 California st	Special	Dec 30
Ruby Hill M Co	Nev	P W Van Winkle,	304 California st	Annual	Jan 8

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver.	316 California st.	30	Oct 17
Black Diamond Coal Co.	California.	F. B. Cornwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	5 00	Dec 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Dec 10
Cederberg G. M. Co.	California.	D. M. Bokee.	420 Montgomery S.	50	Feb 17
Cons. Amador M. Co.	Cal.	F. B. Ashham.	402 Montgomery St.	50	Dec 3
Derby M. Co.		F. Cunningham,	304 Montg'y st	50	Nov 25
Diana M. Co.		N. C. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grase Valley, Cal.	R. Wegener,	414 California st	1 00	Dec 8
Eastport Cons Bay Coal	Oregon.	J. L. Peel,	Merchants' Ex.	5 00	Apl 1
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan,	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
Os Grange Ditch & Mining Co.		R. Abbey	312 Montgomery St.	———	Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn,	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Montgry, St.	1 50	Aug. 7
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Dec. 5
Providence G. & S. M. Co.		J. M. Buffington.	Merchants' Ex.	1 00	Nov. 11
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

THURSDAY EVE, Dec. 18, 1873.

The Stock Market has been in a state of excitement for eome little time past hut the middle of this week hronght a reaction as far ae prices are concerned. Prices have been gradually rising for eeveral months with fluctuations of course, bnt a gradual rise neverthelese. The developments in many of the mines have inspired confidence in otber less fortunate onee, which have had tbeir full share of transactions. In fact divideuds do not seem to make much difference as far as the prices of stocks are concerned, and mines like Ophir and Savage are dealt in more than even Crown Point and Belcher.

The dividends for the month have been as follows:

NAME.	PER SHARE.	AMOUNT.
Belcher	$5.00	$520,000
Crown Point	3.00	300,000
Cons. Amador	50c	15,000
Eureka	1.00	20,000
Monitor-Belmont	60c	26,000
Total		$880,000

Assessments during the month have been as follows, amounting in all to $641,600:

NAME.	PER SHARE.	AMOUNT.
Alpha Consolidated	$3 00	$18,000
Arizona & Utah	50	9,000
Auburn Gold	60	4,000
Baltimore Cons.	1 00	64,000
Bellevue	50	4,000
Bowery Cons.	50	16,000
Caledonia	3 00	60,000
Caroline	30	9,000
Columbus Mill	60	10,000
Dardanelles	1 00	24,000
Gould & Curry	1 60	72,000
Ingomar	26	10,000
Knickerbocker	1 50	36,000
Mammoth	10	3,600
Mint Gold	10	5,000
Noonday	12½	2,500
Phil Sheridan	60	12,000
Picton	25	75,00
Pioche	1 00	20,000
Rye Patch Cons.	1 00	30,000
Senator	50	12,000
Silver Hill	2 00	108,000
Sierra Nevada	2 60	50,000
South Chariot	1 00	20,000
War Eagle	1 50	15,000
Woodville	1 00	28,000
Wonder	10	3,000

The dividends paid for tbe year ending tbis montb amount in all to $13,490,181; the total assesements for the year amount to $6,671,043. This makes a ebowing in favor of stockbolders of $6,819,000, a very good showing indeed. Of these dividende Belcher paid $6,760,000 and Crown Point, $5,100,000.

The Golden Chariot Mining Co. received on the 15th $17,804 in bullion.

The Ohollar report for the week ending Dec. 13th saye: Ore miued, 500 tone; ore forwarded to mille, 319 tons, 150 pounds; on hand at mill, 9,772 tons; average aseay of ore mined, as per oar eamples, $30 per ton. Owing to the stormy weather, teams were nnable to haul the ueual amount of ore to mills, hence tbe emall amount extracted.

The Superintendent of the Consolidated Virginia ehipped on the 13th $47,163 in hullion. The production of this mine last month was $246,000, of which $143,000 wae gold.

The fluctuations this week in prices have been somewhat remarkahle. At the latter part of the week prices dropped as stated above, but the difference hetween highest aud lowest prices during the week is quite unusual. The most marked instancee are in the Wasboe stocke. Alpha Cone. was ae high as $57 and as low ae $47; Best and Beloher, $96 and $86; Caledonia, $37 and $22½; Central, $65 and $23; Chollar, $75 and $60; Cons. Virginia, $79 and 70; Exchequer, $40 and 24½; Gould & Curry, $28 and $19; Hale & Norcroes, $54 and $43; Kentnck, $26 and $16; Ophir, $156 and $101; Overman, $60 and $42; Savage, $88 and $71; Seg. Belcher, $114 and $85; Silver Hill, $17 and $9; South Overman, $5 and $1¼; Yellow Jacket. $93 and $67; Raymond & Ely, $55 and $49.

Among the prominent advances over prices at close of last week are, Alpha Consolidated, $17; Bullion, $10; Caledonia, $14; Central, $40; Chollar, $16; Central No. 2, $13; Empire Mill, $13½; Exchequer. $15½; Ophir, $66; Seg. Belcher, $27; Savage, $17; Yellow Jacket, $19½.

MINING SUMMARY.

THE following is mostly condeneed from journals published in the interior, in proximity to the mines mentioned.

California.

ALPINE COUNTY.

MINING MATTERS.—*Miner*, Dec. 13th: The severety of the enow storm that has prevailed for the last ten days has prevented or greatly retarded work. The clean up at the Schenectady mill has beeu completed and the hullion sent to the Careon miut, but no returne have yet been received. Underground work hae been prosecuted in tbe Silver Glance, and the M. & N. W. mill only waits for the etorm to abate and the cold to moderato before commencing a short experimental run. Mr Chalmers hae ahout 100 tone of very fine lookiug rock at the Exchequer mill, which he intends to work up in a few days if the weather will permit. Some prospecting is being done in other claims with encouraging results.

STOPPED—*Chronicle*, Dec. 1st: Tbe heavy fall of snow on the ledges will prevent the survey of our minee until next June. That of the Mountain was concluded in time.

AMADOR COUNTY.

OUR MINES.—*Ledger*, Dec. 13: Ae far as we have been ahle to learn, tbe late severe storms have produced no matcrial injury, or interfered with our developed mines. Our quartz mille having laid in a winter supply of fuel and timber for the mines, work progressee regularly and without interruption from changee of weather. Since the storme set in, we have heard from hut few of our large mines, but at last reports the monthly yield came fully up to the general.

THE Kennedy mine continues its usual good yield, with the rock now in eight incr easiug in value; the ledge is 18 ft. in tbickuess, and the whole of it valuahle ore. The Kennedy, witbout boast or exaggeration, may he eet down as a first-claes mine.

THE State of Maine still continues its favorable appearance; as the lower level is driven in under the hill, the ledge increaees in thickness and value, and is now three and a-half feet wide, heing a very considerahle increase from its thickness at the ehaft; the rock ie of excellent quality, and the ledge presente all the indications of permauency. Time will prove the State of Maine to be a valuable, paying mine.

THE Volcano tunnel ie progressing rapidly, despite the storms of snow and rain for tbe past two weeks, having already been driven in over 200 ft., with the rook still eoft and comparatively inexpeneive to remove. Much depends upon this enterprise, and ite managers will pnsh the work on to completion as rapidly as poseible.

CALAVERAS COUNTY.

MINING ITEMS IN BRIEF.—*Chronicle*, Dec. 13: Duryea hae just commenced waehiug. During the ceesations of operatione enforced by the water famine through the fall months be flumed the gulch helow his mine, to facilitate the removal of tailinge, and put the claim in excellent condition for working to advantage. Work will he vigorously pnshed during the winter. Brackett & Co. are completing preparations for erecting a battery upon their tunnel claim, the gravel heing so hard it will not wash without cruebing. Active operations have been reeumed in Veith & Co.'s hydraulic in Chili ridge. During the fall the sluices have beeu raised 12 ft. to improve the "dump," and sucb other changes made as were necessary to place tbe claim in proper condition for workiug. Moser & Co. are bueily at work, with very favorable resn

where it will have to remain for some weeks before it can be hauled to the mill.

SAN DIEGO COUNTY.

JULIAN.—San Diego *Union*, Nov. 30: In Julian district, the prospect for this winter, and for the coming summer, is bright, and you may look for a larger shipment of gold bullion from this part of the country during the next six months than for all of the past year.

At the Rendy Relief mine work is being pushed ahead in the levels night and day, and sufficient money to meet expenses is being taken out with the company's little water-power mill. They intend to put up a steam mill very soon.

SAN BERNARDINO.

HOLCOMB.—The people of San Bernardino are much excited in regard to a wonderful discovery of gold quartz in Holcomb valley. The ledge is of immense size, and many persons have gone there. Measuring claims with tape line is the business of all the people. The discovery was made by Charles Carter on the 21st ult. From the amount of gold found in the valley and the gold-bearing specimens all through it, it has always been believed that a mammoth ledge was situated somewhere in the adjacent mountains. For years diligent search has been made for it, but without success. The mountain in which the ledge was discovered is situated in the eastern part of Holcomb valley, about three miles east of the Haley Company's quartz mill, and three or four hundred yards from the renowned Spanish ledge. The ledge, it is reported, projects some 60 ft. and is very nearly 30 yards wide.

TUOLUMNE COUNTY.

SOULSBY MINE.—*Democrat*, Dec. 13: Down the Davidson shaft of the Soulsby mine on Monday a fine vein of ore was struck. This shaft was being sank when work ceased on the mine three or four years ago but nothing was found until this week, by drifting south nearly two hundred feet. The Superintendent represents the ore to be of the same character and appearance as that taken out when the mine was paying.

SIERRA COUNTY.

RICH.—Cor. *Messenger*, Dec. 13: Forest city, an old mining town, which, in an early day, was the scene of great activity, and which might have been bought for a song two years ago, has taken a new lease of life and prosperity, owing to the discovery of a new mine. To say it is rich hardly covers the case. We saw a pan containing $6,000 worth of specimen gold, a good sight for a healthy eye. Mr. Stone, one of the owners of this mine, informs us that the pay dirt was so rich that one might thrust his hand into it with the eyes closed and feel out ounces of coarse gold.

LAKE COUNTY.

CINNABAR.—Napa *Register*: Mr. Crabtree, a resident of Lake, has discovered a very rich lode of cinnabar which he works in connection with others from Sacramento and Yolo county. This company have run a tunnel of 100 ft.; but in their opinion they are somewhat above the ledge, and will sink a shaft from the tunnel. They have begun a second tunnel and are fortunate enough to have struck the ledge immediately.

TRINITY COUNTY.

MINING PROSPECTS.—Trinity *Journal*, Dec. 6: Never before did the "rainy season" open better than the present one does, and never before were our mines in better condition for getting off ground and saving gold than they are this year. All the claims which were worked last year will be run on an increased scale this winter, and many new ones with flattering prospects will be opened. Our white mining population has been considerably increased since last spring by an influx of practical miners from Nevada, Placer and neighboring counties, but there will be plenty of employment for all. With the recent improvements more than double the work can be done, under other like circumstances, than in former years.

Nevada.

WASHOE DISTRICT.

SUTRO.—Gold Hill *News*, Dec. 13th: The south drift is in 175 feet in very fine looking quartz, assays ranging from $10 to $20 to the ton. A north drift has been started, which now is in 18 feet. This drift has been started with the intention of striking a body of low grade ore that was found in the old workings and which is expected to be reached at a distance of 100 feet. The drift is progressing at the rate of four feet per day.

EUROPA.—The main west tunnel is 380 feet in length. Having passed through the east or front lead, which is forty feet wide of solid quartz, giving assays of from 75 cents to $47.50 to the ton, it ran through a horse of barren rock 25 feet wide, reaching the main back ledge, which it intersects 240 feet below the surface. The drift is now about cutting into the paying portion of the ledge. It looks very promising.

HALE AND NORCROSS.—Daily yield, about 60 tons. The main incline is still progressing downwards. It is 248 feet in length below the 1,700-foot level. Work is still prosecuted in prospecting drifts, and also in the drifts on the third station level.

SUTRO TUNNEL.—Twenty eight feet have been added to the length of this prospecting work during the past week, making total distance from month to header, 5,291 feet. A small stream of water was struck last night, coming in at the bottom of the drift. The rock in the face is hard. At Shaft No. 2 they have sunk twelve feet since our last report, making total depth to date, 791 feet. Shaft No. 3 has been sunk eight feet; total depth, 459 feet. Shaft No. 4 has been sunk eleven feet; total depth, 605 feet. F. A. Benjamin, the newly appointed assistant superintendent, has entered upon his duties.

CONSOLIDATED VIRGINIA.—The mine looks well in all of the openings in the ore body. The daily average quantity of ore extracted from the 1,200-ft. level is 150 tons, of excellent quality. The branch railroad is completed to the company's ore dumps and they are already shipping ore to the Silver City mills. Work on the 1,000-ft. level is steadily progressing. They are also excavating for the station at the 1,300-ft. level.

IMPERIAL.—The main incline is making better progress in sinking, the rock being softer. At the 1,700 ft. level the west drift or cross-cut is thought to be nearing the west wall. The face is in quartz and porphyry. The south drift shows quartz seams in the porphyry, which give low assays. At the 1,500-ft. level, the northeast drift shows tough clay in the face.

GOULD & CURRY.—The drifts on the 1,500-ft. level are in the same material as has lately existed. On the 1,600-ft. level the drift advancing eastward is now in hard rock. The east drift from the incline on the 1,700-ft. level is still in hard blasting ground and is not yet far enough advanced to reach the vein. The work in all the horizontal workings is prosecuted diligently and very good progress is made.

JULIA.—The south drift and west cross-cut are progressing ahead 4 feet per day. In the south drift there is a decided improvement. The pumps have got the best of the water in the shaft, and have drained the 1,000-foot level. The drifts are found to be somewhat caved, having been filled with water for three months.

NEVADA.—The ore body in the raise above the main south drift shows improvement and is widening out as further raised upon. It is being piled on the dump for milling. This excellent chimney of ore will do doubt extend nearly or quite to the surface, about 100 feet.

DAYTON.—During the week the Woodworth mill, on the Carson river, above Dayton, has been started up on ore from this mine. About 40 tons per day are being extracted from the second and third station levels, which continue to look very promising for an extensive future yield.

BALTIMORE CONSOLIDATED.—A good body of pay ore is developed in this mine, which will be made available in due time, well repaying the confidence of stockholders. The main shaft is now down 126 feet below the third station, and being sunk deeper as vigorously as possible, the ground working well.

YELLOW JACKET.—Cross-cutting at the 1,400 and 1,500 ft. levels progresses as usual. The main incline is down 56 ft. below the 1,500 ft. level. The rock is hard but blasts well, and good progress is made in sinking. The pump manages what water comes in with perfect facility.

SIERRA NEVADA.—Daily yield between 60 and 70 tons, keeping the mill of the company steadily running. The mine is looking very well at present, and the ore shows improvement in quality.

CHOLLAR-POTOSI.—Daily yield 125 tons, assaying $32 on the average. The main south drift, at the third station, is now in over 500 ft., and in fine looking quartz. The ore producing sections of the mine still hold out well, and look promising, keeping three mills constantly running. Total yield of the mine for November, $47,270 66.

JACOB LITTLE.—The work of development and prospecting is being pushed forward at a lively rate, which promises well for the future of the mine.

JUSTICE.—Ore extraction from the Waller-Defeat section still impeded by bad roads not allowing the teams to relieve the ore dumps, which are full to overflowing. The north drift, at the 300-ft. level, continues following the ore vein. At the 400-ft. level the cross-cut east from the main north drift is still pushed ahead.

DANEY.—The new shaft down 183 ft. Water does not interfere, the rock works well, and consequently good satisfactory progress is made.

CROWN POINT.—Daily yield, 400 tons of ore, from the 1,100, 1,200 and 1,300-ft. levels. These levels are yielding their usual amount and of the usual quality. The south winze below the 1,300 ft. level continues in fine ore. The main south drift, at the 1,400-ft. level, is being pushed vigorously ahead toward the Belcher line, following the course of the foot-wall. There is no work of any amount being done at the 1,500-ft. level, owing to the heavy flow of boiling hot water. Occasionally, however, when the water recedes a little the miners go in there and work until again driven out. The pump is taxed to its fullest capacity. The mills on Carson river have been retarded materially by the present cold snap, but the mills in Gold cañon keep running up to their full capacity.

ARIZONA, UTAH AND GLOBE.—The 400-foot level of the west drift of this mine and the drift south from the incline during the week have advanced about 4 feet per day. The faces of both drifts are in low grade ore.

SAVAGE.—The main incline still progresses downward at a goodly rate, the rock at the bottom working well.

BELCHER.—Daily yield 500 tons. The main incline is down 211 feet below the 1,300-foot level. A connection will be made this month between the main incline and the ore stopes of the 1,300-foot level. The main drift south at the 1,300-foot level is in 518 feet from the Crown Point line, and still in fine looking quartz, with streaks of good ore. The drift north to meet it from the incline is in 223 feet, and is being pushed ahead with all possible speed. The winze from the 850-foot level is now down 47 feet, and the raise from the 900-foot level, to connect, is up 82 feet. The winze below the 1,200-foot level is down 133 feet, still in fine ore. The prospects of the mine are very flattering throughout.

OPHIR.—Three main drifts are being carried southward from the 1,300, 1,500 and 1,700-foot levels. These drifts are approaching the south line of the mine. In a short time this work will be completed, when cross-cutting will be commenced. Still sinking the main shaft, which is already down 50 ft. below the 1,700. A strong stream of water has been encountered at the 1,700-ft. level. At the 1,465-ft. level the drift south is now in a heavy body of solid quartz which gives low assays, and looks promising for the development of a deposit of good-paying ore. The Ophir looks better now than it has for many months past.

OVERMAN.—No change of interest to report as to the condition of the drifts west and other prospecting operations at the 1,000 and 1,200-ft. levels. They are making the usual good progress.

TYLER.—The west drift has advanced 20 ft. during the week. The rock is hard but works well. In the east drift the ground remains the same as last week.

KOSSUTH.—The main west drift from the first station continues in good blasting ground.

KNICKERBOCKER.—The erection of the new hoisting works is being pushed vigorously to completion.

AMERICAN FLAT.—The main southwest drift at the 400-ft. level still shows improvement. No cross-cutting as yet.

Arizona.

WALLAPAI DISTRICT.—Pioche *Record*, Nov. 23: From Mr. Archer, recently from Arizona, we gather some interesting items from that Territory. Robert Stein, who is known to many in Pioche, is working twenty men in the Keystone mine at Mineral Park. He is sinking a shaft and at the same time is taking out shipping ore. The Lone Star mine, also at Mineral Park, is now under the superintendence of Mr. Munn, just returned from San Francisco, who has all the machinery necessary and ample means for developing the mines. Captain Hardy, formerly of Forrest Hill, Placer county, Cal., is also in Wallapai District. He will erect hoisting works and work on the Fairfield mine this winter.

ORNAT.—The Ida, the '63 and the Cupel will all be worked this winter. Charles Gross, late of Ehrenberg, has been running arastras very successfully during the past summer.

CHLORIDE.—Wm. Tolls, an old White Piner, is getting up a cabinet of Arizona minerals (Wallapai and surrounding districts especially) which are intended for exhibition at the Centennial Celebration for 1876. He is a very wide-awake, active man, who never waits for opportunities to do something, but makes his opportunity.

CEDAR DISTRICT.—The Hibernia mine, purchased lately by Col. Raymond, has a shaft about 60 feet deep, and is in a fine body of ore. Mr. Severs, formerly an amalgamator in one the mills at Bullionville, is Superintendent of the Hibernia. He is a very energetic man, and under his management the mine will be worked to the best possible advantage.

There are also a number of arastras in the district, which are in constant and successful operation.

Colorado.

GILPIN COUNTY.

CENTRAL.—Colorado *Review*: The strike in Central has resulted in the stoppage for the winter of the Leavitt mine. The pumps have been hoisted from the shaft. The Waterman-Kansas has been completely drained, and is producing some very fine ore.

Several other lodes have been stopped by the strike, but the production of the mines has not been lowered as much as might be expected.

Early in the month the Brighton and Syracuse claims on Bobtail Hill were sold to some Trenton (N. J.) capitalists, and work is to be prosecuted upon them steadily through the winter.

The Cameron diggings below Black Hawk have been leased to a party of Chinamen for the winter. It is also reported that some owners of ground further down the creek propose importing Chinese labor in the spring to re-open their long forsaken patches. The bank shipments of gold bullion during the month have amounted to about $80,000. The Boston & Col. Sm. Works have been working steadily upon their stock of matte, turning out silver bullion, the product mostly of Boulder and Clear Creek county ores. The furnaces and apparatus for refining gold are not yet in shape.

Good ore, averaging nine ounces per cord, is coming from the 600-ft level of the Burroughs mine.

BOULDER COUNTY.

CARIBOU.—There is but little new of note at Caribou. The Blue Bird was recently sold to Southern capitalists for a heavy price, and the shaft on it, now 90 feet deep, will be sunk further, and the mine opened during the winter.

The Caribou keeps producing well, and frequent shipments of bricks pass through Boulder for the east.

WARD.—At Ward there is considerable excitement over several new discoveries of gold ledges, among which are the Morning and Evening Star, struck by Paul Miller. The Weist mill and that of Halversen & Leng, on Jim creek, have been kept steadily running for some months past on custom ores. The summer's work has shown favorably for Ward.

GOLD HILL.—The new excitement on Gold Hill is the Cash Lode, a new discovery upon which a shaft 40 feet deep has been sunk. The ore is of average grade, and attracted so much attention principally on account of its free gold specimens. It does not, we believe, belong to the tellurium belt of veins.

Idaho.

GOLDEN CHARIOT.—*Avalanche*, Dec. 13: This mine, which now embraces the Minnesota, is producing ore which yields from $60 to $100 per ton. Forty stamps, viz: the Ellmore and Owyhee mills, are constantly running on Golden Chariot and Minnesota ore. The Golden Chariot Company have leased the latter named mill and took possession yesterday. They have an abundance of supplies of every description on hand to last till next June.

SOUTH CHARIOT.—The main shaft is down 33 feet for the 8th level, showing a ledge of splendid milling ore over three feet in width. The 4th, 6th and 7th levels are being driven north with all possible dispatch, showing a fine body of rich ore in the 6th and 7th. We feel confident that the South Chariot will be one of the leading mines in camp, when properly opened.

IDA ELLMORE.—On account of changing the hoisting engine to a new bed, they have done nothing in this mine during the past week, except to keep it free of water, but operations will be resumed to-day.

MAHOGANY.—We have good news from this mine. The cross-cut connecting the shaft with the 8th level tapped the ledge night before last. At last accounts they had not cut entirely through the ledge. It is reported as looking first-rate. The cross-cut is about 42 feet in length. They have 60 feet of drift yet to run in order to connect the shaft and winze in the 8th level.

WAR EAGLE.—The main shaft is now down 83 feet, showing a 15-inch ledge of fine looking ore. During the last few feet of sinking the ledge has improved very much, and we feel confident that the next level will open up a splendid body of ore.

Montana.

THE DOG CREEK MINES.—*New Northwest*, Dec. 6: Mr. John B. Williams, of Greenwood, interviews to the following effect on the Dog Creek mines located above. There are now recorded 45 claims below discovery and 60 claims above discovery on the Right Fork and Main Fork, the upper claims being up near the summit. There are about 50 men at work and the most of them will be employed during the working weather of the winter in running drain ditches and stripping claims. There are now some 20 or 25 cabins scattered along the gulch, seven or eight of them being grouped near together. It is designed to establish a town there, and call it Adamsville after the discoverer of the gulch, Mr. Col. Adams. Since the discovery of the Betty Gilbert, Wm. Barry has struck a quartz lead on No. 3 above and is sinking on it. A considerable number of men are going in and coming out constantly. The indications are favorable for Dog Creek next year being a fair mining camp.

Utah.

TINTIC DISTRICT.

THE MAMMOTH COPPENOPOLIS.—Cor. S. L. *Tribune*, Dec. 11: Is working about 40 men, and is daily shipping about 20 tons of ore to their mill and smelter, the latter turning out about 250 pounds of crude copper bullion every twenty minutes, and running continually. I am reliably informed that Mr. Valentine, the general manager of the company's affairs in Utah, recently made a sale of bullion to the tune of $60,000.

THE CHICAGO, under the management of Col. Weightman, is being vigorously worked, with satisfactory results. The Colonel is expending considerable money on his mine, and will no doubt be handsomely remunerated.

CRIMSON MAMMOTH, under the management of Capt. Wilder, has shipped large quantities of ore the past season, and now has sufficient on the dumps to run a twenty stamp mill steadily for twelve months. This mine has been placed on the English market at a big figure.

THE Black Dragon, owned by the Shoebridge Mining and Mill Company, and superintended by Capt. Jennings, is affording large quantities of paying ore for their mill, as is also the Shoebridge mine, owned by the same company.

THE Sunbeam is continually worked, and continually paying.

LITTLE COTTONWOOD DISTRICT.

THE EMMA STRIKE.—The rumored strike in the bottom of this mine is no longer a rumor, but is true, and is said to be a body of rich ore, about ten feet wide. The truth of the size we cannot vouch for as being a fact.

THE FLAGSTAFF continues to take out ore of a good quality, and is making the necessary arrangements to ship during the winter. The usual complement of men is at work.

THE shipments for the last week are rather light, on account of the snow storm preventing teams from getting to some of the mines that have ore and are constantly shipping, such as the Grizzly, Wellington, Oxford and Geneva, Prince of Wales, Toledo, and others. The amount of ore shipped was as follows: Flagstaff, 300 tons; Emma, 80 tons; Vallejo, 25 tons; Grizzly, about 10 tons.

The Baldwin Exploring Expedition.

The Salt Lake *Herald* says: Knowing the great interest which the public have taken in the explorations, discoveries and developments by the Baldwin exploring expedition, the *Herald* has, from time to time, through the courtesy of the leader — Major M. A. Baldwin — and from other sources, published brief accounts of the whereabouts and somewhat of the doings of the party. The expedition, having closed operations for the winter, we will, this morning, give an epitome of their journeyings since they left the city last July. As our readers are aware, the company was organized by business men and capitalists of this city and of the eastern States, the objects being numerous—that of carefully and intelligently examining the discovered mines in Utah; of ascertaining the kinds and grades of ores in those mines by scientific analytical tests; of studying the geological formation of the country; of exploring the unprospected regions of the Territory; of locating mineral ledges and developing the same, and of organizing new mining districts. To accomplish all this, they were supplied with every requisite and apparatus required. A first-class laboratory, a portable furnace for making fire-assays, an outfit of materials sufficient to make three thousand assays, chemicals for making humid tests, a Liugke's blow-pipe set, and tools for both surface and deep mining, were among their outfit, thus making it one of the best prepared expeditions for the purpose which ever started out. The entire party consisted of twenty-three men, most of them inured to mountain life. They had their own conveyances, and were dependent on no one for accommodation.

For the leadership of this expedition no more competent man could be found than Maj. Baldwin, Deputy U. S. Commissioner of mines. A thorough geologist, having a considerable knowledge of the country over which it was intended to go, and withal being an active business man, he was the right man in the right place. The assayer was Professor Thos. M. Blossom, of the School of Mines, Columbia College, New York; and a gentleman who is known all over the country as a skilled metalurgist. W. T. Boardman, engineer, late of the Stewart Mill and Mining Company, Colorado, was the surveyer and engineer of the expedition.

To give a complete and full account of the journeyings of the expedition, however interesting it might be to the public, would require more space than we have to spare at this time, therefore we shall only give a brief synopsis:

Ophir.

Starting from this city last July, they first visited Ophir and Camp Floyd districts, Tooele county. Of these two popular camps our readers are already well posted from the numerous letters published in these columns. Ophir district, once the most celebrated in the Territory, has settled down to steady work, and unostentatious development. The numerous arastras in East Canon are quietly grinding out the silver from the many rich mines in the district, while the Walker mill has, until recently, been turning out numerous silver bars. To mention either of the scores of promising prospects and developed mines in the district without others would be invidious; and besides, the principal mines are well known throughout the country. Yet even a brief notice of the the district would be incomplete without it mentioned partially the Sunnyside mine, Lion hill, and owned by Mr. Warren Hussey, of this city. It was considered at the time one of the most valuable mines, not only in the district, but in the Territory; and recent developments have shown that the estimate was not too highly laid. It will require years to remove the immense bodies of rich ore to be found in the mine.

Camp Floyd.

Only a casual examination of the Camp Floyd mines was made, and from general observations the Major gives it as his opinion that there are good mines in the district, but they will only pay by deep working.

The Tintics.

In the Tintic districts, both east and west, they made careful and critical examinations of the ores, and of the developments. At the time of their visit the Eureka mine, owned by the Eureka mining company, had been developed by two tunnels, each three hundred and twenty-five feet in length, the first intersecting with a shaft one hundred and sixty-five feet in depth, showing the mineral vein to be seventeen feet wide at the intersection. Other interior openings had been made on the lode, exhibiting immense bodies of ore assaying rich in copper and silver, with a percentage of gold. From assays made on the ground sampled ores produced sixty-two ounces of silver per ton. There were five thousand tons of ore on the dump, with prospects of the pile being increased to an unlimited amount.

The Crimson Mammoth was also examined. It is on the same lode as the Mammoth Copperopolis, and in the value of its ore and the extent of its development corresponds with that celebrated mine. A shaft two hundred and sixty feet deep had been interseeted by the main working tunnel four hundred and sixty-five feet long. From the tunnel two drifts, one extending north one hundred and sixty feet, the other south eighty feet, had been run; there was also a drift from the main shaft one hundred and twenty feet from the floor of the tunnel, besides two others on the same level—one of them one hundred and thirty feet north, the other eighty-five feet south. The mine had produced about three thousand tons of ore. Since that time extensive developments have been made on both of those valuable properties, as there also have been on the other rich mines and flattering prospects in the two Tintics. A cheaper and a more rapid transportation for the ores and bullion is what is wanted to make them take leading places in the wealth producing districts of the coast.

Nebo.

The expedition next visited Nebo district, about which so little is known outside of a few directly interested parties. The mines in that camp are actually huge mountains of low grade argentiferous galena, which, owing to the absence of reduction works and the high freight tariffs, are lying there wholly useless to the owners and the country. Very little progress has been made in the way of development, the only ledge upon which any amount of work has been done, being the Olive Branch, owned by Mr. William Jennings, of this city. In this mine—which is a true fissure vein—a large body of ore has been exposed, but at present no work is being done in the district, and the only thing which can properly open the wealth lying there for the taking, is a railroad.

Beaver Lake.

Several promising prospects were examined in Beaver Lake district, situated about ten miles north of Star, in Beaver county. The only developments of any consequence are on the San Francisco, owned by Byrom & Campbell. The vein has been exposed for several hundred feet, and from a one hundred foot shaft, a number of tons of ore, working $200 per ton have been taken. The mine is now being profitably worked on a lease. Work is now being done on seven or eight other valuable prospects in Beaver Lake.

Star—The Queen District.

But of the Star, about which so much was said in praise a few months ago, Major Baldwin thinks half has not been told. He spent much time at this camp, examined thoroughly upwards of two hundred developed mines and made assays of the ores from at least that number. From his observation he has no hesitation in pronouncing Star the future "banner district" of the coast. The veins, which are generally true or contact fissures, contain every variety of ores found in the Territory, of high grade and easily reduced, some being free milling rock, and other ledges producing smelting ores. One, the Omar, owned by a couple of Germans, is turning out largely of gold, while others are silver and copper lodes. On the dumps of the mines visited, there were from fifty to five hundred tons of ore piled up, and untold wealth still in sight. The country rocks are lime, granite and quartzite. In this brief synopsis of so extensive a trip, we can give only a few of the most prominent mines in the district, which are the Hickory, Lookout, Rebel, Omar, (gold), Clipper, Temperance, Flora, Hidden Treasure, Lake Superior, (copper), and scores of others of equal value. The North Star company, owning the Hickory, have one of the most complete ten-stamp mills in the country in successful opperation, and are erecting a refining furnace for reducing their crude bullion. The company is a Canadian organization, and is developing its property with commendable judgment and energy. There is also one smelter in the district, the Shumar, located at Shaunty Springs.

In a future issue we will give an account of the expedition's observations in the iron and coal fields of the southern counties, and of some of the mining regions of Arizona and Southern Utah.

Cornucopia.—The Elko *Independent* of Dec. 6th publishes the following concerning the Cornucopia district: The Leopard company is down with an incline on its ledge 79 feet, and has a well defined ledge 3½ feet wide which averages by mill process $120 per ton. The rock adjoining the vein is soft porphyry and nothing but picks are necessary in sinking down. It has now in sight a sufficient amount of pay ore to run a ten stamp mill twelve months. Meachem & Co. had fifteen tons of ore worked from their claim at the Vance mill that averaged $160. Plummer & Co. had eight tons of float worked that went $150, and four tons from the Chloride worked $400 per ton. Harville and Co's west extension have a shaft down thirty feet on their ledge and are taking out good ore. The tunnel on the Hussey claim at a distance of sixty feet struck the vein, and is now producing good pay ore. The owners of the Black Diamond are taking out splendid ore about twenty feet below their shaft. A new claim struck by Kelso, Austin & Co. is also yielding good pay ore in liberal quantities.

Coal in Ireland.—Since the rapid and enormous rise in the price of coal began to stimulate the search after fresh sources of supply, several discoveries of new coal fields have been made in Ireland, but few attempts to open mines on a large scale. Extensive operations have, however, lately begun in the collieries to county Tyrone. This new enterprise is confined to the north, and principally to the coal fields of Tyrone. According to a recent estimate, this county contains 30,000,000 tons of excellent coal, including several seams of cannel or gas-coal. These seams are now being wrought largely, and from them are supplied nearly all the provincial gas-works in the north of Ireland. The undertakings are mostly in the hands of English companies.

Results of Concentration at the Terrible Mine.

The Colorado *Mining Review* publishes the report of the agent of the Terrible mine, Mr. Teal, on concentration. It is as follows:

Our summer's work began about the middle of May, on a stock of third-class ore of 1,002 tons. Since then, and to the close of the season's operations, we have produced of the same grade of material as follows, viz: May, ninety-six tons; June, ninety; July, eighty; August, one hundred and thirty: September, one hundred and twenty; and October, one hundred and fifty tons. Our season closed about the middle of October, and we had on hand about one hundred tons; so that altogether during the summer we have concentrated 1,568 tons. From this amount have been produced Class A, mineral, 5 tons and 1,782 pounds; B, 21 tons 1,509 pounds; C, 2 tons 1,388 pounds; D, 58 tons 1,279 pounds; E, 12 tons 24 pounds; F, 16 tons 1,071 pounds; G, 50 tons; total, 176 tons and 1,053 pounds, (or concentrating 9·3 tons of crude ore into one ton of marketable ore). This material has assayed on an average, class A, 200 ounces silver, B, 350 ounces, C, 550 ounces, D, 140 ounces, E, 350 ounces, F, 190 ounces, and G, with about $10 per ton, realizing respectively as follows: Class A, $1,178.20; B, $8,701.80; C, $1,616.40; D, $6,772.86; E, $4,804.80, F, $1,109.00; G, $500.00, or together $24,683.06; having an average value per ton of $15.74, or $3.74 above the estimation of $12.00 that was made before operations were commenced.

I believe the total production in cash will be considerably more than this, as I have valued the ores sold in England approximately, the A at $200 per American ton; B at $400, C (1st class pickings sent and sold with our 1st class shipments) at $600, and E at $400. The prices they were really sold at have averaged in every case considerably above these, so that the true returns will show a higher value per ton of crude ore treated.

The cost of the entire season's work has been $4,398.25, showing a cost for treatment of $2.80½ per ton of crude ore. We have carefully watched our tailings and slimes, and have repeatedly assayed the tailings from every stage of the process; and find them to contain from two to six ounces per ton (2,000 pounds). The largest quantity of tailings contains only two ounces per ton, and a fair average would be four ounces for the entire lot. Our slimes we have stored away for next season's work, as they did not contain enough silver to pay for treatment by hand labor.

I hope next season, by the aid of machinery, to bring the cost of concentrating the same kind of ore down to $1.50 per ton, which, such being the case, the saving effected will almost pay the cost of the machinery put in. As it is, our cost per ton compares very favorably with the prices charged by Collom of Idaho, and formerly by Wm. Bement of Georgetown, which have been respectively $3.00 to $5.00 and $6.00 per ton.

Taking the entire season's operations I think they are very satisfactory, the crude ore realizing, say (after deducting the cost of concentration, and allowing $2.00 per ton more for what the ore sold in England realized over the preceding estimation) $14.94 per American ton.

In conclusion I may say that the many difficulties I have had to contend with during the past season will be all removed before starting up again next summer. And I may therefore look forward to much better results in our next year's work.

Yours, etc.

Geo. Teal, Agent.

The following are the classes of concentrated ores:

A—Pure galena from second jigs.

B—First raggings from first or rough jigs.

C—First-class pickings, or pure ore from the rough screenings.

D—Second-class pickings from the rough screenings.

E—Clean tye-work.

F—Zinc separated from the pure galena on second jigs.

G—Third-class rock.

What is coal used for beside fuel? For making foundry facings, Cumberland or English cannel is ground by millstones, mixed with sand, sifted for use on heavy castings, and bolted for fine work. The cost is governed by the price of coal, usually a barrel of 150 to 200 lbs. sells for $3.00 a barrel. By some founders the Cumberland is preferred to Foreign coals. In using anthracite, Lehigh is thought the best; all the grit is thrown away that would not go through the bolt, clay is mixed with it at times to make it stick when the iron comes in. Soapstone, charcoal and blacklead were formerly used for this purpose. —*Coal Trade Circular.*

Dunderberg-Pleiades.—We learn a settlement has been made between these two mines, the Pleiades becoming the property of the Dunderberg owners, which puts an end to the expected litigation between these two companies. We have not been able to learn the exact terms of this compromise, but as the Pleiades seems satisfied, and the Dunderberg takes the mine, it is reasonable to suppose the arrangement has been mutually advantageous. Gradually an end is being put to the disputes between our citizens concerning mining claims, and we shall hail with joy the day when this kind of litigation shall be ended forever.—*Eureka Sentinel.*

Camp Floyd Mining Co.—Rich Productions.

The production of bullion by this mill (under the management of Henry Sewell) up to date has been fifty-six bars, or $52,415 gold, and of an average fineness, that no mill in this Territory, or Nevada has ever produced.

We understand that the work done on the mines, inconsiderable as it has been, has produced such results that the shareholders in London will not fail to be greatly elated. When we consider that all this has been done during the terrible money crisis, and without one cent having been forwarded from Loudon, and $2,500 of liabilities left by the late managament, and paid by Mr. Sewell, we cannot otherwise than say, that Mr. Sewell has done wonders. That he is a man of nerve and energy, nobody will doubt, and therefore it is not to be wondered that he should inspire all persons with perfect confidence in the success of this company.

Many mine owners seeing the great success of the mill, have come forward offering to incorporate their mines with the new company that is being formed in London. The net produce from tailings, according to Mr. Baxter, the Superintendent of this mill, will be about $40,000, and ere long a big pan will be erected, to work these only during the time that the mill is at work on ore, consequently the expenses of running this pan will be nominal. There is sufficient ore on hand, and contracted for to continue running the mill for the next two months. By that time the product in bullion will have reached the sum of $100,000. We were shown a cablegram from London, giving power to Mr Sewell to incorporate mines to the amount of $200,000 with the New Camp Floyd Mining Company. Mr. Sewell informs us that he cabled back requesting that £70,000 or $350,000 should be set aside in shares, in order to incorporate several more mines that he has been offered since he last cabled, and requested that the new working capital be increased to $100,000.

Matters look undoubtedly *couleur de rose* for poor, ill-treated Camp Floyd.—*Salt Lake Tribune.*

From Stickeen River.

We are permitted to make the following extract from Peter Cargotich's letter to a friend in Pioche, dated Bnk's Bar, Stickeen river, October 24, 1873:

Many people in Pioche may remember my expedition to this country, and therefore in these few lines I will inform you of the discovery which I made this summer in the Cassier country, 125 miles north of this place. Near this place are two creeks, named Tibert creek and Dires creek, upon the banks of which, with rockers, from two ounces to $180 a day is made to the hand. The gold is coarse —being in pieces of from ten cents to $55. One of our countryman came down to-day, with other miners, from the upper mines. He says that a man refused to work with a rocker where it only paid two ounces a day. I notice that all the miners are coming down with full purses of gold, and all report the mines looking well, being very rich and more easy to work than California mines in old times. I am waiting here, with twenty-five miners and supplies of provisions, for the ice to melt, so that I can go up to the mines. I think there will be a big rush of people here in the spring.—*Pioche Record.*

Gold in San Bernardino.—The *Call* says: Rich and therefore interesting discoveries in gold mining have been made in the county of San Bernardino, thirty-five miles north of the city of that name. Two men, Morrison and Cotter, in prospecting, struck a ledge of quartz in the Holcomb valley, high up in the mountains, and having ascertained that their discovery promised well, they came on to San Francisco and transferred their rights to Mr. S. Curtis and Mr. S. H. Baird. Those gentlemen visited the valley, and they report the ledge to be 4,500 feet in length, so far as they have traced it, 60 feet in width, and from 30 to 60 feet thick; 2,000 feet of the length crops out. A portion of the rock has been assayed in this city, and the analysis shows as high as $600 per ton, although some of it falls below $100. The mine presents no difficulties in working, plenty of wood and water being found in the vicinity. A company has been formed, under the title of the "B. V. Gold Mining Company," but it is not proposed to place the stock on the market. A quartz mill will be erected forthwith, the mill nearest the location being that which is reducing the ore of the Haley ledge. Mr. Baird was one of the first to mine in Washoe, in 1859, and he enjoys the distinction of having built the first house in Virginia City. This house is still in existence in front of the Central mine.

Mines in Amador County.—The Sutter *Independent* of December 10th has the following: We learn from Reichling of the Kennedy mine that in the 360-foot level, where the body of ore was lately struck, as mentioned by us in a late issue, the ledge is showing well, being seventeen feet in width, and rock averaging well in quality. About two feet of the ledge adjoining the foot wall, is exceedingly rich; the next four or five feet is of a somewhat lower grade, but still above the average of the rock in this section, while that adjoining the hanging wall is of sufficient richness to pay for milling.

Useful Information.

Paste for Wall-Paper.—In pasting wall-papers, posters, etc., especially where successive layers are put on, there arises a most disagreeable effluvium, which is particularly noticeable in damp weather. The cause of this is the decomposition of the paste. In close rooms it is very unwholesome, and often the cause of disease. In large manufactories, where quantities of paste are used, it becomes sour and offensive. Glue, also, has a very disagreeable odor. If, when making paste or glue, a small quantity of carbolic acid is added, it will keep sweet and free from offensive smells. A few drops added to ink or mucilage prevents mold. In whitewashing the cellar and dairy, if an ounce of carbolic acid is added to each gallon of wash, it will prevent mold and the disagreeable taints often perceived in meat and milk from damp apartments. Another great advantage in the use of carbolic acid in paste for wall-paper and in whitewash, is that it will drive away cockroaches and other insect pests. The cheapest and best form of carbolic acid is in crystals, which dissolve in water or liquify at an excess of temperature.—*Am. Homestead.*

Staining.—The following are recommended as the best black stains to imitate ebony: An excellent black stain may be got by a mixture of ponded asphalt and mineral naphtha. The proportions must be according to the degree of blackness required, the more the asphalt tha blacker the stain; but as it is very volatile, it must be mixed in a corked bottle and laid on quickly with a brush. Drop a little sulphuric acid into a small quantity of water, brush over the wood and hold to the fire; it will be a fine black and receives a good polish.

Take half a pound or so, according to size of the job, of logwood chips, and boil them with water until the extract is of a very dark color; put on three coats of this extract when boiling hot, allowing the work to get dry, and lightly sandpaporing after each coat. Then put some rusty nails into a stoneware jar and pour over them some strong vinegar; allow the nails to digest a few days; brush the solution over the wood, which will immediately become jet black. When dry it will be of a dull bluish black, but a coat of shellac will again make it like ebony. Before applying the varnish rub down the table with No. 9 sandpaper.

A New Board Fence.—I have seen the subject discussed as to the best method of setting posts for board fences for durability. I have devised a plan which I respectfully submit which I think will supersede any other, and do away with the mode now in use. Take three posts of any durable timber, four feet long; lay them on the ground near the line of the fence, nail on the board to each post; imbed a suitable stone in the ground where the post is to be set; raise the section of your fence on the same, and drive two stakes near each post; draw them tight together at the top; take a strong wire of suitable size, loop one end, bring around into the loop, loop in the other end and cut off your wire. For the second length or section, nail on to posts, elevate, properly secure the same by stakes and then nail the loose ends to the first section, and so proceed until the fence is finished. I would also recommend the stakes to be cut long enough to drive the second time when rotted off.—*Cor. Western Rural.*

Brilliant Whitewash.—Take half a bushel of unslacked lime. Slack it with boiling water, cover it during the process to keep the steam in. Strain the liquid through a fine sieve and add to it a peck of salt previously well dissolved in warm water, three pounds of ground rice boiled to a thin paste and stirred in boiling hot, half a pound of powdered Spanish whiting, and a pound of clean glue which has been previously dissolved by soaking it well and hanging it over a slow fire in a small kettle within a large one filled with water; add five gallons of hot water to the mixture, stir it well, and let stand a few days covered from the dirt. It should be put on hot.—*Farmers' Union.*

Cleansing Silver.—According to Dr. Elsner, water in which potatoes have been boiled exercises a remarkable cleaning influence upon silver ware of all kinds, especially spoons that become blackened by eggs. Even delicately chased and engraved articles can, it is said, be made bright by this method, even better than by the use of the ordinary polishing powder.

Plastic Carbon for Filters.—Two mixtures are recommended, the one composed of 60 parts coke, 20 parts animal charcoal, 10 parts wood-charcoal, and 10 parts pipe clay; the other is composed of 10 parts coke, 30 parts animal charcoal, 20 parts wood charcoal, and 40 parts short asbestos. The ingredients, except the last, are pulverized, sifted, and mixed dry in proper proportions, then kneaded with an equal weight of molasses to a plastic mass, baked in a muffle, soaked in dilute muriatic acid, washed, dried, and baked again.

A solution of five parts of borax in one hundred of water is represented to prevent the putrefactive process in meats for considerable time. Flesh dipped in the mixture and then dried, is said to resist the usual process of decomposition.

The greatest depth of the Pacific Ocean between California and China is only about two and a half miles.

Domestic Economy.

Talk to Housekeepers.

By Lorraine.

[Written for the Press.]

Mrs. Chubbs considers herself such an excellent cook that she prefers preparing most of the dishes for her table with her own hands. This is the way she cooks beefsteak: She puts on her spectacles, brings out a large frying-pan and sets it on the stove, and deposits therein four or five large spoonfuls of pork-fat or bacon-fat from one of the half-dozen grease jars kept constantly on hand. Then she cuts the steak into pieces the size of her hand or smaller. Salts and peppers each piece, rolls it well in flour, and lays it in the frying-pan, putting it down carefully, as if putting it to sleep. Then she goes out to feed the chickens. During the fifteen or twenty minutes of her absence, the steak stews and sputters, and fizzles itself quite brown and hard on one side; and when Mrs. Chubbs comes in, she turns it over and lets it sputter and fizzle itself equally hard and brown on the other side; then it is removed from the pan, put into a platter, and set into the oven to keep warm, where it manages to get another scorch while the gravy is being prepared. This *gravy* is quite an important affair. Two or three more spoonfuls of grease are put into the pan, with some water from the tea-kettle, and when this boils it is thickened with flour, and in a moment or two is ready to pour over the long-suffering steak. The color of this gravy varies from Vandyke's brown to burnt umber; and an uninitiated person would be unable to decide whether the meat so treated was originally mutton, beef, black bear, alligator, or hippopotamus. Mrs. Chubbs dwells in the civilized and enlightened city of San Francisco, where there are hundreds of cook-books to be had, and a hundred people who would tell her what the proper way is of cooking a beefsteak, if she would only ask, so there is no excuse for her stupidity; but in the country there are a great many farmers' wives who cook beefsteak very much like Mrs. Chubbs; why so many I do not know, but it is a pity to see good food spoiled in this manner. If you are in the habit of cooking beefsteak like Mrs. Chubbs, suppose you try another way, just for once, and see how you like it. A gridiron is the only thing proper for cooking steak as well as some other kinds of meat, but if you have no gridiron, and can't get any, use your frying pan, only don't put any grease in it, and don't pound the steak. Have a good fire and let the pan get "scorching" hot before you put in the steak. One side will cook in less than a minute. After it is turned over, salt it. If you like beefsteak cooked brown clear through, I am sorry for your taste, as it is better a little rare in the center. However, we will not quarrel about that. If none of the family are troubled with dyspepsia, you can put some butter on the steak after it is in the platter; but the butter had better be left out.

No thickened gravy of any fried meat is fit to be eaten by civilized people; so have the good sense not to make any. Warm the platter while the steak is being cooked, and when the steak is taken from the gridiron, or pan, it should go immediately to the table.

Mrs. Chubbs thinks a meat stew is a fine dish to have once in a while, for a change. This is the way she makes a stew:

She brings out her large frying pan and sets it on the stove; takes some cold roast meat, mutton, beef, veal or pork, cuts it into chunks two or three inches square and puts these in the frying pan with a bowlful or so of the greasy, thickened gravy left from yesterday's roast. If there was any stuffing or bread-crumb dressing left, that is scraped in also; a little water is poured in from the tea-kettle and the hodge-podge left to stew till it is time to be put on the table, which is usually anywhere from ten minutes to half an hour. When it comes to the table the meat is as tough as sole leather, and the whole thing simply detestable.

A genuine meat stew should be made of raw meat, with the bones and very little or no fat; the butcher will cut it properly for you. This should be put on to cook in a kettle or sauce-pan with cold water, and allowed to heat gradually. When it is hot it should be carefully skimmed, and allowed to simmer till the meat is tender, which will take from an hour to perhaps two or three hours, according to what kind of meat you are cooking. If any fat rises to the top it should be skimmed off. Put in whatever seasoning you like, salt, pepper,—a little cayenne, or piece of green pepper is best,—celery or parsley, onions if you like, or tomatoes.

This makes a good dish for anybody, even a dyspeptic, but is not very fashionable, because it costs so little. Twenty or twenty-five cents' worth of beef or mutton prepared in this way will make a meal for six or eight persons.

Quince Pudding.—Take a sufficient number of ripe quinces to yield a pound of pulp, to which put half a pound of powdered sugar, a half teaspoonful each of cinnamon and ginger. Mix them well. Beat up the yolks of eight eggs in a pint of cream; then add the other ingredients, stir the whole together, flour a cloth, tie the pudding in, and boil it.

Graham Bread.

Editors Press: — I am not "Mary Mountain," but am so sorry to think anybody should hunt through your columns for a recipe for graham bread without finding even the shadow of one, that I will give a recipe for making one kind of graham-bread that some people like very much; and your readers can try it. Here it is:

Four cups of graham flour; two cups of white flour; one cup of molasses or syrup; three or four spoonfuls of yeast, if you use brewer's yeast; and as much salt as if you were making any other kind of bread. This will make one large loaf. If mixed in the morning, it will not be ready to bake till sometime in the afternoon; it is usually most convenient to mix it at night. Put your flour, syrup and salt into a bowl, pan or whatever you intend to mix it in. Take about about a quart of luke-warm water, put your yeast into it, and stir it till it is mixed with the water. Then, stir this into the flour gradually. This kind of bread is not kneaded at all — it is only stirred; but it wants to be stirred pretty thick. If the quart of water is not sufficient to mix all the flour, it will do no harm to add some more afterwards. Give it a pretty good stirring—perhaps stir it for ten minutes. Then, pour it into the buttered pan or basin you intend to bake it in. Put a cloth over it, and leave it on the kitchen-table till morning. In the morning set it in a warm place by the stove to rise. When it is pretty light, bake the same as white bread.

Some housekeepers make graham bread the same as white bread—only putting in some molasses and more yeast, and taking one-third white flour and two-thirds graham. They say it makes very nice bread.

I have never made any graham gems. I ate some once, however. Perhaps they were not made properly. I cannot say as to that, but have never since felt any inclination to either eat any more *gems* or learn how to make them.

L.

[This communication was received previous to the publication of the continuation of "Farm House Chat," by Mary Monntain, in last week's issue, in which will be found other graham recipes—Eds. Press.]

Omelette.—Beat six eggs very light, the whites to a stiff froth that will stand alone, the yolks to a smooth thick batter. Add to the yolks a small cupful of milk, pepper and salt, lastly stir in the whites lightly. Have ready in a hot frying-pan a good lump of butter. When it hisses, pour in your mixture gently and set over a clear fire. It should cook in ten minutes at most. Do not stir, but contrive, as the eggs "set," to slip in a broad-bladed knife under the omelette to guard against burning at the bottom. The instant "hiss" of the butter as it flows to the hottest part of the pan will prove the wisdom and efficacy of the precaution. If your oven is hot, you may put the frying-pan in it as soon as the middle of the omelette is set. When done, lay a hot dish bottom upwards on the top of the pan, and dexterously upset the latter to bring the browned side of the omeletts uppermost. Eat soon, or it will fall.

Good Health.

The Unwholesomeness of Cast Iron Stoves.

Several years ago General Morin, with Messrs. Payen, Deville, Bussey and Rémy, were commissioned by the French Academy to investigate this subject. Experiments were in consequence instituted with stoves of cast and wrought iron, using soft coals, with the view of learning under what conditions stoves of metal become unhealthful, and to learn respecting the presence and source of carbonic acid and carbonic oxide in rooms heated by stoves. The results of two experiments, one with dry air and the other with moist, are given in the report with considerable detail. Rabbits were made to breathe the air passing over stoves of cast and wrought iron, heated to redness, and afterwards chemical examination of the blood of the animals was made, to ascertain the presence of carbonic oxide. The following words are used in giving the results of the experiments: "If the summary of the experiments made upon rabbits does not permit us to fix with any precision the proportions of carbonic oxide absorbed by their blood, nor that of the oxygen which has been expelled from it, the results all agree to show that the use of stoves of cast iron, heated to a red heat, causes in the blood, by the presence of carbonic oxide, a gas eminently poisonous, changes whose repetition may become dangerous; while the same method of investigation has not revealed analogous effects when the heat has been produced from stoves of wrought or sheet iron." In experiments made prior to the above, General Morin reached the conclusion that in surfaces of wrought iron, heated to a red heat, some carbonic oxide was produced, and gives the results in the following words: "These experiments show, like the others, that the passage of the air over cast and wrought iron heated to redness, causes the certain development of carbonic oxide, noticeably greater for cast iron than for wrought." In presenting the conclusions or results of the entire series of experiments made upon stoves of cast and wrought iron during the year, the Commission reports as follows: "The carbonic oxide, whose presence has been proved when stoves of cast iron are used, may arise from several different causes: 1st. The permeability of the stove by that gas, which will pass from the interior of the fire-pot to the exterior; 2d. The direct action of the oxygen of the air upon the carbon of the cast iron heated to redness; 3d. The decomposition of carbonic acid contained in the air by its contact with metal heated to redness; 4th. The influence of the organic dust naturally contained in the air." Another very important conclusion was reached by the Commission, given in the report in the following words: "The results show, that all stoves and heating apparatus of cast iron, and even those of wrought iron, should be lined with fire-brick, or other substances, which shall prevent them from attaining a red heat."

In this country, where stoves are more generally used, and anthracite more than soft coal is burnt, the subject has attracted more attention; but from the recent rise in the price of fuel in England, and the probable large introduction of stoves for the sake of economy, a reference to it here may not be without its use. The Boston *Journal of Chemistry* observes that all reliable experiments go to show the dangerous nature of cast iron when used for stoves or furnaces—doubly dangerous when not lined with fire-brick, and that most of the stoves and furnaces in common use, made of cast iron, have no fire-brick protection whatever, and they are kept at a red heat almost continually, adding, that no more prominent cause of disease in families exists than such devices for burning anthracite coals.

The Teeth.

Dr. Hayes, an eminent surgeon dentist residing in London, gives the following useful hints about the care of teeth. They are simple, timely, and deserve attention:

"In the first place, teeth should be fairly used. By this I mean, not made to perform the duties of crackers for nuts, experimented on to ascertain their strength, or by ladies to rival scissors in cutting thread; for rest assured—in every case, more particularly the last—the party having recourse to such practice will surely one day rue them; the teeth so unwittingly injured being always first to part company from their fellows. Those who indulge in such or similar habits may truly be called the dentist's friends. Cleanliness is absolutely essential for the preservation of the teeth. and they should be well brushed at least morning and evening, that any feculence which may be attached to them, either during sleep from the stomach, or by day from meals, may not be allowed to permanently adhere, causing, first, discoloration, then tartar, and consequently, if I may so express myself, undermining the constitution of one or more, as from their position they may be more or less liable to corrosion. In order that the teeth should look natural—that is, retain their natural color—a dentrifice free from the smallest particle of acid should be used at the matin hour, and the mouth rinsed with tepid water, for extremes of heat and cold are most highly prejudical, not only to their color, but also to their durability; and I know no method so simple of converting a really useful and ornamental set into one of pain and subsequent extinction, than the use of washing in either one or the other. The person who substitutes him or herself, to any extent, to hot soup, tea, or other drinks, assuredly rivals the friend to the dentist just named. Brushes for the teeth should be of medium substance of bristle, and those made on what is called the penetrating principle are best. I would also observe that children at an early age should be instructed in the use of the tooth brush, and taught the value and importance of teeth, in order to inculcate habits of cleanliness and a due appreciation of the ornaments of the mouth. A brush properly selected (not too hard) may be used by children of five years of age, every morning; and by being part and parcel of the general ablution, and thus directing habitual attention to the teeth, a useful and cleanly habit will be engendered which will ensure for them proper care through life."

The Onion as Food.—It is stated that the onion forms one of the common and universal supports of life in Spain and Portugal. Authority shows, according to analysis, the dried onion contains from twenty-five to thirty per cent. of gluten, and ranks in this respect with the nutritious pea and the grains. "It is not merely as a relish that the wayfaring Spaniard eats his onion with his humble crust of bread as he sits by the refreshing spring; but it is because experience has long proved that, like the cheese of the English laborer, it helps to sustain his strength also, and adds, beyond what its bulk would suggest, to the amount of nourishment which his simple meal supplies."

Liquid Nourishment for Sick Stomach.—The *Dublin Medical Journal* commends the following: An egg, well beaten up, to which add one pint of good milk, one pint of cold water, and salt to make it palatable; let it then be boiled, and when cold any quantity of it may be taken. If it turns into curds and whey it is useless.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, Dec. 20, 1873.

Legal Tender Rates.—S. F., Thurs., Dec. 18—buying, 89½; selling, 90½.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Wright's Bucket Plunger Steam Pumps; The Geological Survey, 385. Louis Agassiz Dead; Big Mines and Small Mills; Mining Surveys, 392. Snell's Boat Detaching Apparatus; Academy of Sciences; The Naval School; Another Grant Survey Rejected, 393. Patents and Inventions; Giant Powder Gases, 396.

ILLUSTRATIONS.—Double-Acting Bucket Plunger Pump; Boat Detaching Apparatus, 393.

CORRESPONDENCE.—Our Mining Laws, 386.

MECHANICAL PROGRESS.—On the Use of Steel for Boilers; New Fire Engine; Manufacture of Wood Pulp for Paper; Asistic Mechanical Tools; Locomotive Snow-Broom; Cooling Railway Carriages, 387.

SCIENTIFIC PROGRESS.—New Plan for Obtaining a Powerful Light; Two Live Frogs Discovered in Pit Workings; Lens Fires; Electric Toxometry; Fire Detectors, 387.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 388.

MINING SUMMARY from various counties in California, Nevada, Utah, Colorado, Idaho and Montana, 388-9.

USEFUL INFORMATION.—Paste for Wall-Paper; Staining; A New Board Fence; Brilliant Whitewash; Cleansing Silver; Plastic Carbon for Filters, 391.

DOMESTIC ECONOMY.—Talk to Housekeepers; Graham Bread; Omelette; Quince Pudding, 391.

GOOD HEALTH.—The Unwholesomeness of Cast Iron Stoves; The Onion as Food; Rice as a Remedy; Liquid Nourishment for Sick Stomach, 391.

MISCELLANEOUS.—Caught Out; Alpine County Mines; Mining Survey Completed; The Belmont Mine; Captain Forbes vs. the Flagstaff; Sheba Mine; Dutch Flat Mines; Stickeen Mines; Considerable Gold, 386. The Baldwin Exploring Expedition; Cornucopia; Coal in Ireland; Results of Concentration at the Terrible Mine; Dundsrberg-Pleiades; Camp Floyd Mining Co.—Rich Productions; From Stickeen River; Gold in San Bernardino; Mines in Amador County, 390. What it Costs to Mine Coal; India-Rubber in Burmah; California Prosperity; Romance in Mining; A Cheap Railroad; The Fuel Trade of Salt Lake; Duration of Timber; Wages in Australia; Mining on Private Property in Australia; K. K. Mine Improvements; Government Buildings on the Pacific Slope; Sargeant's New Land Bill, 394. California Quicksilver Mines; Ophir District Mines; Cremation; A New Substitute for Rubber, 395.

Louis Agassiz Dead.

Verily a great man has fallen. Wherever science has a home, there will be found his mourners. No sadder announcement could have been made to the scientific world, than that which was flashed over the wires on the morning of December 14th. Wherever the telegraph reached, the sad announcement sped with lightning speed, and touched with sorrow and regret the hearts of millions. Agassiz, though born amid the Alps and adopted by America, was in every great purpose a citizen of the world. He was a true votary of science, and was "at home" wherever he could do anything to advance its cause. No man ever devoted his energies more untiringly or more successfully to its study than did Agaseiz. His whole life from his 20th year, till the day of his death in his 66th year, has been one of most intense and persevering labor, and self-denying throughout.

Unlike most of the scientists of modern times, he devoted much attention to the great semi-metaphysical question of the day—making himself an avowed opponent of Darwin and Huxley, and their supporters. He denied the fact assumed by them that species insensibly pass from subordinate to higher grades; holding to the old idea that each species had its appointed period and separate creation. He held firmly to the opinion that the book of nature and the revealed Word coincided in this particular, and deduced therefrom what he claimed as a "most palpable demonstration of the existence of a personal God, the author of all things and the Maker of the Universe." "This," he asserted, "is what I read in the works of creation."

In this discussion, however, he stood at great disadvantage before the world from the fact that he never took time to defend his position. It is to be hoped that he has left among his papers something in this direction, which will more fully define his position, and serve as words of wisdom from the greatest mind which was ever devoted to the consideration of this important and interesting subject.

The loss of Agassiz will be more seriously and irreparably felt by the world, as an original investigator and philosophical thinker than in any other direction. One of the themes upon which he was wont to dwell, was that the great want of the world was not books, but men to learn what is not yet known. Original investigation was the great need of the day; and he himself made it the great work of his lifetime. Education in the school-room and research in the study were within the ready reach of all; but there was a great need of education in the school of Nature, research and investigation among her specimens and deposits, where they lived or lay, in the broad fields or profound depths of the earth itself. Knowledge must be obtained from which to make books, to add to knowledge. It was with this view that he established his latest school of natural history on the dreary island of Penekese, where his pupils, surrounded by nature alone, could search and study, undisturbed, in the great book of nature which is there unfolded in a manner most favorable for research examination.

The death of Prof. Agessiz was not wholly unexpected, by his family and intimate friends. His great mind was too active for the frail tenement which confined it. For several years he had been threatened with softening of the brain, induced by too close an application to study. But he was determined to die in the harness, and despite the expostulation of physicians and friends he positively refused to give himself the needed rest, for a complete restoration of his health, and the verdict must be that he died of over-work. His last hours were apparently passed in unconsciousness. At 2 P. M. on the day of his death, (Sunday last,) his respiration became very weak but was soon afterward succeeded by rapid and unnatural breathing, which finally grew fainter with the deep rising thought of the patient, until about 10 o'clock P. M., when he passed away without a struggle and apparently without pain. No eulogy need be pronounced over his grave; no monument is needed to perpetuate his memory. He rests from his labors, but his works remain, and will be more lasting than iron or marble.

Big Mines and Small Mills.

[Written for the PRESS by ALMARIN B. PAUL.]

In an editorial of your issue of Dec. 6, you made some very correct observations as respects the profits of small mills, and gave encouragement for miners to drive ahead and build them, as the sure road to fortune. It called up some ideas of my own, and I concluded to enlarge a little by this article on yours.

In milling and mining I have had some experience, and I must say it well accords with your views as expressed. We want more small mills and fewer big ones, for the great success of mining enterprises as a whole.

Small mills and big mines should be the controlling idea of every man engaged in quartz mining, while just the opposite has been the prevailing mania for years past.

It is false logic, that the larger the mill the more profitable; there are many things to be taken in the calculation, which are all overlooked in estimating only running expenses, and which, if properly understood, would figure the opposite.

There is one remarkable fact which every quartz miner of experience knows, and that is—90 per cent. of all smaller institutions have proved profitable to their owners—while 90 per cent. of all larger ones, have proved unprofitable, if not a total failure—Why? Because so much capital as principal gets in, and with large capital are extra unproductive expenses; that the institution becomes involved or mine exhausted before principal can be returned.

The question may be asked: "What can be called a big mill?" I will answer that by asking: How big is your mine? A hundred-ton mill for Crown Point or Belcher, with a ledge over 100 feet wide and thousands of tons developed, is a small mill compared to a ten-ton mill for a lode, two, three or four feet wide.

A small mill, then, I will denominate as one-half less than you think your mine will justify. For instance, if your mine, properly opened, would supply twenty tons per day, you may move safely, possibly, on a ten-ton mill. The grand point to aim at in quartz mining is making sure of getting your first investment back, and the least you get in to make a reasonable start, the more certain you are of having it returned.

Then from this point work up. A mine which cannot afterwards pay for all required improvements should not have them, and a mine that will not do something for the owners' pockets at the same time, I may say, should not have them. There is another point: it is an old adage, that "what is worth doing at all, is worth doing well," but this is never applied to quartz milling, and yet the sooner observed the better headway we will make; and here I have reference to this abominable system of sluicing ores through mills. With small mills more care is taken, more appliances are apt to get into the amalgamating department for saving the metal. A smaller amount of ore well worked, in the majority of instances, and especially in gold mining, will produce as much riches as double the quantity sluiced through. It is desirable to save the highest percentage as it saves ore and exhausting mine, while rushing it, to lessen the per ton of expenses of reducing is "holding in at the spigot and letting out at the bung." A smaller mill impliss always working on pay ore, while too large a mill often requires bad as well as good ore to keep it going, thus spoiling all.

It is lamentable to look over the mining States and Territories and see the vast number of dead institutions, produced mainly by overestimated mines and underestimated expenses. In many instances from $50,000 to $250,000 have been invested, and lost, where one-fifth of this principal would possibly have produced a success, at all events would have saved a large sum from being lost.

We must stop this thing of planting such large sums *from our pockets*, into mines and mills, and adopt the policy of starting a mine as we do our boys in business—be moderate—give them a start and let them build up in greatness and wealth, by time, economy and industry. It is better for capital. It is safer for labor, and more beneficial to the country at large. There is more work in it, as there is more stability. There is more money in it, because there is more calculation. I have built big mills, and small ones, and see now that there was more ambition in the "big mill" idea than close calculation. It is so with too many. I have got over this "ambition"—experience has taught me that small mills on big mines is by far the safest. To close, I will cite a little fact which had a lesson in it for me at least.

At one time I was building a 65-stamp mill; near by a "poor miner" was building one of about two tons per day capacity. Being interested in his enterprize, as he seemed to be going it alone, one day in passing I alighted.

The gentleman remarked, that he considered it quite a compliment, that I, who was building so large a mill, should condescend to stop to inspect so insignificant a one as his. I replied, there was no two to one that he would not end the richer man of the two. I had a presentment that way. Seven years afterwards I met this same individual, with his family bound for the States. He told me how he had worked up, and reminded me of my observation to him. He said it inspired him with hope, and I then too clearly realized the truth of my own observation. So there is no use of sneering at small mills. Too many quartz men are like newspaper men—both are apt to judge of the ability, worth and prosperity by the size—forgetting that it is profit in the one, and brains in the other which tell. That more caution is being observed as respects investments in mining, is quite evident, but still it is more, in not putting money in at all, than in using it moderately. It therefore becomes the interest of every mining locality to encourage the building of mills of moderate size by incorporated institutions, and until mines can build large ones, and to popularize small mills for men of small means, and with them co-operative labor. It is the high road to fortune.

Mining Surveys.

Willis Drummond, Commissioner of the General Land Office, has transmitted to the Surveyor-General of California, an important official order in reference to the survey of mining claims. The Commissioner says information has reached that office that deputies, in surveying mining claims, are in the habit of following the direction of the parties in interest, instead of adhering to the lines established in the original location of such claims, and thus in effect, making a private instead of an official survey under all laws and regulations, whether local or general; the location of a claim in such a manner as to give notice to all the world of the nature and extent of the same is not only indispensible, but in most cases mining claims are initiated thereby, and all subsequent proceedings are based upon and must conform to such location. A failure to make and record the location in accordance with the laws and regulations in force at the date of the location, will defeat the claim, and if it is not made with such definiteness as to operate as notice to all persons seeking to acquire rights to mining lands it will be void for uncertainty. It follows, therefore, that in making surveys of mining claims, it becomes essentially necessary to ascertain the boundaries thereof as established by the original location, for the rights of the claimant are limited and defined by such boundaries. To make a survey in accordance with other lines or boundaries is tantamount to making a new location of the claim, and the rights of adjoining locators who have complied with the requirements of the law may be interfered with and defeated thereby. The practice of making surveys according to the dictation of parties in interest, instead of in accordance with the original, has already caused great confusion and been productive of great injury to *bona fide* claimants.

The Surveyor-General of California will therefore require the applicant for a survey to furnish a copy of the original record of location, properly certified to by the recorder having charge of the records of mining locations in the district where the claim is situated, and cause all official surveys of mining claims to be made in strict conformity to the lines established by the original location as recorded; and if the record of locations made *prior* to the passage of the Mining Act of May 10, 1872, is not sufficiently definite and certain to enable the deputy to make a correct survey therefrom, he should, after reasonable notice in writing, to be served personally or through the United States mail on the application for survey and adjoining claimants whose residence or postoffice address he may know or ascertain by the exercise of reasonable diligence, take the testimony of neighboring claimants and other persons who are familiar with the boundaries thereof as originally located and asserted by the locators of the claim, and after having ascertained by such testimony the boundaries as originally established he should make a survey in accordance therewith, and transmit full and correct returns of survey, accompanied by the copy of the record of location, the testimony, and a copy of the notice served on the claimant and adjoining proprietors, certifying thereon when, in what manner, and on whom, service was made.

The Act of Congress of May 10, 1872, expressly provides that "the location must be distinctly marked on the ground, so that its boundaries can be readily traced," and "that all records of mining claims hereafter made shall contain the names of the locators, the date of the location, and such a description of the claim or claims, located by reference to some natural object or permanent monument, as will identify the claim."

These provisions of the law must be strictly complied with in each case to entitle the claimant to a survey and patent, and therefore should a claimant under a location made subsequent to the passage of the mining Act of May 10, 1872, who has not complied with said requirements in regard to marking the location upon the ground and recording the same, apply for a survey, the Surveyor General will decline to make it.

The only relief for a party under such circumstances will be to make a new location in conformity to law and regulations, as no case will be approved and patented by the Washington office unless these and all other provisions of law are substantially complied with.

If the law has been complied with in the matter of marking the location on the ground and recording the same, and any question arises in the execution of the survey as to the identity of monuments, marks or boundaries which cannot be determined by a reference to the record, the deputy should take testimony in the manner hereinbefore prescribed for surveys of claims located *prior* to May 10, 1872, and having thus ascertained the true and correct boundaries originally established, marked and recorded, make the survey accordingly.

The Surveyor-General will at once issue instructions to his deputies, requiring them to abandon the practice of surveying mining claims under the direction of parties in interest, and to conform to the rules as hereinbefore prescribed.

From an examination of the returns of surveys of mining claims, the Commissioner is satisfied that in many instances the deputy surveyors certify to the value of improvements without ascertaining whether such improvements are made by the claimant or his grantors, or not. No improvements should be included in the estimate unless they have been made by the applicant for survey by those from whom he derives title. The value of improvements made upon other locations, or by other claimants, should not be taken into consideration, but excluded by deputies in their estimate of improvements upon the claim.

The Surveyor-General will so instruct deputies, and hereafter require them to certify in each instance that the improvements and expenditures considered by them in their estimate, and which they must describe in their report, were made by the applicant or by the persons from whom he derives title.

THE sand blast appears to meet with continually increased favor abroad, as it becomes better known. Our foreign exchanges teem with glowing accounts of its performances, as well as praises of the inventor, Mr. Tilghman.

The spectroscopiste give such alarming news about the rapid approach of Arcturus that positions on the lower levels of the Yellow Jacket are in request.

Exportation of iron seems, after all, premature,

Enell's Boat Detaching Apparatus.

We illnstrate tbis week a plan for detaching boats from ths tackles which has been approved by many nnderwriters and seafaring men. It is the invention of Capt. Chas. A. Enell, of Philadelphia. The neccssity of being able to detach a boat safely and quickly frem the davits, is too well known to need comment from us. With an apparatus like this on board of a steamer or ship, there will be less loss of life in case of a collision or fire, bec nse the boats are always ready for lowering; there are no tackles to attend, and all it needs is a man at each end to pnt his hands on the hooks in case there should be a heavy sea running and any danger of the boat being detached before she gets afloat.

The invention comprises the uses of automatic slip hooks and bolt in connection with a brake or winch for the purpose of lowering boats quickly and safely; the said slip hooks releasing the boat as soon as it rides on the water. By referring to the cuts the method of operation can be seen. Fig. 1 shows the boat in the act of being lowered. Fig. 2 is a view of the improved slip hook and bolt when closed.

The boat is swung hetwen davits in the usual way, except that instead of tackles the chains, *C*, *C*, are used to suspend it. One end of each of these chains is fastened to the slip hook, and the other ends pass over the drums on the winch. *D*, *E*, *E*, are brake levers to facilitate lowering the hoat. When the boat is to be lowered in a hurry, the pawls on the winch are thrown out of the ratchets, so that the boat will descend of its own weigbt, the brakes *E*, *E*, being used to check too rapid motion. As soon as the boat reaches the water the slip hooks, *B*, *B*, disengage themselves from the bolts, *L*, and consequently from the boat.

The slip hooks, *B*, *B*, Fig. 2, which move loosely in the ring above them, are so arranged that the hook part is made in a V shape, which fits and hooks into corresponding recesses in the bolt, *A*. As long as there is any weight attached to the bolt, *A*, the books and bolt will be tightly locked, as shown in the cut; but as soon as the weight is stopped in its descent, and the books still continue to be lowered, then the upper part of the bolt, *A*, will strike against the shanks of the slip hooks, *B*, *B*, and spread them, thereby releasing the boat. The grooves on the under side of the head of the bolt, *A*, are V shaped and extend upwards, and the ends of the books, *B*, *B*, are V shaped and likewise project upward. These features prevent vertical as well as lateral displacement of the books. It is impossible to disengage the hooks until the boat is fairly afloat, and thus any intentional or unintentional blows or action on the hooks, while the boat bangs above the water, cannot throw off the hooks, since to do this the boat would have to be lifted in the air to clear the bolt of the hooks.

It is well known that in the excitement incident to wrecks and other dangers ship-boats are often cleared by force; and unless the hooks and bolt have protective features, the hooks can be knocked off of the bolt by a hatchet, or pried ont of place by bars and other devices always found on ship-board. Again, by the peculiar construction stated, the rocking or swaying of the boat as it descends cannot work or disengage the parts and free the boat, and such disengagement cannot occur if the lowering boats bound or strike forcibly against the ship. The inventor, Mr. Charles A. Enell, 307 Walnut street, Philadelphia, states that he desires to dispose of State Rights in his invention.

The Amador Canal and Mining Company have completed three miles of their canal in Amador county, since November 1st; have six miles more of canal to build to complete their whole work. Their canal will be forty-six miles long; is the largest running ditch in the State, being ten feet on top, six feet on bottom and three feet deep. Will supply the Amador, Oneida, Kennedy and other quartz mines in Amador county, with motive power for machinery of mills and shafts; will supply water to extensive placer diggings, and for irrigation.

Quicksilver.—Dispatches from New York, dated December 14th, state that quicksilver sales were made of 30 flasks at $124@$127½ gold, and the price is now advanced to $130. The stock is very light. In London the cable quotation is £19 10s to £20, at which rate it would cost over $130 gold to import it here.

Utah Affairs.—There is said to be a more encouraging feeling in general business in Salt Lake city, with strong expressions of approval of the proceedings of eastern capitalists against Utah mining swindlers.

Academy of Sciences.

The regular semi-monthly meeting of the California Academy of Sciences was held on Monday evening last, Vice President Hewston in the chair. The regular order of business was suspended in orderr to make preliminary arrangements to take action in memory of Professor Louis Agassiz, deceased. A committee was appointed to prepare a memorial, to report at a special meeting to be held next Monday evening. It is the intention of the Academy to appoint a few of the members to deliver appropriate eulogies at this special meeting, which will be held in some public hall in this city.

The following new members were elected: A. G. Stearnes, life member, General B. S. Alexander, John Lewis, John Muir, Jason Springer, Daniel Swett, P. C. Landers and Dr. F. Hiller.

As donations to the museum a number of specimens of fishes and birds were received from Dr. Franz Steindachner. Several valuable additions to the library were also made.

Dr. Blake read an exhaustive paper on the geology, etc., of the Puebla range of mountains, situated in the northern part of Humboldt county, Nev.

The Puebla Mountains.

The most interesting feature connected with this range is the fact that it seems to have formed the eastern shore of an immense basin in which molten lava was poured out in eruption after eruption, until it had attained a steepness of more than two thousand feet.

BOAT DETACHING APPARATUS.

By a subsequent displacement the edges of these beds have been exposed, thus enabling us to discover the order in which the different varieties of molten rock have been poured out from beneath the solidified crust of the earth. The beds thus exposed are formed of different varieties of rock—basalts, trachytes, porphories and obsidian. They vary in thickness from two feet to a hundred, and have been formed by at least a hundred different eruptions, extending over a vast period of time, and covering a space of many thousand square miles, the probability being that they are continuous with the vast basaltic beds of eastern Oregon, through which the Columbia river cuts its way by a cañon more than three thousand feet deep. From a chemical analysis and microscopical examination of rocks taken from different levels on the side of the mountain, it would appear that in the Puebla range the order in which the different rocks were erupted is not in accordance with the system brought forward by Richtofen in a memoir published by the Academy in 1868; as, according to this system, in massive eruptions the true basaltic rocks are always the last to be ejected, whilst in the Puebla range we find beds of trachytio rocks.

The Lava Flood of Oregon.

Professor Joseph Le Conte then gave a very interesting and instructive description of the great lava flood of Oregon and western California which he had studied carefully on several exploring tours through that region. He dwelt more particularly on the lava mass at the Cascade mountains in Oregon. This lava flood, the great overflow of lava, was one of the most remarkable convulsions of nature met with on the face of the earth. The principal point of eruption from the great central caldron was at the Cascade mountains, in Oregon, which were of themselves one solid mass of lava. From this center the lava overflowed a great portion of Oregon, Washington Territory, all of northern California, and vast sections of Nevada, Montana and Idaho. The lava flood covered an area of at least 200,000 square miles, as far as explored, and it would probably be found to extend over a surface of 300,000 square miles, as its limit northward had never been determined. The depth of the lava crust varied from upwards of 3,000 feet in the Cascade and Blue mountain region, to one hundred feet and less at remote points on the outer edge of the overflow. Where the tremendous gorge of the Columbia river cut through the lava bed, it had a depth of 3,500 feet. In the latter part of his remarks Prof. Le Conte referred to the mound prairies of Oregon, which he thought were formed by erosion, giving his reasons for the supposition. We will endeavor to obtain this paper from the Committee on Publication of the Academy in order to publish it in full, as it contains matter of so much general as well as scientific interest.

A special meeting of the Academy will be held in one of the public halls of this city, on Monday evening next. The regular annual meeting will be held in the Academy's rooms on the first Monday in January, when the annual election of officers will take place.

The Naval School.—The question of a naval school in San Francisco has been considerably agitated during the past year in this city, in connection with the subject of "what shall we do with our boys." In accordance with popular sentiment, Senator Sargent has introduced a bill in Congress, to encourage the establishment of public marine schools. The bill provides that, in order to promote naval education and educate officers and seamen for the merchant marine and practical navigation, and in the arts, trades and occupations pertaining to seamanship, the Secretary of the Navy is authorized and empowered to supply on requisition of the Secretary of the Treasury or the Governor of any State, a suitable vessel with all charts, books and implements, provided the same may be spared, to be used in the establishment of public marine schools in each of the ports of New York, Boston and San Francisco, and such other ports as may be determined upon; and the material so furnished by the Government may be given to the States in which the ports are when it is decided upon; that said States will establish at their own expense a naval school for the education of youths desiring to enter the merchant marine; and when such are already engaged in that service, of suitable age, they may be offered facilities for improvement in their profession as an education. The second section provides that the President of the United States be, and is hereby authorized, on application of the Governor of any State, School Board, or other legally constituted authority, to detail an officer of the navy to act as President, Superintendent, or Instructor of the marine school established under this Act, or under the Act of the State Legislature, or of any nautical branch of any established school in the United States for the purpose of promoting knowledge in nautical matters among young men of the United States, provided the officers so detailed shall not exceed thirty. The bill was referred to the Committee on Naval Affairs.

Important Decision.—Judge Ramage has rendered a decision of great interest to owners of ditches for furnishing water, in the case of Oswald Broder vs. The Natoma Water and Mining Company. Broder brought suit to have the portion of the canal which runs through his farm declared a nuisance and abated by being filled up. This would have destroyed the whole canal. The judgment of the court is that the water company has obtained an easement over the land, and that by the act of Congress of July 26, 1866, this easement is acknowledged and confirmed. Judgment ordered for defendant. — *Sacramento Union.*

The Medical compound of P. H. Steenbergen, recently spoken of in the Press among the recent patents, as a cure for rheumatism, is intended as a cure for piles—not rheumatism

Another Grant Survey Rejected.

In our last issue we referred at length to the Cuyamaca grant, in which a survey was made that included a number of mines and mills within its boundaries, which survey was rejected by the Land Commissioner. Now comes a similar decision from the Land Office, in relation to the "Geyser case," in which the Commissioner has decided to reject the Stratton survey of the Caslamayomi rancho, California, and has directed a new survey to be made within the following boundaries: On the east, a line drawn from where Sansal creek enters the Sotoyome rancho, northerly to Main Sulphur creek, near the mouth of Squaw creek; on the south, rancho Sotoyome and Seabaco, on the north, Main Sulphur creek; on the west, foot of the eastern slops of the Sierra, with the Redwoods which lie west of the Musalio rancho. The new survey, as ordered, will exclude the Geysers property and some quicksilver mines in that locality. The eastern line of the proposed new boundary will go a little eastward of Geyser peak. The case was brought to the attention of the Land Office by parties who claim the rancho, and the contest was between the owners of the rancho and certain quicksilver mines and the Geyser property, who claimed that the rancho did not extend its boundaries so as to include the latter interest. The new survey decided upon by the Commissioner excludes most, if not all, of the contestants' claims, both the Geysers and minerals.

This Mexican grant business has always been one of the curses of California and it will be many years before the State will entirely recover from its effects. The same trouble was experienced after Florida became part of the United States, for Spanish grants were in vogue there as well as here. The Spanish and Mexican Governments in granting large tracts of land gave the grantees also a title to the minerals in the ground. Therefore parties holding title under these grantees became also owners of the minerals on the land. As official surveys of these grants had to be made in order to determine their correct boundaries, miners and others frequently settled on land which, on the survey being concluded, was found to be inside of the "grant lines." Thereupon they are compelled to give up their property. As the owners of the grants have always been dilatory in making the surveys, this has caused great trouble all over the State.

The blundering manner in which these grants were made by the Mexican Government gave the grantees great latitude as to boundaries, and the consequence has been that in numerous instances they were "floated" either one way or another to cover desirable territory. By these sharp practices grant owners were enabled to control often twice as much government land as their original title called for; since they took in all the available water on level land the surrounding hills were valueless and consequently not taken up. Any one who has traveled in Southern California may mention numerous instances of this kind.

The whole system has been one which gave room for fraud and false practices. A "subsidized surveyor could make the grant go where he liked, provided he had enough land on the original ground granted, on which to set his instruments at starting. The Land Office has been a check in a measure on the fraudulent practices. But, unfortunately, grant owners are all rich men and settlers poor ones. The grant men have money to fix up and put their cases before the Commissioner, while settlers are frequently unable even to employ counsel. As this sort of litigation is even more expensive than legal proceedings generally, great injustice has been done in many cases. The Government has even been compelled in certain instances to call in force to eject settlers and miners, from claims of this sort. The Fremont or Mariposa claim is remembered by many.

We have not the space to dilate upon this subject, but are extremely pleased to be able within two weeks, to record the rejection of two claims of this nature. The Pascoe survey of the Cuyamaca claim was all laid out before the surveyors ever went on the ground, and the subsequent decision shows that it was a "put up job." The grant men thought they could intimidate the miners and drive them off, but they didn't drive worth a cent. The decision in both these cases gives the miners a title to their ground, and prevents further litigation. We hope that ten years from now we will never hear a Mexican grant mentioned, but as our "lower country" becomes settled up, questions connected with them are bound to arise.

The Ida Mitchell mine of Placerville, El Dorado county, has been sold to an English company for $15,000 in cash.

What it Costs to Mine Coal.

The following is a synopsis of the annnal report of T. M. Williams, Inspector of the district, Carbon, and part of Luzerne counties, Pa.:

"Numbsr of persons killed, 40, leaving 24 widows and 61 orphans.

"Killed by fire-damp explosions, 8; by fall of rocks, 3; hy falls of coal, 12; by falling down shaft, 3; by mine cars in various ways, 7; killed miscellaneonsly underground, 4; killed miscellaneously ahove ground, 3; total, 40. There were 121 non-fatal accidents; many of them are very serious and may, in some instances, yet prove fatal. Burnt by explosions of fire damp, 24; burnt by gnnpowder, 3; by falls of rock, 10; by falls of coal, 23; by falhing down shaft, 3; by mine cars in various ways, 24; miscellaneously underground, 28; miscellaneously above gronnd, 7; total, 121.

"Coal produced dnring 1872 was 3,000,000 tons,—one death to each 56,000 tons, and one serious injury to each 32,000 tons of coal mined. Coal produced in 1872 was 3,250,000 tons—one death to each 81,250 tons and one serious injury to each 24,859 tous of coal mined (or rather sent to market.) The total numher of persons injured in 1871 was 9,870—death rate, 53 per cent. Do. 1872 was 9,807—death rate, 40 per cent. Decrease in 1872 was 63—decrease, 1 per cent.

"In 1871 number of persons employed inside, 6,380; number of lives lost, 47—.73 per cent. Total number of persons employed, 9,870. Total number of lives lost, 53—.53 per cent. Total number of miners employed, 2,270, included in the above aggregate. In 1872 number of persone employed inside, 6,275, number of lives lost, 37—.59 per cent. Do. outside, 3,582, number of lives lost, 3—.048 per cent. Total number of persons employed, 9,807, total number of lives lost, 40—.4 per cent. Total number of miners employed, 2,450, included in the above aggregate.

"The above exhibits that there were sent to market 381.4 tons to each person employed in and around the mines, and 1,356 tons to each miner, for the year 1872. Number of coal-breakers in the district, 50, besides 4 that were abandoned dnring the year, and 7 that are being built. Surface openings as follows: shafts, 34, including 2 abandoned, and 10 being sunk at pr sent. Slopes 37, inclnding 2 abandoned and five new ones. Drifts, 17, including 2 abaudoned. Besides the above there are nine local openings — nine drifts and one slope. Total, 115 openings, 3 abandoned —108. Fans—twelve new fans were put up during the year, and 3 now uuder coustruction, one 24 feet diameter, one 20 feet diameter, and one 12 feet diameter; otherwise veutilators remaiu about as last reported; but the ventilatore have beeu improved in many places."—*Mauch Chunk Gazette.*

India-Rubber in Burmah.

It appears that the existence of the india-rubber tree in Upper Burmah was not known, or, at all events, turned to account nntil comparatively recently. Three Europeans who were employed at the jade stone mines were forced to search about in the forest for a substance that would effectually repair a diving apparatus that tbey used in working for jade stone. The result was the discovery of india-rubber, which was found to completely answer the purpose. Our political agent at Mandalay has recently issued a report on the resources of Upper Burmah, which, among other interesting information, gives some particulars as to the preparation of india-rnbber.

The estimated numher of trees, which are chiefly situated in the Bhamo and Mogonng districts is 400,000. They thrive best in damp, moist soil, and in thick forests, shady and cool. The trees attain to a hight of from 50 to 100 cubits, being from 15 to 20 cubits in girth at the base (full grown trees), and with roots creeping over the ground for some distance. They are fit for tapping when from 6 to 10 years of age, at which time they are from 15 to 20 cubits in hight and 3 cubits in girth.

When the time for tapping arrives, incisions are made in the trnnks of the trees and in the roots above grouud. Hollow bamboo cups about 1⅛ feet in length, sloped and pointed similar to a prepared pen, are then inserted in the incisions and receive the oozing juice or milk. Three or four hundred of these bamboo receptacles are inserted in each tree. The tapping is continued for about a month, after which time it is discontinued and the wound allewed to hesl. At the expiration of another month the trees have regained strength, and the tapping is recommenced.

In preparing the india-rubber the following crnde method is observed.

Water is boiled in large iron pans, and the juice of tbe tree is thrown in, when it gradually thickens, and subsequently is dried. The india-ruhber so obtained, we are told, is being brought into local use for covering water-buckets, haekets and boxes as a eubstiute for dammer.

Captain Strover states that 70,000 viss (1 viss = 3 3-5 lhs) of india-rubber were brought from Mogoung last year, and that he himself hae ssen thirty or forty cart loads entering the King's palace at Mandalay in one day. Upper Burmah, it is computed, could produce two or three hundred tons of thie useful eubstance annually.—*British Trade Journal.*

California Prosperity.

There is more solid prosperity in California to-day than in any othsr State in the Union. Most branches of bnsiness are and have been for some time comparativsly lucrative. Thsre have not been extravagant profits; therefore business has not been forced, nor great stocks of goods unnecessarily accumulated. Speculation is not rife, and every investment is carefnlly considered before made. Mining is usually prosperous and remunerative, and great fortunes have been made by holders in those mines which are turning out wealth at an unprecedented rate. Yet wildcat stocks have not been run up to an extravagant price, and many mines with a good prospect before them are daily bought and sold at fair, hardly at equivalent, prices. Real estate is to be had at reasonable figures, and sales are only made wheu huyers who want land for improvement or permanent investment come forward. All the banks have good reserves on hand, and fnrnish money to *bona fide* customers for legitimate purposes freely at the usual rates. The building trade has been brisk, and the promise for spriug is at present a soarcity of residences, and no probability of the supply exceeding the demand for a year to come. The farmers have had a good season, and confidently expect, since the ample rain, another as good, or better. Though we have so large an element of nomades in our population, there is little distress. Compared with some other years, the applications for relief from our benevolent societies are less, and the number of admissions to our Almshouse fewer. We have our poor, like other States, and we have those unfortunates who hide away, or conceal their sorrows, and wonld rather suffer privation than expose their circumstances. But when we take the condition of our State and compare it with that of others we see a marked difference; when we compare the number and circumstances of our paupers with those of New York, Philadelphia or any great Eastern city, after allowing for the difference in numhers, we can see how much better we are off than any. The best of all is thst we are prosperous because we have been industrious, economical and prudent, and now we are reaping the fruit of a harvest which will in all human probability increase year by year until this decade is ended. How mnch longer, will depend upon the wisdom with which we use our means.—*Post.*

Romance in Mining.

The following account of a mine near El Paso—which first appeared in the *Sentinel* of that place—is quite romantic.

Sixtcen hundred and eighty was the year the monks of the order of St. Francis, who were in charge of the church at El Paso, discovered the mine. Skilled in the science of mineralogy they were not slow to discover the extraordinary richness of the vain, and their knowledge of the art of metallnrgy enabled them to work it profitably for many years. From the silver obtained from this mine, most of the churches in northern Chihushua were enriched and endowed.

The order of which Ignatius Loyola was founder, was never friendly to the Franciscans. So, when in the early part of the eighteenth century, the order of Jesuits obtained complete control in Spain, it was not long ere the barefooted Franciscans were ordered to depart from Mexico, and surrendered their rich possessions to the dominant Jesuits. When information of the coming change reached our monks at El Paso, they quietly covered the mine before us and obliterated as near as possihle all traces of its existsnce. Years passed on, and the Jesuit Fathers, if they had learned the secret of the silver treasure, never availed themselves of it. In July 1793 the mine was again opened, and worked for several ysars by a company of Mexican gentlemen, among whom was the father of our old and esteemed friend, Don Guadalupe Miranda. The works for the reduction of the ores were situated near the river banks, not far from where the Overland Building now stands. The revolution of 1824, followed by the declaration and establishment of Mexican Independence, again interrupted the working of the mine, and it was again filled np and abandoned.

The history of the mine having been learned from the church records and other sources, several gentlemen in El Paso, prominent among whom is Judge S. B. Newcomb, determined to re-open it. This was done last winter at considerahle expense; a shaft was sunk 90 feet through the material that had been used to fill up the mine, and which from lapse of time, had beccme almost as firmly cemented together as the original soil.

A Cheap Railroad.—Strangere can hardly believe, says the Salt Lake *Tribune*, that the Bingham Cañon Railroad, sixteen miles in length, was built at a cost of $141 per mile. It is the cheapest railroad ever built in any country, and demonstrates the fact that the great mineral resources of Utah can be developed in an extraordinary short time by reason of our ahility to build railroads at a cost bnt little above that of an ordinary wagon road.

Scoresby and other arctic voyagers and whale hunters have observed that whales have some means of communicating with one auother at great distancee. It is probable that the animale bellow in a tone too grave for the human ear, but quite within the range of the cetacean ear.—*Scientific American.*

The Fuel Trade of Salt Lake.

Independent of the coal trade of Salt Lake City, which has incrsased within the past fsw ysars at an amazing rate, and which, ere long, will form the subject of a special article, our importations of coke aud charcoal for the reduction of ores have also assumed such proportions that but few of our citizens understand its magnitnde; neither are they aware of the drain upon the Territory that existed prior to the panic, through the importation of coke, to aid in smelting operations.

Charcoal, for which about $20,000 a month has been paid out, is really a home iudnstry, the benefits accruing mainly to our own citizens; but with coke the case is different, onr chief supply being derived from Connellsville, at a cost of $34 per ton. The first importation of coke ever made into Utah occurred a year ago last May, Gordon & Murray then receiving five car-loads, which were sold to Mr. Lounshnry. At a low estimate, 5,000 tons per annum are consumed, which amounts to the very large sum of $170,000; nearly every dollar of which goes out of the Territory, from sheer lack of railroad facilities to our southern coal beds, where coal of the requisite quality for coking pnrposee is said to exist in great abundance, and which could he furnished at a reasonable price. Only a week ago we pubhshed an extract from the *Engineering and Mining Journal*, of New York, in which the annouucement was made that coke had been snccessfully prodnced from Colorado lignites, and the editor of that journal was of opinion that Colorado, within a year, might be enabled to control the Utah trade in coke, as well as that of portions of Nevada.

The productive demand for coke, both in Utah and Nevada, and the magnitnde of that demand, ought to act as an incentive to the directors of the Utah Southern, to pnsh their road as rapidly as possible into the neighborhood of San Pete, or wherever coal suitable for coking can be found in the southern portion of the Territory. The importation of coke, either from Connellsville or Colorado, in justice to the best interests of our Territory, ought to be stopped at the earliest practicable date. Certainly the trade is of more than ordinary importance, viewed either from a present or prospective stand-point.—*Utah Mining Gazette.*

Duration of Timber.—It is a cnrious fact, and one of great practical importance in structnral science, that in the salt mines of Poland and Hungary the galleries are supported by wooden pillars, which are found to last unimpsired for ages, in consequence of being impregnated with the salt, while pillars of hrick and stone, used for the same purpose, crumble away in a short time hy the decay of their mortar. It is also found that wooden piles, driven into the mud of salt flats and marshes, last for an unlimited time, and are used for the foundations of brick and stone edifices; and the practice of docking timber, hy immersing it for some time in sea water, after it has been seasoned, is generally admitted to promote its durability. There are some experiments which appear to show that, after the dry rot has commenced, immersion iu salt water effectually checks its progress and preserves the remainder of the timber. If care be taken to renew the coat of paint as often as it decays, wood on the outside of the buildings may be made to last for centuries; paint, however, is no preservative against the internal or dry rot, notwithstanding the opiniou so generally prevalent to the contrary.

Wages in Australia.—The average rate for miners in the Ballarat district is £2 5s per week, eight honr shifts; brakesmen get a slightly higher rate of wages. In Bendigo district, quartz miners in deep sinking for pit work, get £2 10s; ordinary quartz miners get £2 5s per week; engineers receive £3 to £3 10s. In Bendigo most of the work is done on tribute. In Alexandria, Maryborongh and Dalesford, miners receive £2 10s per week. Most of the mining work in Gipps Land is done by contract; where wages are paid, the men receive from £2 10s to £3. Boilermakers, smiths, fitters and turners, 10s to 12s per day; laborers from 6s to 7s per day. Engineere in tow-hoats, and donkey-engine drivers receive £18 per month. The average rate of wages of brass-finishers and coppersmitbs is 10s per day, the payment being 15d per hour. Owing to the meat-preserving companies not being fully employed, a good many tinsmiths are out of work at present. In the trade the rate is from £2 10s to £3 per week of ten hours per day.

Mining on Private Property in Australia.—The Mining on Private Property Bill which has passed the Victoria Assembly by a large majority, was referred by the Council to a select committee, whose report recommends that mining on private propcrty should, under certain conditions, even without the consent of the owner, bs authorized by law; that auy party of miners holding minere' rights, and desirons of working a claim situated upon private property, should be empowered to move the Minister of Mines to resnme occupation of the land for miuing purposee; that the owner of the land applied for ahonld, for three months after the application, have the option of undertaking to mine it himself, and that, after a valuation of the aurface had been made, the owner should have power to demand payment at the rate of double the valuation. The motion to adopt the report was negatived, after a brief debate, without a divieion. The people of the mining districts have been much irritated by this.

K. K. Mine Improvements.

Ths faith of the K. K. Co. in the permanency of Ruby Hill mines has besn practically exsmplified by the procnring of supsrior hoisting machinery and the ersction of a grand looking building over the main shaft. The hoisting works are probably the most complete in this part of the State, and are alike creditable to the enterprise of the company; the jndgment of Professor Keyes, as a miuing snperintendent; the ability of A. A. Thompson, the engineer and machinist, who furuished the plane and supervised the setting of the boiler and engine; and the skill of the makers, Booth & Co., of San Francisco. The boiler is 16 feet by 54 inches, has 38 4-inch tubes, a steam drum 7 feet by 26 inchee, and a mud drum 8 feet by 14 inches. Between the boiler and engine is a Knowles donkey feed pipe, which can be used, if required, as a fire engine. The engine, which is horizontal, is of massive yet finely adjusted proportions; it is of 50-horse power and of link motiou, the cylinder being 12 by 24 inches. The hoist has 8 feet spur gear, geared three to one, and the lowering can be done either by the break or engine. The shaft is provided with eccentric safety cages, worked by a 4½-inch flat wire rope three-eighths of an inch thick. Both boiler and engine have been firmly set in dressed stone, and appearances even have not been overlooked—every part of the machinery admitting of it having been tastefully painted in appropriate colors. The building inclosing the works is a substantial frame, with trussed roof; and by introducing an arched light in the front gable, and properly arranging the other windows, it looks imposing and attractive —very different from the dilapidated, barn-like structures usually employed for hoisting purposes. This portion of the improvement has had the especial care of Thomas Conn, the foreman, who, while attending to the mining and timbering work so effectively that such a thing as an accident is scarcely known under his charge, has the correct idea that the outside view around a mine indicates in some measnre the nature of its management. Long may the K. K., under its ahle managers, continne to yield abundantly.—*Eureka Sentinel.*

Government Buildings on the Pacific Slope.

The assay office at Boise City, Idaho, is constructed of a sandstone found in the vicinity of that city. It was begun in the year 1870, and finished in 1872, at a cost of $68,591. In its appointments and appurtenances it is said to be one of the best assay offices, though not the most important, owned by the Government.

The Branch Mint at Denver City was begnn in 1862, and was finished in 1864, costing $93,377.

The pnblic building at Portland, Oregon, is an elegant building of blue freestone; is two stories and an attic in hight, and is a classio design, consisting of pilastrade carried on rusticated piers, with segmental arches in the basement story. It is uow nearly completed, and will be the finest building in the State of Oregon, and one of the finest on the Pacific Coast. Cost, $114,324.

The Custom Honse, Astoria, Oregon, jnst finished, is a fine building of rubble stone, quarried near the site, and is 60 feet by 45 feet, and two stories in hight. It hae cost about $75,000.

The Branch Mint at Dalles City, Oregon, wss begun in February, 1869. After an outlay of $103,280, work was abandoned.

The Branch Mint at Carson City, Nevada, was begun in June, 1866, and finished in 1870. It is of rubble stone, with hammered dressings, and cost $196,187.61.

Sargeant's New Land Bill.—Senator Sargeant will introdnce in the Senate a bill relating to the public lands of California, the provisions of which will be as follows: That the public lands in the State of California shall not be excluded as mineral from preemption or homestead unless it shall be shown that *bona fide* mining claims exist thereon, and the price both of agricultnral and mineral lands outside of the limits of railroad grants, shsll be one dollar and twenty-five cents per acre, and that where two or more settlers have improvements in the same legal subdivision, whether agricultural or miuing, or both, it shall be lawful for such settlers to make a joint entry of their lande at the local land offioe on application for such land, and they may prove up and pay for snch land in the same manner and to the same effect as is provided by the law of agricultnral settlere, upon the same legal subdivision; provided, that the proof of occupation and improvement, nnder the mining rules, of the portion of said land claimed as mining claim, may be given in said proceeding hy the applicant, as now provided by law. Notice of the eaid application, when the patent of miuing claim ia sought, shall be given, and have the same effect as now provided. In caaes of applications for mining claims, all affidavits and proofs reqnired by law are to be made before the local land officers. Mining and prsemption cases may be taken before any officer authorized to administer oaths, and when filed with the Register and Recorder, they shall have the same effect as if taken before those officers. Effect shall be given to this Act by regulations to be prescribed by the Commisioner and Attorney-General in office.

California Quicksilver Mines.

The second payment of the purchase of the Missouri mine was made in this city on the 28th ult. The new proprietors have a nomber of maseus and miners at work; the former putting op two lsrge D retorts capable of rcducing one and one-half tons of ore a day. They have a fine engine for crushing the ore, and expect to be producing quickeilver by the 10th inst.

The miners at work in the new shaft of the Yellow Jacket came upon a fine ledge of cinnabar some two feet in width on Monday last. The ore runs from 1 to 10 per cent., and the ledge is well defined and the cinnabar well diffused throogh it. The whole force of the mine will he at once employed to ascertain its extent preparatory to fornaces being erected.

The owners of the Rattlesnake mine, so famous for its rich deposit of native quicksilver, are running a large tunnel into the hill, intending to strike their ledge directly underneath their present magnificent showing.

The fornsce at the Thompson or Sonoma mine, being completed under the supervision of Mr. Lookhardt, fires were introduced therein for the purpose of thoroughly drying it before putting in the ore. The condonsers are being attached to the fornsce, and by next week they will be charged with the ore stored in large qoantities beside the fornace.

The mine is owned by General Dodgs and others, of San Francisco, who have expended during the past ninety days over twenty thousand dollars in improvements and redocing worke. The road is now opened directly to the mine. Some thirty men are employed making adobes to burn in the fornaces and in getting oot ore for the same.

Work haa been commenced in earnest on the Mohawk mine, located near the Rattlesnake, by Messrs. Virgin & Co., who have bonded the mine for a large amount.

There are a large number of mines in our vicinity showing good metal, and spring will cause many of them to be fully doveloped. Capital is moch needed to operate them. Reducing works are so costly that few of the present owners can afford to errect fornaces at present. The Knox fornsce and the Lockhardt and Riotte furnaces are the favorites, bot as they are both very costly, the prospectors are very slow in extracting the quicksilver from the rich piles of ore which many of them exhibit. A good custom furnace, of ten tons capacity, in the vicinity of Geyser Peak, in the center of the mines, would, we think. prove a snccesefol specolation.

Several thoosand empty qoicksilver flasks have been forwarded to the Great Western for winter nse. The mine is producing from fifty to eixty flasks of quickeilver a week, is well managed, its fornaces workiog well, and has the reputation of heing one of the best paying mines in thie section.

When the new road from the Redington mine to Calistoga is completed, and the proceeds from the mine, together with those of the Great Western, Phœnix, Geyser, Missoori and Sonoma psse through oor city, we shall be quite a oinnabar center, and it will sdd greatly to the business prospects of Calistoga, for the supplies for this immense oinnibar district will necessarily pass over the same road.—*Calistoga Tribune.*

Ophir Oistrict Mines.

In a letter to the Salt Lake *Herald*, a correspondent of that joornal saye:

Ophir is the best poor man's camp in Utah, and it always has been so. No camp is so rich in fair milling ores that poor men can take out and sell for cash, realizing enough therefrom to live and carry on their work. Again, the number of mines now discovered in this camp sum up into the hundreds, among which are a list of first-class mines, snch as the Tiger, Chief, Lion, Snnnyside, Monarch, Miners' Delight, Chicago, Hidden Treasure and Mono, that rank with the Emms, Flagstaff and Daveuport. Of all soch mines in this camp I have nothing further to say than that they are "slashing" good mines. It is of the seoond and third rate mines that I always have most to say. The valuable prospects of the camp are what I feel the most interest in, and of these there are hundreds that await the hand of indostry to develop them. Aod here it is where Ophir offers the greatest indncements. If the hundreds of men who have small capital in cash and plenty of energy and determination will come here and take bonds on mines to develop on shares or for interests in the claims, they conld make comfortable fortunes in a few years. No place offers such favorsble inducements, or so many of them as Ophir district.

All over the hills, in every direction, are valuable prospects, the owners of which have too many of such claims, or not enongh of energy and industry to develop them and make them prodncing mines. Let the men who hang aronnd the city with small capitals come out here and invest it in the development of mines and they will he eure to do well, if they act judiciouely, and perhaps they can strike it rich and become independent. It is in this way that the present Mono owners became millionaires, and there are plenty more Monos in Ophir waiting the results of development to tnrn their millions of wealth into the coffere of enterprising men who diligently seek these "treasure hoxes."

Cremation.—An eccentric will, wherein the testator reqnested that his body might be consumed in a gas-retort, and thus msde to contrihote to the enlightenment instead of the poieoning of the world, has revived the long-forgotted sobject of cremation. Without doubt Mr. Trelawney's hideously graphic description of the horning of the body of Shelley has greatly contrib oted to prejudice the public mind against the clesnest and best method of getting rid of the "mortal coil." But the ceremony at Spezzia was conducted in the most bungling fashion, and a want of scientific appliances contriboted to the incompletcness and, therefore, to the horror of a simple operation. A retort gets rid of the entire difficulty, and both from a ntilitarian, a scientific, a sanitary, and a poetic point of view, the mansoleum, decked with cinerary urns, poseesses immense advantages over the damp and unwholeeome graveyard, exhaling pestiferons odors, to which modern nations—for some inscrutable reason—are preposteroosly wedded.—*Iron.*

A New Substitute for Rubber.—A Canadian has devised a method of producing gum from the milkweed plant, or other plants of the aeclepia family, and flax and other seeds, which conciete in macerating and fermenting the sobstances, and then, hy evaporation, redocing the resolting liquor to a thick, gummy mass. The gom thos obtained may be cheaply produced, and is alleged to havo many of the valuable qoalitiee of rob ber. It is insoloble in water, may be vulcanized with solphor, etc.

Heavy Yield.—The assay of tho fine specimen found a few days ago in the seventh level of the Raymond & Ely's main shaft, showed $2,317.03.—*Record.*

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Also send $15 currency, amonnt of first fee of the Government. The case will be placed on our regular file, the drawings executed, and the docnments made up, and soon sent to the inventor for signing.

As soon as signed and returned to ns with the fees then due us, it will be sent straightway to the Patent Office at Washngton.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separated ingredients, snfficient to make the experiment (unless they are of a common and well-known character), and also of the manufactured article itself, must be furnished, with full description of the entire preparation.

For Processes, frequently no model or drawings are necessary. In such case, the applicant has only to send us an exact description, and what is desirable to claim.

For designs no models are necessary. Duplicate drawings are required, and the specifications and other papers should be made up with care and accuracy. In some instances for design patents two photographs, with the negative, answer well instead of drawings.

For further information, send a stamp for our illnstrated circular, containing a digest of Patent Laws, 112 illustrated mechanical movements, and Hints and Instructions regarding the rights and privileges of inventors and patentees, which will be furnished post paid. Also a copy of NEW PATENT LAW of 1870.

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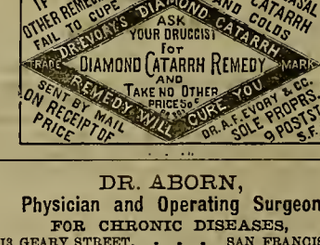
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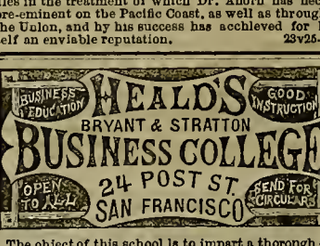

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PATENTS & INVENTIONS.

Telegraphic List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., Dec. 16th, 1873.

FOR WEEK ENDING Dec. 2d, 1873.*

EGG CARRIER.—Frank M. Wade, S. F., Cal.

HORSE SHOE.—Robert K. Jordan, Oakland, Cal.

GATE.—Elijah Hickman, Red Bluff, Cal.

TOY PUTTY-BLOWER.—Nathan Joseph, S. F., Cal.

LUBRICATING DEVICE FOR CAR AXLES.—William J. L. Moulton, assignor to Jeinsen Lubricator Compauy.

CAR AXLE BOX.—William J. L. Monlton, assignor to Jeinsen Luhricator Company.

SOLDERING TOOLS. — Lewis Cutting, S. F., Cal.

PROCESS OF SEPARATING SILVER FROM OTHER METALS.—Conrad Wiegand, Virginia City, Nevada.

———*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

GIANT POWDER GASES.—When Giant Powder was first introduced in our mines, the men found great fault with it, and insisted that the fumes injured their health. Their prejudices have in a great measure been overcome and the powder has come into universal favor as an explosive. In this connection we repnhlish an item which, we think, was taken from *Appleton's Magazine*, but probably first appeared in an English paper. It seems that in order to determine, if possible, the relative injnrious properties of the gases resulting from the explosiou of gun powder and dynamite, (Giant Powder,) Lord Roharts, the founder of the Miners' Convalesceut Hospital, determined to test the question. Accompanied by a competent chemist, this practical philanthropist descended iuto the mines and, side hy side with the miners, inhaled the ohnoxious gases, marking carefully the effects upon the nervous and respiratory organs. While the actual results were heing reduced and accnrately recorded, the chemist was engaged in collecting samples of the gases for subseqnent analysis. The explosive compounds were dynamite, (Giant Powder,) gun-cotton and gunpowder, and the results were in favor of the dynamite.

KIND WORDS.

The Associated Reformed Presbyterian says—For years Perry Davis' Pain-Killer hss been known as s most useful family medicine. For pains and aches we know nothing so good as the Pain-Killer. For many internal diseases it is equally good. We speak from experience, and testify to what we know. No family ought to he without a bottle of Davis' Pain-Killer.

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New Incorporations.

The following companies have filed certificates of incorporation in the County Clerk's office, San Francisco:

PACIFIC COMMERCIAL CO.—Dec 13. Objsct: To do a generel mercentile business, together with wharfing, docking and all kinds of trado and commsrce; ths procuring of land on the Navigator and surrounding islands in the South Pecific, by purchase or otherwise, with power to improve, lease and sell, or otherwiss to dispose of the sams. Trustees—Frederick Cley, J. W. Stow, Adolph Weske, David Ferquharson and Wm. T. Bradbury. Capitsl stock, $150,000, in shares of $100 each.

ANTILLES M. Co.—Dec. 16. Location: Ely Mining District, Nevada. Directors: C. D. Cushman, H. G. Williams, J. B. Cooper, E. Skerrstt and John Turner. Capitel stock, $3,000,000, in shares of $100 each.

LADY BRYAN M. Co.—Dec. 15. Location: Flowery Mining District, Storsy County, Nevada. Directors: Solomon Heydsnfeldt, A. P. Minsar, Geo. D. Roberts, J. W. Pearson and Edward Kanelly. Capital stock, $5,000,000, in shares of $100 eech.

CONSOLIDATED WASHOE M. Co. Dec. 16. Locetion: Gold Hill Mining District, Nevada. Directors: Mertin White, Hill Bsachy, M. P. Maddsn, P. J. Kennedy and Jecob Smith. Capital stock, $4,000,000, in shares of $100 eech.

SAW-PIT FLAT G. M. Co.—Dec. 16. Location: Plumas Conuty, Cal. Directors: Wm. H. Sharp, John Sroufe, J. P. Slawson, E. P. Pond, J. W. Clerk. Capital stock, $100,000, in shares of $100 cach.

GOPHER HILL CONSOLIDATED M. AND DITCH CO.—Dec. 17: Locetion: Mineral Township, Plumas County, Cal. Directors: G. E. Binckley, William H. McCarty, O. W. Hane, P. H. Flinn and William Small. Capitel stock, $1,000,000.

ANDES S. M. Co.—Dec. 17. Location: Storey County, Nevade. Directors: Edward Barron, George S. Dodge, John Landers, Robert F. Bunksr and Geo. W. Brittan. Capital stock, $5,000,000.

THERESA M. AND M. Co.—Dec. 17. Location: Mariposa County, Cal. Directors: M. Gately, J. W. Tripp, J. B. Heporte, J. W. Malen aud D. W. Taylor. Capitel stock, $1,500,000.

Meetings and Elections.

GOLD CANON CONSOLIDATED M. Co.—Dec. 11. Trustees: Wm. B. Thornhurg, Jeroms Lincoln, Robert F. Morrow, A. B. Perkins and Geo. Pardow.

COMET CONSOLIDATED M. AND M. CO.—Dec. 12. Trustees: J. D. Conghlin, W. G. Wayman, C. M. Bates, D. M. Hosmer and E. P. Hubberd. After which, Deniel M. Hosmer was elected President; C. M. Betes, Vice-President; W. G. Wayman, Treasurer; W. Aug. Knepp, Secretary.

PENINSULAR M. Co.—Dec. 16. Trustees: W. D. Fordhem, J. M. Billings, Robert Walmsley, B. P. Clement, Giles H. Gray, D. A. Jennings, M. V. Brown.

WHITE MOUNTAIN M. Co.—Locatiou: Amedor County, Cal. Trustees: President, C. M. Pillsbury; Vice-President, Isedor Charles; Treesurer, Daniel M. Hosmer. W. Aug. Knapp was appoiated as Secretary.

HOPE CONSOLIDATED M. Co.—Trustees: W. R. Wheaton (President), Geo. W. Beaver (Vice-President), J. S. Paxson (Secretary), A. G. Abell and J. D. Fry.

LEWISTON S. M. Co.—Dec. 13. Trustees: G. W. Fisher (President), W. J. Collins, Charles C. Harvey, Henry O. Howard and William Stuart (Secretary).

OPHIR M. Co.—Dec. 17. Trustees: B. Pearl, A. H. Lissak, Jr., F. Cean, F. A. Hassey, E. M. Hall, E. J. Baldwin, M. H. Greyson. Subsequeutly A. H. Lissak, Jr., wes chosen President; Jas. Marks, Secretary; J. C. Corey, Superintsudent. Cash on hand Decsmber 17, 1873, $47,459.

COLONADO G. M. Co.—Dec. 17. Trustees: Julins Trench, E. L. Willard, R. K. Mcrriner, G. A. Treadwell and W. P. Treadwell.

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Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements

Antilles Mining Company—Location of works, Ely Mining District, Lincoln County, Nevada.

NOTICE OF STOCKHOLDERS' MEETING.—Notice is hereby given, that a meeting of the stockholders of the Antilles Mining Company, will be held at the office of the Company, No. 6 Leidesdorff street, Hayward's Building, San Francisco, California, on Monday, January 5th, 1874, at one o'clock P. M., of that day. Said meeting is called for the purpose of adopting a Code of By-Laws for the government of said Corporation

E SKERRITT, Acting President.

San Francisco, December 18th, 1873

Black Mountain Coal Mining Company—

Location of principal place of business, City and County of San Francisco, Cal.

NOTICE.—There ars delinquent upon the following described stock, on account of assessment levied on the 8th day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cese, Ihem	24	100	$2 50
Cropper, (not issned)	29	100	2 50
Flanigan, Thomas	28	100	2 50
Hurgston, Jos	27	100	2 50
Hughes, John (not issued)	40	2764	69 00

And in accordance with law, and nu order of the Boerd of Directors, made on the Eighth day of Octoher, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the said Company, No. 602 Montgomery street, Room No. 23, San Francisco, on the 29th day of Decemher, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sele.

W. H. PARSHLEY, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13

Bunker Hill Quartz Mining Company—Location of worke, Amador, Amador County, California.

Office, No. 19 First street, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 12th day of November, 1873, an assessment (No. 12) of Ten Dollars per shere was levied upon the capital stock of the Corporation, payehle immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 19 First street, San Francisco, California.

Any stock upon whioh this assessment shell remain unpaid on Saturdey, the 20th day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made hefore, will be sold on Monday, the 12th dey of Jannary, 1874, to pay the delinquent assessment, togetber with costs of advertisin t and expenses of sale. By order of the Boerd of Directors.

WALES L. PALMER, Secretery.

Office, No. 19 First street, San Francieco, Cel. no15

Consolidated Washoe Mining Company—

Location of works, Gold Hill Mining Distriot, Storey County, Nevada.

NOTICE OF STOCKHOLDERS' MEETING.—Notice ie herehy given, that a meeting of the stockholders of the Consolidated Washoe Mining Company, will be held at the office of the Company, No. 6 Leidesdorff street, Hayward's Building, San Francieco, California, on Tuesday, January 6th, 1874, at one o'clock P. M., of that day. Said meeting is called for the purpose of adopting a Code of By-Lswe for the government of said Corporation. MARTIN WHITE, Acting Pre-ident.

San Francisco, December 18th, 1873.

Commercial Coal Mining Company, of

San Francisco. Principal place of hneiness, City and County of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 16th day of December, 1873, an assessment of fifty (50) cents per share was levied npon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 402 Montgomery street, room No. 23, San Francisco, California.

Any stock upon which thie assessmeat shall remain unpaid on the 26th day of January, 1874, will be delinquent, and advertieed for sale at public nuction, and unless payment is made before, will he sold on Monday, the 23d day of February, 1874, to pay the delinquent assesemsnt, together with costs of advertising and expenses of sale. S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francieco, California. de20

Cupel and Tiger Silver Mining Company.

Principal place of business, San Francisco, Cel. Locetion of works, Wallepel Mining District, Mohavs County, Arizona Territory.

NOTICE.—There ers delinquent upon the following described stock, on account of assessment levied on ths 25th dey of October, 1873, the several amounts set opposite ths names of the respective shareholdsrs as follows:

Names.	No. Certificate.	No. Sharss.	Amount.
J P Ridgeway	86	1000	$200 00
J P Ridgsway	87	1000	200 00
J P Ridgewey	88	1000	200 00
J P Ridgeway	89	1000	200 00
J P Ridgsway	90	1000	200 00
J P Ridgswsy	91	100	20 00
J P Ridgeway	92	100	20 00
J P Ridgswey	94	100	20 00
J P Ridgeway	95	100	20 00
J P Ridgsway	96	100	20 00
J P Ridgeway	97	100	20 00
J P Ridgswey	98	100	20 00
J P Ridgeway	99	100	20 00
J P Ridgeway	100	100	20 00
William Miller	49	500	100 00
William Miller	50	500	100 00
William Miller	51	500	100 00
William Miller	52	500	100 00
William Miller	53	500	100 00
William Miller	55	500	100 00
William Miller	56	500	100 00
William Miller	57	500	100 00
William Miller	58	500	100 00
William Miller	59	500	100 00
William Miller	81	100	20 00
William Miller	145	60	10 00
William Miller	146	100	20 00
William Miller	147	100	20 00
William Miller	148	100	20 00
William Miller	149	100	20 00
W H Smith	24	25	5 00
W H Smith	25	25	5 00
W H Smith	28	20	4 00
W H Smith	20	20	4 00
W H Smith	30	20	4 00
W H Smith	31	20	4 00
W H Smith	32	20	4 00
W H Smith	140	1000	200 00
W H Smith	142	25	5 00
W H Smith	143	50	10 00
W H Smith	177	1200	240 00
Henry Raymond	13	200	40 00
W H Raymond	65	500	100 00
W H Raymond	66	500	100 00
W H Reymond	67	600	100 00
W H Raymond	68	375	75 00
T E Jswell, Trustee	33	500	100 00
T E Jswell, Trustss	34	500	100 00
T E Jewell, Trustes	35	600	100 00
T E Jewsll, Trustes	36	500	100 00
T E Jewell, Trustes	37	150	32 00
E Martin Smith, Trustee	38	1000	200 00
E Martin Smith, Trustes	39	500	100 00
Augustus Laver	9	200	40 00
Augustus Laver	139	1000	200 00
Julius Renault	85	100	20 00
Julius Renault	133	100	20 00
Julius Renault	134	100	20 00
Julius Renault	179	500	100 00
Horatio McPherson	11	200	40 00
Eugens Chenot	46	50	10 00
Honors Lacosts	48	100	20 00
A Noel	74	25	6 00
L M Geutler	76	50	10 00
Joseph Vernst	76	50	10 00
Georgs Reitsr	79	50	10 00
Georgs Reiter	81	100	20 00
Georgs Reiter	82	100	20 00
George Reiter	83	75	15 00
George W Draks	136	50	10 00
Jamss R Martin	137	50	10 00
J C Warren	161	50	10 00
J C Warren	162	50	10 00
J C Werren	163	50	10 00
J C Warren	160	50	10 00
W C Sleeper	164	25	5 00
John M Mnrphy	165	100	20 00
M Kreszynski	167	30	6 00
M Krasznski	168	30	6 00
M Krasznski	169	30	6 00
Charles Spencer	17	100	20 00
Charles Spencer	40	100	20 00
Charles Spencer	42	100	20 00
Charles Spencer	43	100	20 00
Charles Spencer	101	1000	200 00
Charles Spencer	102	1000	200 00
Charles Spencer	103	1000	200 00
Charles Spencer	104	1000	200 00
Cherles Speacer	105	1000	200 00
Charles Spencer	108	100	20 00
Charles Spencer	107	100	20 00
Cherles Spencer	108	100	20 00
Charles Spencer	109	100	20 00
Charles Spencer	110	100	20 00
Charles Spencer	111	100	20 00
Charles Spencer	112	100	20 00
Cherles Spencer	113	100	20 00
Charles Spencer	116	1000	200 00
Cherles Spencer	117	1000	200 00
Cherles Spencer	118	1000	200 00
Charles Spencer	119	1000	200 00
Charles Spencer	120	1000	200 00
Charles Spencer	121	100	20 00
Cherles Spencer	122	100	20 00
Charles Spencer	123	100	20 00
Charles Spencer	124	100	20 00
Chsrles Spencer	125	100	20 00
Cherles Spencer	126	100	20 00
Charles Spencer	127	100	20 00
Charles Spencer	128	100	20 00
Charles Spencer	129	100	20 00
Charles Spencer	130	100	20 00

And in accordance with law, and en order of the Board of Directors, made on the twenty-fifth day of October, A. D., 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public anction, at the office of the Company, room No. 12 Express Building, San Francisco, California, on Saturday, the twentieth day of December, A D., 1873, at the hour of 12 o'clock M. of said dey, to pay said delinquent assessment thereon, together with costs of advertisiag and expenses of sale. C. J. EATON, Secretary.

Office, room No. 12 Express Building, San Francisco, California. oc29

POSTPONEMENT.—The above sale is hereby postponed until Saturday, January 17th, 1874, et the same hour and place. By order of the Board of Trustees.

O. J. EATON, Secretary.

Forest Coal Mining Company—Principal place of business, City and County of San Francisco. Location of worke, Santa Cruz County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the Eighth day of Decemher, 1873, an assessment of 33½ cents per share was levied npon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at hie office, No. 402 Montgomery street, Room No. 23, San Francisco.

Any stock upon which this assessment shall remain unpaid on the Fifth day of Jennery, 1874, will be delinquent, and advertised for sale at pnblic anction, and unless payment is made hefore, will be sold on Monday, the 26th day of January, 1874, to pey the delinquent assessmsnt, together with costs of advertising and expenses of sele.

CHARLES B. BURROUGHS, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francieco, Cal. de13-4w

Commercial Coal Mining Company of San

Francisco. Principal place of business, City and County of San Francisco, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Eighth day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alexander, J	52	50	$12 50
Cobbledick, James	131	25	6 25
Comelins, W	174	490	122 50
Crocker, A E	142	5	1 25
Forreater, B	132	5	1 25
Forreater, B	147	25	6 25
Forrester, J	4	100	25 00
Harrop, Sarah	133	20	5 00
Hughes, Thos J	10	50	12 50
Larue, J	2	100	25 00
Strader, W	110	25	6 25
Strader, W	111	25	6 25
Strader, W	113	10	2 50
Strader, W	122	5	1 25
Strader, W	123	5	1 25
Washburn, C A		50	12 50

And in accordance with law, and an order of the Board of Directors, made on the 8th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 402 Montgomery street, Room No. 23, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. B. HANSGN, Secretary.

Office, No. 402 Montgomery street, Room No. 23, San Francisco, Cal. no29

Gold Mountain Mining Company—Location

of principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 31st day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W A Knapp, Trustee	13	500	$125 00
W A Knapp, Trustee	15	300	75 00
W A Knapp, Trustee	16	100	25 00
W A Knapp, Trustee	18	100	25 00
W A Knapp, Trustee	19	100	25 00
W A Knapp, Trustee	23	100	25 00
D M Hoerner, Trustee	49	400	100 00
D M Hoerner	54	33	8 25
Thos Bennett	0	2500	625 00
G D Roberts	29	2000	500 00

And in accordance with law and an order of the Board of Directors, made on the 31st day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the company's office, No. 116 Leidesdorff street, San Francisco, California, on the 5th day of January, 1874, at the hour of one o'clock P. M., of said day, to pay said delinquent assessment thereon, toge her with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Sec'y.

Office—116 Leidesdorff St., cor. of Halleck, San Francisco, Cal. dc20

Great Blue Gravel Range Mining Com-

pany—Location of Principal Place of Business, San Francisco, California. Location of Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of November, 1873, an assessment of Ten cents (10c.) per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on Monday the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Directors.

WM. H. WATSON, Sec'y.

Office, Rooms 5 & 6, No. 302 Montgomery street.

Hayden Hill Mining Company—Location

of principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 29th day of September, 1873, the several amounts set opposite the names of the respective shareholders as follow:

Names.	No. Certificate.	No. Shares.	Amount.
Geo M Pinney, Trustee	10	500	$75 00
Geo M Pinney, Trustee	12	500	75 00
Geo M Pinney, Trustee	13	500	75 00
Geo M Pinney, Trustee	15	500	75 00
Geo M Pinney, Trustee	17	500	75 00
Geo M Pinney, Trustee	18	500	75 00
Geo M Pinney, Trustee	3	100	15 00
Geo M Pinney, Trustee	4	100	15 00
Geo M Pinney, Trustee	129	40	6 00
S A Raymond	1	100	15 00
H S Brown, Trustee	100	20	3 00
W H Gawley	19	500	75 00
W H Gawley	20	500	75 00
A W Blair, Trustee	38	50	7 50
A W Blair, Trustee	44	50	7 50
A W Blair, Trustee	45	100	15 00
A W Blair, Trustee	47	100	15 00
A W Blair, Trustee	48	100	15 00
A W Blair, Trustee	49	100	15 00
A W Blair, Trustee	51	500	75 00
A W Blair, Trustee	52	500	76 00
A W Blair, Trustee	64	500	75 00
A W Blair, Trustee	05	500	75 00
A W Blair, Trustee	65	500	75 00
A W Blair, Trustee	57	100	15 00
A W Blair, Trustee	68	100	15 00
A W Blair, Trustee	69	100	15 00
S A Raymond, Trustee	77	250	37 50
S A Raymond, Trustee	78	250	37 50
S A Raymond, Trustee	79	250	37 50
S A Raymond, Trustee	80	250	37 50
S A Raymond, Trustee	81	100	15 00
S A Raymond, Trustee	82	100	16 00
S A Raymond, Trustee	83	100	15 00
S A Raymond, Trustee	84	100	15 00
S A Raymond, Trustee	85	100	15 00
S A Raymond, Trustee	86	100	15 00
S A Raymond, Trustee	87	100	15 00
S A Raymond, Trustee	88	100	15 00
S A Raymond, Trustee	89	100	15 00
S A Raymond, Trustee	91	3000	450 00
S A Raymond, Trustee	93	50	7 50
S A Raymond, Trustee	99	650	99 00
Louis R Lull	73	100	15 00
W F Dorrance	132	50	7 50
W H Knight	75	100	15 00
A F Brown, Trustee	101	100	15 00
A F Brown, Trustee	102	100	15 00
A F Brown, Trustee	103	100	15 00
A F Brown, Trustee	104	100	15 00
A F Brown, Trustee	106	100	15 00
A F Brown, Trustee	106	100	15 00
A F Brown, Trustee	107	100	15 00
A F Brown, Trustee	108	100	15 00
A F Brown, Trustee	109	100	15 00
A F Brown, Trustee	110	100	15 00
A F Brown, Trustee	111	100	15 00
A F Brown, Trustee	112	100	15 00
A F Brown, Trustee	113	100	15 00
A F Brown, Trustee	114	100	15 00
A F Brown, Trustee	115	100	15 00
A F Brown, Trustee	116	100	15 00
A F Brown, Trustee	117	100	15 00
A F Brown, Trustee	118	100	15 00
A F Brown, Trustee	119	100	15 00
A F Brown, Trustee	120	100	15 00
A F Brown, Trustee	121	500	75 00
A F Brown, Trustee	123	500	75 00
A F Brown, Trustee	124	500	75 00
A F Brown, Trustee	125	500	75 00
A F Brown, Trustee	126	500	75 00
A F Brown, Trustee	127	200	30 00
A F Brown, Trustee	128	60	9 00
Jas A Pritchard, Trustee	130	5250	937 50
G P Warren	131	50	7 50
W H Knight, Trustee	134	24720	3738 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 331 Montgomery street, room 18, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. H. KNIGHT, Secretary.

Office—331 Montgomery street, San Francisco, California. no29

PGSTPGNEMENT.—The above sale is hereby postponed until the 15th day of January, 1874, at the same hour and place. By order of the Board of Trustees.

de20-4w WM. H. KNIGHT, Secretary.

Ida and Rhoda Lewis Consolidated Min-

ing Company. Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave county, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of October, A. D., 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Eugene Pardiul	292	20	$2 00
E D Dement	303	25	2 50
E D Dement	304	25	2 50
E D Demeul	305	25	2 50
E D Demeut	306	25	2 50
T B Wlugard	313	200	20 00
L Eleser	314	50	5 00
L Eleser	315	50	5 00
L Eleser	316	50	5 00
L Eleeer	317	50	5 00
L Eleser	318	50	5 00
L Eleser	319	50	5 00
J E Slinkey	341	20	2 00
Joeeph Sharon	342	250	25 00
Joseph Sharon	343	250	25 00
Joeeph Sharon	344	250	25 00
Joeeph Sharon	345	250	25 00
F Chappellet	348	1000	100 00
F Chappellet	349	100	10 00
N Sicluer	350	100	10 00
John Clarecy, Truelee	73	200	20 00
John Clarecy, Trustee	77	200	20 00
John Clarecy, Trustee	78	100	10 00
John Clarcey, Trustee	85	50	5 00
John Clarcsy, Trustee	86	50	5 00
John Clarcey, Truelee	90	60	6 00
John Clarcsy, Trustee	91	50	5 00
John Clarcey, Trustee	92	25	2 50
John Clarcsy, Trustee	93	25	2 50
John Clarcey, Trustee	96	25	2 50
John Clarcsy, Trustee	97	25	2 50
John Clarcsy, Trustee	100	20	2 00
John Clarcey, Trustee	352	25	2 50
John Cody, Trnetee	147	50	5 00
G P Martinoni, Trustee	262	100	10 00
G P Martinoni, Truetee	263	25	2 50
G P Martinoni, Truetee	264	25	2 50
G P Martinoni, Truetee	265	25	2 50
G P Martinoni, Truelee	266	25	2 50
J Cohn, Trustee	357	1000	100 00
J Cohn, Trustee	358	1000	100 00
J Cohn, Truetee	359	1000	100 00
J Cohn, Trustee	360	500	60 00
J Cohn, Truetee	361	313	31 30
M J McDonald	268	200	20 00
William Welsh	362	367	36 70
J T Bradley	363	133	13 30
J T Bradley	364	37	3 70
J M Thompson	365	100	10 00
J M Thompson	366	97	9 70
L A Johnson, Trustee	132	100	10 00
L A Johnson, Trustee	133	100	10 00
L A Johnson, Trustee	134	100	10 00
L A Johnson, Trustee	152	100	10 00
L A Johnson, Trustee	276	25	2 50
L A Johnson, Truetee	278	25	2 50
L A Johnson, Truetee	279	25	2 50
L A Johnson, Truetee	280	25	2 50
L A Johnson, Truetee	282	25	2 50
L A Johnson, Trustee	284	60	6 00
L A Johnson, Trustee	285	60	6 60
L A Johnson, Trustee	286	50	5 00
L A Johnson, Trustee	287	50	6 00
L A Johnson, Truelee	288	50	6 00
L A Johnson, Trustee	289	50	5 00
L A Johnson, Truetee	290	50	5 00
L A Johnson	269	187	18 70
J A Lukin, Trustee	295	100	10 00
F R Lewie, Trustee	158	100	10 00
F R Lewie, Trustee	161	100	10 00
F R Lewie, Trustee	163	50	6 00
F R Lewie, Truetee	164	50	5 00
F R Lewis, Trustee	168	25	2 50
F R Lewie, Trustee	169	25	2 50
F R Lewis, Trustee	170	25	2 50
F R Lewis, Trustee	171	25	2 50
F R Lewie, Truetee	172	25	2 50
F R Lewis, Truetee	173	20	2 00
F R Lewis, Truetee	174	20	2 00
F R Lewie, Truetee	175	20	2 00
F R Lewis, Trustee	176	20	2 00
F R Lewis, Truetee	177	20	2 00
J de Sta Marina, Truetee	31	500	60 00
J de Sta Marina, Truetee	32	500	60 00
J de Sta Marina, Truetee	33	500	50 00
J de Sta Marina, Trustee	40	100	10 00
J de Sta Marina, Trustee	42	100	10 00
J de Sta Marina, Trustee	43	100	10 00
J de Sta Marina, Trnstee	45	100	10 00
J de Sta Marina, Trustee	53	50	5 00
J de Sta Marina, Truetee	205	20	2 00
J de Sta Marina, Truetee	217	100	10 00
J de Sta Marina, Trustee	221	1000	100 00
A C Moreo, Trustee	187	20	2 00
A C Morso, Trustee	198	500	50 00
F R Lewis	370	5000	600 00
Charles Spencer	230	100	10 00
Charles Spencer	244	500	50 00
Charles Spencer	245	500	50 00
Charles Spencer	246	334	33 40
Ambroee Sorba	104	400	40 00
Amhrose Sorbs	111	100	10 00
Ambrose Sorba	112	100	10 00
Ambroea Sorba	116	100	10 00
Ambroso Sorba	117	50	6 00
Ambrose Sorba	118	50	5 00
Ambrose Sorba	121	50	5 00
Ambroso Sorba	126	25	2 50
Wm. H. Sharp	367	10,000	1,000 00
P. C. Lauder, Truelco	371	3,500	350 00

And in accordance with law, and an order of the Board of Trustees made on the twenty-seventh day of October, 1873, so many shares of each parcel of each stock as may be necessary, will be sold at public auction at the office of the Company, Room No. 12 Expreee Building San Francisco, California, on Wednesday the twenty-fourth day of December, 1873, at the hour of 12 M., of said day, to pay delinquent assessements thereon, together with costs of advertising and expenses of the sale.

O. J. EATON, Secretary.

Office, Room No. 12, Express Building, San Francisco, California.

Land Purchasers Association—Office, No.

425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors or Trustees of this corporation, held on the 19th day of November, 1873, an assessment of ten dollars per share (being the 20th monthly installment on the subscription to the stock) was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent, and advertised for sale a public auction, and unless payment is made before, will be sold on the 13th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.

Office, No. 425 Kearny street, San Francisco, California.

Moreau Machine Manufacturing Company.

Principal place of business, San Francisco, California.

Notice is hereby given that at a meeting of the Directors of said company, held on the third day of December, 1873, an assessment (No 4) of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the company, No. 301 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 17th day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the ninth day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. B. ISAACS, Secretary.

Office, 301 Pine street, San Francisco, Cal. de6

Mina Rica Mining Company—Office of the

Mina Rica Mining Company, No. 320 California Street, Room No. 5, San Francisco, California. San Francisco, Nov. 25th, 1873.

In accordance with a resolution adopted at a meeting of the Board of Trustees of the Mina Rica Mining Company, held this day, a special meeting of the Stockholders of said Company is hereby called; the same to be held at the office of the Company, No. 320 California street, Room No. 5, San Francisco, California, on Monday, the 29th day of December, 1873, at two o'clock P. M., of said day, to take into consideration and decide upon the proposition to increase the Capital Stock of said Company, from one million dollars, ($1,000,000) divided into ten thousand shares, of the par value of one hundred (100) dollars each, the present Capital Stock, to Two Million ($2,000,000) Dollars, divided into twenty thousand (20,000) shares, of the par value of one huudred (100) dollare each.

O. F. GIFFIN,
J. H. H. WILLIAMS, } Trustees.

North San Francisco Homestead and

Railroad Association—Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California

Notice is hereby given, that at a meetiog of the Board of Trustees of said Company, held on the 1st day of December, 1873, an assessment of Two Dollars per share was levied upon the capital stock of said company, payable immediately in United States gold coin, to the Secretary, at his office, 314 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 3d day of January, 1874, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 26th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of the sale.

A. D SMITH, Secretary.

Office, 314 California street, San Francisco, Cal.

Ohio Consolidated Gold Mining Company.

Principal place of business, San Francisco, Cal. Location of works, West Point, Calaveras County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 17th day of December, 1873, an assessment of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, No. 116 Leidesdorff street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 17th day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 9th day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Secretary

Office, 116 Leidesdorff street, San Francisco, Cal. de20

Ophir Copper, Silver and Gold Mining

Company. Location of principal place of business, San Francisco, California. Location of works, Ophir, Placer County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessement (No. 7) levied on the 12th day of November, 1873, the several amounts set opposite the names of the respective shareholders as follows:

OLD STOCK.

Names.	No. Certificate.	No. Shares.	Amount.
Brandt, Mrs E	313	50	$15 00
Baumn, Chas	316	100	30 00
Ooggeshall, F C	87	100	30 00
Coggeshall, F C	180	12	3 00
Swain, H C	318	50	15 00

NEW STOCK.

Allen, M W	24	75	7 50
Bogart, O H, Trustee	78	3500	350 00
Brush, R G	63	1	10
Brown, Chas F, Trueico	30	22½	2 25
Brown, Chae F, Trustee	64	200	20 00
Brown, Chas F, Trustee	65	100	10 00
Brown, Chae F, Truetee	66	100	10 00
Brown, Chae F, Trustee	67	100	10 00
Brown, Chas F, Trustee	68	50	5 00
Brown, Chas F, Truetee	69	50	5 00
Brown, Chae F, Truetee	70	35	3 50
Brown, Chas F, Trustee	71	25	2 50
Brandt, Mrs E	34	150	16 00
Brandt, Mrs E	35	300	30 00
Evereon, Wallace, Truetee	29	600	60 00
Gibbs, Chas E	14	500	50 00
Gibbe, Chae E	15	500	60 00
Gibbe, Chas E	16	186	18 60
Gibbe, Chas E	36	100	10 00
Gibbe, Chae E	37	100	10 00
Gibbs, Chas E	38	100	10 00
Gibbe, Chae E	39	100	10 00
Gibbs, Chae E	40	100	10 00
Hoyt, L A, Trustee	77	74	7 40
Garnie, James R	26	300	30 00
Higgins, W W	41	10	1 00
Higgine, W W	42	10	1 00
Higgins, W W	43	10	1 00
Higgine, W W	44	10	1 00
Higgine, W W	45	10	1 00
Higgine, W W	46	10	1 00
Higgins, W W	47	10	1 00
Higgine, W W	48	10	1 00
Higgins, W W	49	10	1 00
Higgine, W W	50	10	1 00
Higgine, W W	51	10	1 00
Higgine, W W	52	10	1 00
Higgine, W W	53	10	1 00
Higgins, W W	54	10	1 00
Higgine, W W	55	10	1 00
Kip, W I, Jr	59	1	10
Purdy, G W	56	150	15 00
Rogers, G P	61	1	10
Stackpole, Thomas	25	75	7 50
Swain, H C, Trustee	75	600	50 00
Swain, H C, Trustee	73	500	50 00
Swain, H C, Trustee	74	302	30 20
Treadwell, A, Trustee	75	499	49 90
Treadwell, J B, Trustee	76	999	99 90
Wightman, James	17	1200	120 00

And in accordance with law, and an order of the Board of Directors, made on the 12th day of November, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, room 4, Duncan's building, No. 411½ California street, San Francisco, California, on Monday, the 5th day of January, 1874, at the hour of 1 o'clock P. M. of such day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

G. H. BGGART, Secretary.

Office, ronm 4, Duncan's building, No. 411½ California street, San Francisco, Cal. de20

Pacific Asbestos Mining and Mannfactur-

ing Company—Principal place of business, San Francisco, Cal. Location of works, Placer County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the 17th day of November, 1873, an assessment of Six Cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 306 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assessment together with costs of advertising and expenses of sale. By order of the Board of Directors.

H. E. CONGDON, Secretary.

Office, No. 306 Montgomery street, San Francisco, Cal.

Rising Star Mining Company—Location

of principal place of business, San Francisco, Cal. Location of works, Nevada County, Cal.

NOTICE.—There is delinquent upon the following described stock, on account of assessment (No. 6), levied on the 27th day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
B L Brandi	185	126	$12 60
J M Buffington, Trustee	65	100	10 00
J M Buffington, Trustee	67	100	10 00
J M Buffington, Trustee	375	100	10 00
J M Buffington, Trustee	399	371	37 10
J M Buffington, Trustee	400	175	17 50
J M Buffington, Trustee	402	56	5 00
J M Buffington, Truetee	434	31	3 10
J M Buffington, Truetee	435	662	66 20
J M Buffington, Truetee	438	268	26 80
J M Buffington, Truetee	440	475	47 50
W Bryan	152	12	1 20
J C Bollinger, Trustee	426	100	10 00
M Bettman	258	100	10 00
M Bettman	259	100	10 00
M Bettman	260	50	5 00
M Bettman	261	50	5 00
M Bettman	262	31	3 10
T Bryan	302	100	10 00
T Bryan	303	25	2 50
T Bryan	305	25	2 50
T Bryan	308	25	2 50
T Bryan	307	50	5 00
T Bryan	308	50	5 00
T Bryan	309	50	6 00
T Bryan	310	50	5 00
T Bryan	311	10	1 00
T Bryan	312	10	1 00
T Bryan	313	10	1 00
T Bryan	314	10	1 00
T Bryan	315	10	1 00
T Bryan	316	10	1 00
T Bryan	317	10	1 00
T Bryan	318	10	1 00
T Bryan	319	10	1 00
T Bryan	320	10	1 00
T Bryan	321	20	2 00
T Bryan	322	20	2 00
T Bryan	323	20	2 00
T Bryan	324	20	2 00
T Bryan	326	7	70
T Bryan	327	5	50
Frank Clayton, Trustee	427	662	66 20
H W Dean, Trustee	339	131	13 10
L Englander	100	31	3 10
S Haas, Trustee	334	50	5 00
S Haas, Trustee	422	258	25 80
T C Hutchinson	417	25	2 50
Samuel Marks	26	50	5 00
Samuel Marks	28	50	5 00
Samuel Marks	29	50	5 00
R W Simpeon	354	5	50
Daniel Sheehan	414	60	5 00

And in accordance with law, and an order of the Board of Directors, made on the 27th day of October, 1873, so many shares of each parcel of such Stock as may be necessary, will be sold at public auction at the office of the Company, No. 37 New Merchants' Exchange, California street, San Francisco, on Monday, the 22d day of December, 1873, at hour of 12 o'clock M., of said day, to pay said Delinquent Assesement thereon, together with costs of advertising and expenses of the sale.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco, Cal.

Thompson Coal Mining Company—Loca-

tion of principal place of business, city and county of San Francisco.

NOTICE.—There are delinquent upon the following described stock, on account of assessmout levied on the Eighth day of October, 1873, the several amounte set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Crocker, A E	163, 164	50	$1 25
Crocker, A E	166, 170	60	1 50
Crocker, A E	171, 172	40	1 00
Crocker, A E	175	50	1 25
Crocker, A E	179, 181	600	16 00
Crocker, A E	258	1000	25 00
Crocker, A T	111, 115, 121	76	1 87½
Crocker, A T	123, 124	200	5 00
Crocker, A T	126, 127	200	5 00
Crocker, A T	129	60	1 25
Luscombe, Robert	183, 184	50	1 25

And in accordance with law, and an order of the Board of Directors, made on the Eighth day of October, 1873, so many shares of each parcel of said stock as may be necesary, will be sold at public auction, at the office of the said Company, No. 402 Montgomery street, Room No. 23, San Francisco, on the 29th day of December, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13

Washington Mining Company—Location

of principal place of business, San Francisco, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 30th day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
J W Gashwiler	82	700	$700 00

And in accordance with law and an order of the Board of Directors, made on the 30th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 317 Montgomery street, San Francisco, Cal., on the 31st day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assesement thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street, room No. 18, San Francisco, Cal. de13

Machine Builders.

ESTABLISHED 1851.

PACIFIC IRON WORKS,

First and Fremont streets,

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Steam Engines and Boilers,

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And all other classes of work generally done at first-class establishments, manufactured by us at the lowest prices, and of the best quality.

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HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

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Iron and Locomotive Works.

INCORPORATED.....APRIL 30, 1868.
CAPITAL.....$1,000,000.

LOCATION OF WORKS:
Corner of Beale and Howard Streets,
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Manufacturers of Steam Engines, Quartz and Flour Mill Machinery, Steam Boilers (Marine, Locomotive and Stationary), Marine Engines (High and Low Pressure). All kinds of light and heavy Castings at lowest prices. Cams and Tappets, with chilled faces, guaranteed 40 per cent. more durable than ordinary iron.

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JOSEPH MOORE..Vice-President and Superintendent
LEWIS R. MEAD.....Secretary
24v17-oy

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CROSS' PATENT BOILER FEEDER AND SEDIMENT COLLECTOR

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PACKING, for new and old Cylinders.

And all kinds of Mining Machinery.

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Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

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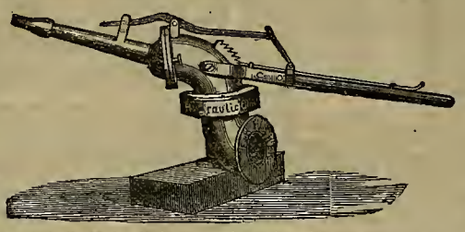
FISHER'S KNUCKLE JOINT AND NOZZLE IS THE Cheapest and Best Hydraulic Machine in use.



MACHINES Manufactured TO ORDER, to throw from One to an eight-inch STREAM.

The only reliable party in the Hydraulic business who protects his patrons.

9v23-tf Address F. H. FISHER, Nevada, Cal.

HYDRAULIC MINERS, TAKE NOTICE—I hereby caution Miners and Manufacturers against making, buying, selling or using a Hydraulic Machine or Joint known as the Little Giant, manufactured and sold by R. R. & J. Craig and Richard Hoskin, as the same is an infringement upon the invention of the machine known as FISHER'S HYDRAULIC CHIEF, secured by Letters Patent, No. 110,222, dated Dec. 20, 1870. All parties participating in such infringements will be rigorously prosecuted. Nevada, Jan. 13th. F. H. FISHER.

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MINING STEAM PUMPS.

DAVID STODDART,

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LEFFEL & MYERS,

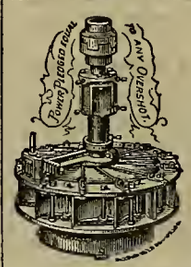
MANUFACTURERS OF

LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEELS,

Spherical and Horizontal Flumes,

AND ALL

MILL GEARING



Especially adapted to our Wheels.

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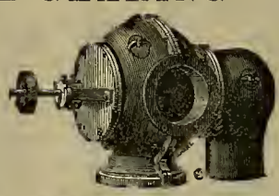

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Having established ourselves in this city, we will give personal attention to our business, and thereby hope to give better satisfaction than we have been able to give heretofore through agents. We will also do a commission business in MILLERS' AND MINERS' SUPPLIES.

We cheerfully furnish, on application, to parties who contemplate building or repairing Mills, all necessary information *gratuitously*.

Our extensive and practical knowledge and experience with every variety of Mill work and Millwrighting, in connection with the various applications of our wheels to machinery of all kinds—there being more than two hundred and fifty in successful operation on the Pacific Coast, and more than Six Thousand in the world—afford the best guarantee of our ability to supply the most reliable information, and to prepare plans and specifications, and estimates for flour, saw, paper and quartz mills, and factories of every description.

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PATENTED CAST STEEL SHOES AND DIES for Quartz Mills.

An improvement greatly needed — being Stronger, more Durable and Economical than Cast Iron; as the Dies, when worn down, can be welded to the Shoes as easily as bar steel.

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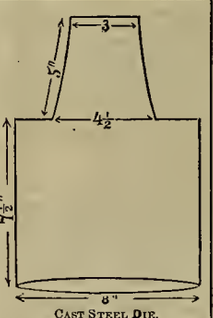
Cast-Steel Tappets, Cams, Hammers, Gearing and Castings

OF ALL KINDS, A SPECIALTY.



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Steam Engines—all Kinds of Mining Machinery.

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Iron Railings and Ornamental Work of every description

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IRON CASTINGS of all descriptions at short notice.

Sole manufacturers of the Hepburn Rolling Pan and Callahan Grate Bars, suitable for Burning Screenings.

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

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I warn Hydraulic Miners not to be misled by the advertisement of Mr. F. H. Fisher. Said Fisher has been beaten in every suit to which he has been a party (respecting Patent Rights on Hydraulic Machines), whether as plaintiff or defendant.

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Fisher's Machine is worthless unless the discharge pipe is furnished with appliances, the patent for which is owned by Messrs. CRAIG, and which Fisher is enjoined from making.

The Machine itself is also an infringement on another patent owned by the same parties.

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I am sole LICENSEE to sell Machines manufactured under Craig's, Rice's, Macey's and Hoskin's patents.

I Guarantee Full Indemnity to all my Customers.

Machines of all sizes always on hand.

If you want a Machine that will give satisfaction, and do not want to pay for it twice over, buy an Improved LITTLE GIANT.

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TRIP HAMMER QUARTZ BATTERY.

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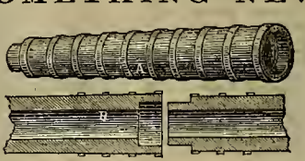

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From one to twelve-inch bore, suitable for water or gas, that will stand as much pressure and last as long as iron, for half the cost.

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Particular attention paid to all kinds of FIRE WORK such as BOILERS, FURNACES, OVENS GRATES RANGES, etc.

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Varney's Patent Amalgamator.

These Machines Stand Unrivaled.

For rapidity pulverizing and amalgamating ores, they have no equal. No effort has been, or will be spared to have them constructed in the most perfect manner and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Oprates as Follows.

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the apperture and between the grinding surfaces.—Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing a regular flow between the grinding surfaces and into the quicksilver, until the ores is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

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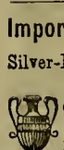

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Risdon Iron and Locomotive Works

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Standard sizes of railroad Car Wheels, with special patterns for Mining Cars. These small wheels are made of the best Car Wheel Iron, properly chilled, and can be fitted up with the improved axle and box—introduced by this company, and guaranteed to outlast any other wheels made in this State.

☞ All kinds of Machinery made and repaired.

24v22-3m JOSEPH MOORE, Superintendent.

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Which combines all the force of other strong explosive now in use, and the lifting force of the BEST BLASTING POWDER, thus making it vastly superior to any other pompound now in use.

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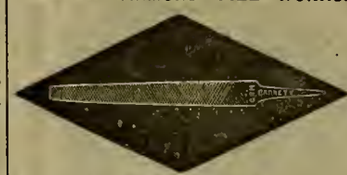
16v20-3m JOHN F. LOHSE, Secretary.

BLACK DIAMOND FILE WORKS.



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Sold by all the principal hardwaro stores on the Pacific Coast. 18v25.1y

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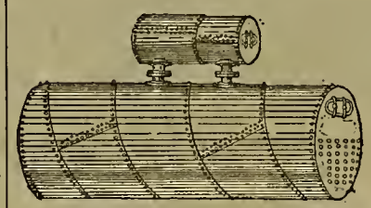

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—OF—

JAMES H. SHANLEY, Successor to D. McDonald,

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All Sorts of Steam Boilers Made to Order and Repaired.

Also, all kinds of Sheet Iron Work done promptly, and at prices to suit the times. 1v27

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Special attention given to the development of this important interest in California.

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To Miners, Millmen and Others.

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Recent improvements in the chemical arrangement of the inbricants used in its manufactnre render its use as serviceable on the lightest buggy as on the heaviest team.

The extensive demand for the H. & L. Axle Grease has enabled the proprietors to reduce its price to as low a rate as any of the inferior compounds, which are continually being forced upon the market.

See that the trade-mark (H. & L.) is on the red cover of the package, and take no other.

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Manufacturers & Sole Proprietors,

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10v5-lambp-1y

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SIZE, 40 BY 56 INCHES; SCALE, 8 MILES TO AN INCH.

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Showing the boundaries of the principal mining districts, some 30 in number, adjacent to Salt Lake City. Price, pocket form, $2.50.

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And working Sheet Metals in all forms. Catalogues furnished upon application. 20v27-3m

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This Hotel has been newly furnished, and is situated in a central and healthy location, and is one of the few Hotels in San Francisco conducted on Temperance Principles.

BOARD, PER WEEK, $3.50. BOARD AND LODGING, $4 TO $5. SIX MEAL TICKETS FOR $1.

CHAS. MONTGOMERY, Proprietor.

☞ Passengers and Baggage taken to the Hotel free. ☜

GENERAL MERCHANDISE.

WEDNESDAY M., Dec. 17, 1873.

BAGS.			Devoe's Petro'm	37	@ 39
Eng, stand. Wh't	12	@ 13	Barrel kerosene	30	@ —
Detrick's Mach c Sewed, 22 x 36,		@	Downer Kerose's	50	@ 52½
Gilroy L...	12	@ 13¼	Gas Light Oil....	—	@ 34
do, 22x36, do W	12½	@ 14	**PAINTS.**		
do. 22x40, do...	14½	@ 15	Atlan. W. Lead.	8	@ 11
do, 23x40.....	—	@ 15	Whiting	1½	@ 1¾
do, 24x40....	15	@ 16	Putty	4	@ 4½
Flour Sacks ½s..	13	@ 16	Chalk.....	—	@ 1½
" ¼s.	8½	@ 9½	Paris White.....	2½	@ —
Stand. Gunnies..	20	@ 25	Ochre.....	2½	@ 3
" Wool Sacks.	60	@ 65	Venetian Red...	3	@ 3½
" Barley do...	—	@ 15	Red Lead.....	8	@ 11
Hessian 45-in.gds	—	@ 11½	Litharge.....	10	@ 11
do 60	—	@ 15	Eng. Vermillion	—	@1 35
Burlaps, yard.....	—	@ 10¾	**RICE.**		
CANNED GOODS.			China No. 1, ℔ lb	5½	@ 6¾
Asst'd Pie Fruits in 2½ lb cans.	2 75	@ 3 00	do 2, do.	5	@ 5½
do Table do...	—	@ 2 75	Japan.....	6	@ 7½
James & Jellies 4 00		@ 4 50	Siam Cleaned...	7	@ —
Pickles ½ gl...	—	@ 3 50	Patna.....	—	@ —
Sardines, qr box 2 00		@ 2 25	Hawaiian.....	6½	@ 7½
do hf boxes 3 50		@ 3 75	Carolina.....	10	@ 10½
COAL—Jobbing.			**SALT.**		
Australian, ℔ ton	10 00	@11 00	Cal. Bay, per ton	10 00	@14 00
Coos Bay.....	—	@11 00	do Common..	5 00	@6 00
Bellingham Bay.—		@ 8 50	Mexican.....	11 00	@13 00
Seattle.....	—	@11—	Carmen Island..	12 00	@ 00
Cumberl'd, cks..	25 00	@28 00	Liverpool fine....	—	@20 00
do bulk..	21 00	@25 00	do coarse	18 00	@19 00
Mt. Diablo.....	6 50	@8 50	**SOAP.**		
Lehigh.....	14	@15—	Castile ℔ lb....	10½	@ 11
Liverpool.....	11 00	@12—	Local brands....	5	@ 9
West Hartley....	12 00	@14—	**SPICES.**		
Scotch.....	3 50	@10 00	Allspice, per lb..	15	@ 16
Scranton	10 00	@ —	Cloves.....	37½	@ 40
Vancouver's Isl..	12 00	@14—	Cassia.....	—	@ 24
Charcoal, ℔ sk....	75	@ —	Nutmeg.....	1 07	@1 10
COFFEE.			Pepper.....	25	@ 26
Sandwich Island	19½	@ —	Pimento.....	—	@ 15
Costa Rica, per lb	21½	@ 22	Gr'nd Allsp'c, per dz	—	@1 00
Guatemala.....	22	@ 23	do Cassia do..	—	@1 50
Java.....	—	@ 30	do Ginger do..	—	@1 25
Manilla.....	—	@ 23	do Mustard do	—	@1 50
Ground in os....	25	@ 27	do Pepper do..	—	@1 25
Chicory.....	10	@ —	do Mace do....	1 20	@1 30
FISH.			**SUGAR, ETC.**		
Pac. Dry Cod, new	5½	@ 7	Cal. Cube per lb..	11½	@ —
cases.....	8	@ 8½	Circle A crushed	11½	@ —
Eastern Cod....	7	@ 9	Powdered.....	—	@ 11¾
Salmon in bbls.	8 50	@9 00	Granulated.....	—	@ 11
do ½ bbls	5 00	@5 50	Dry granulated	11½	@ —
do 2½ lb cans	—	@ —	Extra do.....	—	@ —
do 2 lb cans..	2 80	@3 00	Hawaiian.....	8	@ 10
do 1 lb cans..	2 25	@ —	California Beet.	10½	@ 11½
Do Col. R. ½h...	—	@ —	Golden C.....	10	@ —
Pick. Cod, bbls.	22 00	@ —	do R. y'w grade	7	@ —
do ½ bbls	11 00	@ —	Cal. Syrup in bls.	—	@ 47½
Bos. Sm'k'd Her'g	40	@ 50	do in ½ bls.	—	@ 50
Mack'l, No. 1, ½ bls	11	@12—	do in kegs..	—	@ 55
" Extra....	—	@12 50	do Hawaiian..	20	@ 22½
" in kits....	2 75	@3 00	**TEA.**		
" Ex mess..	3 50	@4 00	Oolong, Canton, lb	19	@ 25
" Ex mess. ½ bs	—	@13 00	do Amoy....	28	@ 50
Sm'k Herr'g, bx.	40	@ 50	do Formosa	40	@ 80
NAILS.			Imperial, Canton	25	@ 40
Assorted size, lb.	5	@ 7	do Pingsuey	45	@ 80
NAVAL STORES.			do Moyune..	60	@1 00
Tar & Pitch, ℔ lb	7	@ 8	Gunpo'der, Cant.	30	@ 42½
Oakum pr bale 50 lb	4	@4 50	do Pingsuey	50	@ 90
Rosin.....	6 00	@ 6 50	do Moynne.	65	@1 25
Anchors.....	8	@ 8½	Young Hy., Canton	28	@ 40
Obalns.....	7	@ 7½	do Pingsuey	40	@ 70
OILS.			do Moyune..	65	@ 85
Pacific Olive Co. Neat F'ts No. 1.	—	@1 00	Japan, ½ chests, bulk.....	30	@ 75
Pure.....	1 25	@ —	Japan, lacquered bxs, 4½ and 5 lbs	45	@ 67
Castor Oil, No. 1..	1 40	@1 45	Japan do, 3 lb bxs	45	@ 90
do No. 2..	1 25	@1 35	do pl'n bx, 4½ lb	35	@ 65
Cocoanut.....	55	@ 60	do ½ & 1 lb paper	30	@ 55
Olive Pt. Agnoli..	5 00	@ —	**TOBACCO—Jobbing.**		
do Fossel...	4 75	@ —	Bright Navys....	50	@ 60
Palm.....	9	@ —	Dark do	45	@ 50
do Bagicalupi..	—	@ —	Dwarf Twist....	57	@ 62½
Linseed, raw....	1 00	@1 05	12 inch do.....	57	@ 62½
do boiled....	1 05	@1 10	Light Pressed...	65	@ 75
China nut in cs..	—	@ 80	Hard do ..	60	@ 70
do bulk.....	70	@ 72	Conn. Wrap'r....	40	@ 50
Sperm, crude....	—	@1 40	Penn. Wrapper..	35	@ 45
do bleached..	—	@2 20	Ohio do	30	@ 40
Coast Whales...	40	@ 45	Virgi'a Smok'g..	60	@ 95
Polar, refined....	55	@ 70	Fine cut chewing, bucts ℔ lb..	75	@ 90
Lard.....	85	@ 95	Banner fine cut..	8 75	@9 25
Coal, refined Pet	37½	@ 40	Eureka Cala....	8 00	@8 50
Oleophine.....	—	@ 33	**TURPENTINE.**		
Devoe's Bril't...	43	@ 45	Eastern.....	60	@ 62½
Long Island.....	—	@ 34			
Eureka.....	37½	@ 40			

SAN FRANCISCO METAL MARKET.

WEDNESDAY M., Dec. 17, 1873.

Quicksilver is held by dealers at $1.20 ℔ lb., but there is some uncertainty as yet about the price, buyers being hardly up to it. Sales have been restricted on this account. In the general metal market there is no change.

Scotch Pig Iron, ℔ ton	$52 00	@	— —
White Pig, ℔ ton	52 00	@	— —
Refined Bar, bad assortment, ℔ lb	— —	@	— 3¾
Refined Bar, good assortment, ℔ lb	— —	@	— 4
Boiler, No. 1 to 4	05¾	@	06
Plate, No. 5 to 8	06¾	@	07
Sheet, No. 10 to 13	07¾	@	—
Sheet, No. 14 to 20	6	@	— 7
Sheet, No. 24 to 27	08	@	— 09
Horse Shoes, per keg	7 50	@	8 00
Nail Rod	—	9½	@ — —
Norway Iron	—	8	@ — —
Rolled Iron	—	6	@ — —
Other Irons for Blacksmiths, Miners, etc.	—	5	@ —
COPPER.—			
Braziers	— —	@	— 40
Copper Tin'd	— 50	@	— —
O. Nel's Pat	— 55	@	— —
Sheathing, ℔ lb	— —	@	— 25
Sheathing, Yellow	— —	@	— 25
Sheathing, Old Yellow	— —	@	— 12
Composition Nails	— 25	@	— —
Composition Bolts	— 25	@	— —
TIN PLATES.—			
Plates, Charcoal, IX ℔ box	14 00	@	14 50
Plates, I O Charcoal	13 00	@	13 50
Roofing Plates	13 00	@	13 50
Banca Tin, Slabs, ℔ lb	40	@	— 42½
STEEL.—English Cast, ℔ lb	— 18	@	— 22
Drill	— 18	@	— 22
Flat Bar	— 18	@	— 22
Plough Points	— 16	@	— 17
ZINC.	— 9¾	@	— 10
Zinc, Sheet	— 9	@	— 10
NAILS—Assorted sizes	— 5¾	@	— 8
QUICKSILVER, per lb	— —	@	— 1 20

LEATHER MARKET.

[Reported for the PRESS by Dolliver & Bro.]

WEDNESDAY, M., Dec. 17, 1873.

City Tanned Leather, ℔ lb			26@29
Santa Cruz Leather, ℔ lb			26@29
Country Leather, ℔ lb			25@28
Stockton Leather, ℔ lb			26@29
Jodot, 8 Kil., per doz	$50	00@	54 00
Jodot, 11 to 19 Kil., per doz	66	00@	85
Jodot, second choice, 11 to 16 Kil. ℔ doz	55	00@	70 00
Cornellian, 12 to 16 Ko	57	00@	67 00
Cornellian Females, 12 to 13	60	00@	64 00
Cornellian Females, 14 to 16 Kil	68	00@	74 00
Beaumerville, 15 Kil	69	00@	—
Simon, 18 Kil., ℔ doz	61	00@	68 00
Simon, 20 Kil. ℔ doz	65	00@	67 00
Simon, 24 Kil. ℔ doz	72	00@	74 00
Robert Calf, 7 and 9 Kil	35	00@	40 00
French Kips, ℔ lb	1	00@	1 35
California Kip, ℔ doz	40	00 to	60 00
French Sheep, all colors, ℔ doz	8	00@	15 00
Eastern Calf for Boots, ℔ lb	1	00@	1 75
Sheep Roans for Topping, all colors, ℔ doz	9	00@	13 00
Sheep Roans for Linings, ℔ doz	5	50@	10 50
California Russett Sheep Linings	1	75@	4 50
Best Jodot Calf Boot Legs, ℔ pair	5	00@	5 25
Good French Calf Boot Legs, ℔ pair	4	00@	4 75
French Calf Boot Legs, ℔ pair	4	00@	—
Harness Leather, ℔ lb		30@	37½
Fair Bridle Leather, ℔ doz	48	00@	72 00
Skirting Leather, ℔ lb		34@	37½
Welt Leather, ℔ doz	30	00@	50 00
Buff Leather, ℔ foot		19@	22
Wax Side Leather, ℔ foot		17@	19
Eastern Wax Leather		—@	—

GIANT POWDER.

Patented May 26, 1868.

THE ONLY SAFE BLASTING POWDER IN USE.

GIANT POWDER, NO. 1,

For hard and wet Rock, Iron, Copper, etc., and Snbmarins Blasting.

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For medium and seamy Rock, Lims, Marbls, Sulphur, Coal, Pipe Clay and Gravel Bank Blasting, Wood, stc.

Its EXCLUSIVE use saves from 30 to 60 per cent. in expenses, besidca doing the work in half the time required for black powder.

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[Under the New Code—January 1, 1873.]

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When heard from last, ten years ago, was at Pikes Peak, Colorado. Any information of him, or his fate, will be thankfully received by his brother, JOHN GAVER, at 1309 Vallejo street, San Francisco.
25v27-3m

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EUREKA, Nevada, July 10, 1872.

T. M. MARTIN My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by yon upon our mine in Freiburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can jndge, there is nothing about it to ever get out of order—nothing to wear ont. While ours requires but about two thousand five hundred feet of wirs rope, I can see no reason why this line could not be extended almoat indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial npon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, nse it in any way you think proper. Vsry respectfully, O. O. GOODWIN.

EMMA HILL CONSOLIDATED MINING CO., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

T. M. MARTIN, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,

L. W. COLBATH, Superintendent.

"The Vallejo works smoothly with the elevatcd wire tramway, which carries its load of ore as quietly and easily as if there was no winter or anow in the world.

"Whatever the objections to wire tramways may be on account of their cost, I have seen nothing yet that even approaches them in the facilities they afford for moving ore at all seasons of the year."—Correspondent Utah Mining Journal, Alta, Jan. 8, 1873.

The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the snrface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 20, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 964.

A. S. HALLIDIE, Patentee,
113 and 115 Pine Street, SAN FRANCISCO.

WIRE ROPE

For hoisting from mines, transmitting power, ship rigging etc., of all kinds and sizes, on hand and made to order.

Wire of sll kinds and descriptions, furnished at lowest ratss. A. S. HALLIDIE 113 and 115 Pine St.

MINING AND SCIENTIFIC PRESS.

An Illustrated Journal of Mining, Popular Science and Progressive Industry.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, DECEMBER 27, 1873.

VOLUME XXVII Number 26.

Palmer's Power Spring Hammer.

Our illustration presents a view of Palmer's power spring hammer, an invention, it is claimed, which has the advantage of being operated by the same power as is used to run the works in which it is used, and without the additional expense of extra boilers and attendants. The machine, it is stated, can be governed by the foot of the forger so perfectly as to cause it to crack a walnut or to strike a blow equal to a steam hammer of the same grade. The smallest size will deliver 500 strokes a minute, and is especially adapted to forging cutlery of all descriptions, bowls of spoons, small hardware, jewelry, etc. The medium size is designed for the use of a general forge shop, and will strike 250 a minute. The largest forms strike 100 blows per minute; it is believed, are as well adapted to all classes of work as the steam hammer, while they are free from the expense attending the use of the latter.

In the engraving is shown a side view of the machine. The dies are made in the usual manner, and are keyed in position. The machine is driven by a friction pulley sliding on a splint in the shaft, the belted pulley being loose on the latter. The friction pulley is operated by a forked clutch worked by the angled levers attached to the long foot lever, which is bent around the fore part of the hammer so as to be accessible on both sides and front of apparatus. The shaft has a crank forged in the center and carries upon it a connection which extends to a leaved spring. On the other end of the spring is attached the hammer head, in which is keyed the top die. The spring works upon the bearings of a flat rocker shaft to which it is securely bolted.

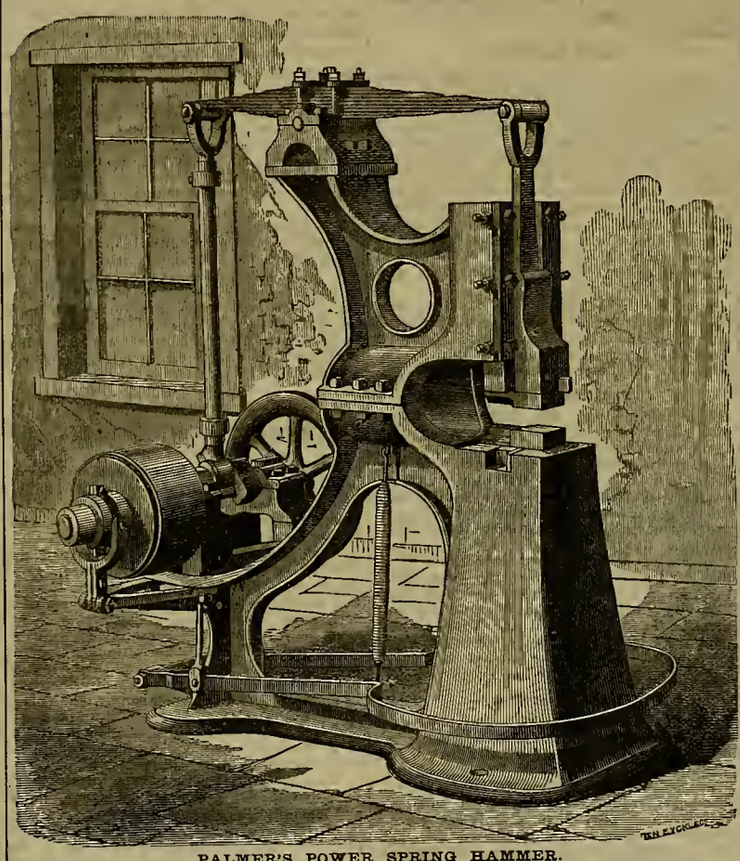
The operations are as follows: The iron being heated and placed upon the die, the forger places his foot on the treadle to depress it, thus drawing down the arm that moves the clutch-friction into the running loose pulley. The crank is thus revolved, drawing down the spring which carries up the hammer head, and producing by its velocity a vibration of the spring in which the blow is given in proportion to the velocity with which the crank revolves. It is aptly illustrated by cracking a whip. To forge a long rod or scythe, an aperture cast through the body of the upright part so as to allow the work to be passed lengthwise the forging dies is provided. The slightest pressure of the foot on the treadle is easily observable in the working of the machine, but the head never allows the dies to meet until there is velocity enough to produce requisite vibration of the spring. The balance-wheel, on the end of the crank-shaft, acts in two capacities, the wheel having a balance placed within its rim to counteract the weight of the hammer-head, thus allowing the hammer to stay in any position in which the friction may leave it, thereby preventing the weight of the hammer-head from always resting on the lower die when stopped; and the momentum of the wheel keeps the machine perfectly steady when running, and prevents, by the balance within its rim, that oscillating movement of frame which would be the result of the blow, if not thus balanced.

It is simply impossible for a person who has never seen one of these hammers in practical operation to form any adequate idea of the rapidity and force with which the blow is given and the ease with which is controlled. The hammer illustrated herewith is a No. 3, designed especially for general job work, and will forge from "2 square cast steel down to 1-8" with equal facility.

The ram of No. 3 size weighs 60 lbs., the total weight of the hammer being 2,000 lbs., while it only occupies a space of three feet by five, or about one-third the room required for a regular trip hammer.

These hammers have all the advantages of the steam hammer, while they are still easier to manipulate, and require neither costly boilers nor extra attendance to operate them, being driven direct from the main line of shafting, or from a counter shaft, as desired. This hammer was awarded the first premium, of a silver medal, over all competitors at the last American Institute Fair, where only a second hand machine was exhibited.

These hammers are now in use in many places, doing all classes of forging, from the smallest forks upward, while there is no work performed by either trip or steam hammers which cannot be done on these with equal facility, and as far as dollars and cents are concerned, at a less cost. The hammer is the invention of Joseph Palmer, but is manufactured by S. C. Forssith & Co., Manchester, N. H., who may be addressed for further information.



PALMER'S POWER SPRING HAMMER.

THE TRENCH MILL, at Silver City, now crushing ore from the Consolidated Virginia mine, is one of largest and finest in that section. It is connected with the Virginia and Truckee railroad by a branch track, so that the ore can be transported by rail direct to the mill.

THE Idaho mine paid out this year $2,941 for quicksilver.

California Gravel Mines.

We are rejoiced to know that as the year draws to a close, more and more interest is manifested in California gravel mining property. Every week we hear of transactions in this class of mines and the increased confidence in them as paying properties. The vast extent of territory covered by the auriferous gravel in this State can hardly be realized by one who has not been in the regions where it occurs. Even those who are familiar with our placer districts would be surprised on seeing the proportion of our large State which is covered by these deposits as shown by the "Map of the Pliocene Rivers" of the State Geological Survey. This map would be of more practical value, perhaps, to our mining men, than anything yet brought forth by the Geological Survey, but it has not yet been completed. We saw a rough draft of the map about a year and a half ago, but no one except the head of the survey can explain why it has not yet appeared, and we will probably have to wait his pleasure for an explanation, unless our indefatigable Governor stirs it up.

While the world at large, and in fact many of our own residents, have an idea that our placers are exhausted, because our annual gold product has fallen from $90,000,000 in 1852 to $15,000,000, far from being exhausted, we are just commencing to realize their value and extent, and beginning to work them systematically. In the "days of '49" shallow placers were worked, requiring only labor with pick and shovel and pan and rocker, and immense amounts of gold were extracted or rather picked up in this crude way. Naturally, a few years served to exhaust this class of mines and attention had to be turned to the deeper and more lasting "deep deposits." These require immense outlays of capital and labor, but give a *sure* return. They are more certain than quartz mines and can be counted on as permanent to bed rock. There is much less of a speculative character in gravel mining than there is in delving in the quartz, a fact which our English cousins are rapidly beginning to appreciate.

We notice that a sale is contemplated to European capitalists of the extensive ditch property and mines of the Eureka Lake and Yuba Canal company of Nevada county. It was only a few weeks since we noted the fact of the Blue Tent Hydraulic claims having been put upon the English market. The El Dorado Water and Deep Gravel company in El Dorado county, was organized sometime since to introduce water into the surrounding district, which aggregates some 200,000 acres of auriferous gravel. The company have purchased all the property rights of the old South Fork Canal Co., and also those of the Gold Hill, Iowa and Weber Ditch Co., aggregating some 144 miles of ditches and flumes, the construction of which formerly cost from $800,000 to $1,000,000. Embraced in these water rights, the *Alta* says, there are some 18 or 20 lakes at the summit of the Sierras and which feed the various tributaries of the South Fork of the American river, from which this company propose to take their water, at an elevation of about 4,000 feet. These lakes and tributaries have a water shed of about 280 square miles, and as the former are some ten square miles in area, they constitute a perennial source of an abundant supply. Their storage capacity, however, can be greatly increased by the construction of dams, upon which considerable work has already been done.

With these means and artificial reservoirs this company will commence in the spring the largest canal for mining purposes, ever made in California, if elsewhere. Where the miners have heretofore paid 25 cents per inch for water the company propose to charge only 10 cents per inch. Enterprises of this sort are of national importance as well as of local interest, since all these ditches open up new mining country, build up new districts, give employment to numbers of men and aid in swelling the bullion product of the world.

THE LIFE OF PATENTS.—All United States letters patent, granted since 1861, are for 17 years, and by act of Congress cannot be extended. Patents previous to the above date were granted for 14 years, with the possibility of being extended for seven years, in all 21 years. All patents issued before 1859, which have not been already extended, are dead. Consequently only those issued since 1859 can be extended. After 1875 none will be subject to extension. We find by experience that many patented inventions which are incomplete in themselves are found to be stumbling-blocks in the way of later inventors. The first invention often "sleeps" in the patent office until a more ingenious or active man perfects a device for similar purposes to find that his really valuable invention is subject to the patent granted to the worthless one. For this reason we think that all patents not worked for several years should become null and void.

AN Ingersoll Rock Drill is to be put at work on the Sanderson mine, Railroad Flat District, Calaveras county.

CORRESPONDENCE.

The Origin of Veins and Formation of Mineral Lodes.

In the pressnt paper it is not proposed to bring forward any new theory of the origin of mineral deposits, nor to advance much that is new to the ecientific miner, but only to restate already well-known facts, and create a sympathy with scientific modes of thonght and examination as applied to mining and the discovery and exploration of mineral bodies. In the present article I shall deal only with the origin and formatiou of

Fissure Veins.

Whether we regard metals as perpetually existing in the matter forming the globe, or as the resnlt of psendomorphic changes in the evolution of higher forms of matter, we are etill impressed, npon examining a deposit of ore, with the facts that the ore iteelf conld not be the oause of the fissure in which it ie contained, and that from whatever sonrce the ore may have issued, the filling of the vein was a subsequent and very different operation from the formation of the fissnre.

How, then, were the fissures formed? There are various ways in which the earth's crust might be rent—by volcanic action, by the snbsidence of a part of the earth'e surface, by the npheaval of a part of the surface; but the most probable cause would appear to have been the one first mentioned, as many instances of recent occurrence go to show that fissures similar to vein-fissures are frequently formed In 1848 an earthquake occurred in New Zealand, which opened a fissure through a chain of mountains from 1,000 to 4,000 feet high. The fissure appeared to be of great depth, extending nearly sixty miles, bnt not exceeding eighteen inches in average width. Similar fissnres were opened in the great Central American earthquake of the preeent year, and also in Inyo county, California, two yeare ago. In fact, eo well is this fissnre phenomena of earthqnakes nnderstood that Mallet was able to locate the central area of the Neapolitan earthquake of 1857, aud estimated the fissure, the forming of which caused the first shock, to have been seven and a-half miles in length, by five and three-fourth miles in depth. So far as fissnres are formed by a single shock they run parallel to each other, though when more than one shock occnrs they may form in gronps and, as we often find, vein-fissures radiating in every direction.

The characteristics of a trne vein are that it runs through the country rock independently of its stratification and that in either or both its dip and strike, it is not influenced by the dip and strike of the formations in which it is enclosed. Trne veins may be fonnd in almost any formation, and may cross two or more formations, as the same vein may be found in granite, slate, sandstone, and lime, though such continuatione of one vein are very rare, still it is not uncommon to find a vein cutting two formations, though the vein matter may be dissimilar in both, still the vein remains one and the same. This vein nature is not influenced by the commercial value of its contents, as the Comstock of Nevada is no more a trne vein than the Atlantic or Wyoming, thongh one is worth millions, while the other is, so far, worthless.

One per cent. of silver makes a valuable ore, bnt five per cent. of iron wonld be considered worthless.

The question now arises, how was the fissure filled. This is not always readily answered. The theory which holds good in one instance may be utterly at fault in another. Thne in the copper mines of Lake Superior, the metal is so closely associated with dikee of undoubted igneous origin that injections of the metals and enclosing trap at the eame operation at once suggests itself; the same phase of vein formation occurs in Little Cottonwood cañon Utah. Where the trap dikes contain copper, lead and silver, in at least two instances, while the silver mines in the immediate vicinity are of nndoubted aqneous origin; so are the gold and silver mines of Colorado, so are the mines of the other Western States and Territories. The evidences of aqneoue formation are: the crystalline structnre of the gangue and metals; the vertical clearage of the gangue the presence of cavitiee filled with crystals, or with metalic or other crystals attached to the walls of snch cavities; the crystalline structnre of the ore itself, as in galena and other sulphurets. The filling of the vein by aqneous solution may have extended over a vast period of time indeed, in most instances, such would appear to have been the case.

The mode of such filling might have varied under different conditions, but in nearly every instance

The Theory of Infiltration,

Is the one which appears to most nearly eupply all neceesary conditions. This theory suppoee veine to be formed in already existing fisures by infiltration of water from the surrounding wall rock at great depth, either in the form of vapor or as an aqueous eolution, and bearing the metals in solution to be deposited in the vein. This theory embraces that of snhlimation, as if during the period of metamorphic change the lower sedimentary rocks were, so to say, swsated by heat and steam till nearly all their metals were extracted and they themselves transformed into the ssmi-marbles and qnartzites which we now find. The metals must have besn deposited somewhere and as it is in just snch rocks we find the majority of mineral veins, the conclusion seems almost irresistible that this was the sonrce of at least a large proportion of the ore deposits now in existence. Where veins occnr in the igneous rocks, the sams process again ensues with only this difference, that the probable sonrce of the metals is from vapors arising from the hearth of the igueous rocks below, as those rocks are too hard to be extensively acted npon by water alone. Thus we have in thie great labaratory of natnre a continual change constantly progressing towards more perfect forms of all matter, and when the placer miner picks up hie pan of golden sand he only saves by water that which water once deposited as a gold solution is deposited in the laboratory of the chemist, any organic substance almost being able to attract and precipitate the precious metal. Those vein fissures flowing little rivulets down the sides of the western mountaine, gave us the wonderful wealth of California, in early daye, while the veins themselves will yield a richer harvest to future generations.

J. H. MORTON.

San Diego Mines.

EDITORS PRESS:—It is so seldom that any news from this magnificent mining section appears in your valuable paper, and believing that you are anxions to publish any reliable information concerning tbe mining interests of this coast, I have taken the responsihilty of commnnicating a few lines.

The mining interests of Julian and vicinity, although second to no other mining dietrict in this State, have been laboring under a great many difficultics. In the first place, we have had to contend with one of California's special curses, a

Spanish Land Grant.

The so-called Cnyamnca Grant was floated over this mining district about three and one-half years ago, since which time the miners and settlers have beeu fighting the eame. A decision in the case has finally been rendered by the U. S. Land Commissioner at Washington City, D. C., and in favor of the miners and settlers. The news reached here on the second of the present month; as eoon as the people here were made acquainted with the news they became almost wild with excitement; one of the owners in the so-called grant was hung end hnrned in effigy. This worthy bears the cognomen of John Treat.

Since the cloud that has been hanging over us so long has passed away without doing us any other than temporary injury, I will endeavor to give you a synopsis of our miuing interests. This section ie composed of

Two Mining Districts,

Julian and Banner. The belt of auriferous quartz is about eight miles in length, running nearly northwest and eontheast. There are scarcely five hundred feet of gronnd on this entire belt where gold has not been fonnd in paying quantitiee. The most prominent among the many minee that have been worked up to the present time, are the Chariot Mill and Mining Co., Ready Relief, Stonewall Jackson, Owens, Helvetia, Mammoth Tunnel and Mining Co., Tom Scott, Pride of the West, Kentuck, Madden, Chapparal, Antelope and Hayden. Three of the ahove are incorporated companies. The Chariot Mill and Mining Compauy has lately been incorporated in San Francisco, and the Owens and Mammoth Tunnel have heen incorporated in San Diego.

The Chariot Mine

Ie one of the most promising mines that I have ever seen on this coast, so far as the mine has been developed. The main shaft is down ahout one hnndred and forty feet. The main shaft is connected hy an air shaft to the 140-foot level. The lode ie from three to fifteen feet wide, the rock of which pays from eeventy-five to two hnndred and fifty dollars per ton in free gold. The company have a five-stamp mill which is located about fonr miles distant from the mine. For several months this mine has yielded on an average of one thousand dollars per day, uet profit to the owners, of whom there were hut three—Messrs. Coyne, Lang & McLellan. With increaeed machinery for mining and milling, this mine will no doubt astonish the mining fraternity of the whole coast.

Other Mines.

The Ready Relief mine hae a five foot lode of splendid rock that will pay from sixty to one hundred dollars per ton in free gold. The company have a small water mill which they propose to increase shortly. The Stonewall Jackson mine has a mese of ore varying from three to twenty-six feet in width; their main ehaft is down one hnndred sixty feet. The company, the Messrs. Frary & Farley, have a ten etamp mill and hoisting works on their mine. The mill is running constantly day and night. The Owens mine have a shaft on their mine over three hundred feet in depth, and have a very fiue body of ore that will pay about forty dollars per ton, and the lode is abont five feet wide; the company have fine machinery on their mine.

The Helvetia company have a shaft on their mine about three hundred feet in depth; their lode ie two and one-half feet in width, the rock of which will pay ahout thirty dollars per ton. The company have temporarily suspended work on their mine nntil they shall have erected etsam hoisting works.

The Mammoth Tnnnel and Mining company ars running a tunnel in what is known here as the Big Blue Hill. This company will have to rnu their tunnel about four hundred and fifty feet more before striking the lode, ths croppings of which havs yielded over fifty thousand dollars from less than fivs hnndred tons of ore. The Tom Scott mine is a very promising mine; the company are engaged at present running levels from their one hundred foot level; their ore pays ahont thirty-five dollars per ton. The Pride of the West are taking out ore from near the surface which pays fifty dollars per ton. I will try and keep you posted in regard to our mines from time to time.

J. S. L.

Julian City, Dec. 10, 1873.

Julian and Banner Districts.

EDITORE PRESS:—Onr mining districts, Jnlian and Banner, have jnst been made glad with the good news that the miners have at last beaten the owners of the Cuynmaca grant, and the land is now theirs. This will canse renewed vigor in Julian, where the grant tried to take both mines and timber; now the miners have both and can work without fear. Capital will also come in and we soon ehall see Jnlian a lively mining town, and Banner will not be behind. It is here that the famons Chariot mine is situated, also the Ready Relief, Antelope and several other of the best mines in the country. The Chariot mill is at present shut down on account of the late storm, which has made it impossible for the teame to hanl ore to the mill. When running their five stamps, they turn out from ten to twenty-five thonsand dollars per month. The ledge is from eix to fonrteen feet wide and all pay ore.

The Ready Relief ie a good mine, from one to eix feet wide and rich rock. Their water-power mill rnne night and day.

The Antelope mine has just bsen leased for three years to some parties who intend seeing what it is. This was for a long time the richest mine in the county, but had mauagement has had the sway and the mine left undeveloped, bnt it will now be worked hy miners who know how.

In Julian the Helvetia mine is to have a new mill and hoisting works immediately, and hoisting worke on the Owens mine will eoon be under steam once more. Capital seems to be coming in, and the late storms, which will insure the farmers good crops, will make lively times for this part of the county. Since the third of Decemher, fifteen inches of rain have fallen in Banner, and more in Julian. San Diego county will raise large crops this year.

OBSERVER.

The Meadow Valley Company's Mill.

Undaunted by the heavy weather, onr reporter availed himself on Sunday of the invitation of Mr. Tyrrell, euperintendent of the Meadow Valley Mining Company, to visit Lyonsville, Dry Valley, ahout ten milee distant, to inspect the mill and other property of the Meadow Valley Company at that place. Coneidering the inclemency of the eeason, the trip was a very pleaeant one, heing provided with such wrappings as are indispensable under euch circumstances. Lyonsville is quite a village, when to the mill and various workshops belonging to the company, are added the twenty honses or more dwellings occupied principally by the employés of the company. The village hae two stores, one Chineee restanrant, and a hoarding-honse, under the menagement of Mrs. C. B. Barstow, where are ample accommodations for forty or fifty hoarders.

The company's worke consist of the mill, with six batteries of five stampe each; foundry and machine shop, retort and melting room, assay office, carpenter shop and blacksmith ehop. Everything conuected with the works is first-class, and the company, by the sole aid of the workmen in its employ, can make all needed repairs. The foundry turne ont all the castings reqnired with expedition and of the very first quality. The water used in the generation of the steam by which the mill is kept iu motion ie hronght in a flume from a distance of three and one-half miles above. A eteam pipe ie run from the mill to the fonndry, a distance of five hundred yarde, eo that one set of engines keeps both mill and fonndry going. The mill is kept rnnning principally on oree from the Meadow Valley mine, which are hauled to the mill by teams. They employ for that pnrpose a large number of drivers, as well as horses and mnles. Some enstom work is also done, but not a great deal, as the yield of the Meadow Valley mine ie snfficient to keep the mill in motion. While the enow lasts, a eleigh ride to Lyonsville would be qnite a pleasant pastime, and in fine weether, when the roads are firm, no better way could be found to pass an idle day than to take a ride to Lyonsville and view the extensive works erected by the Meadow Valley Mill and Mining Company. A colossal sum has been invested by the company in the erection of the mill and other works, and it is the desire of every well-wieher of this camp that the investment may prove a remnnerative one. The company has over $25,000 worth of wood piled np for future use.

—*Pioche Record.*

Amador Canal.

Ws have from time to time received lettsrs from diffsrent localities making inqnries in rsgard to ths above named canal, the extent of country for mining, agricnltnral and mechanical purposes, to which its waters can be carried and mads available. In former issues we have frequsntly referred to the canal in a general way, but persons unacqneinted with that important enterprise wonld not be fully informed of its extent and capacity of snpply, merely from these references, and we feel justified in again bringing the canal before our readers.

The canal was begun some four years ago nnder the name of the Sutter Canal, and under its former owners wae completed to within eight miles of the point on the north fork of the Mokelumne river, from which stream, the canal will be supplied with water. The old company became embarrassed, and nntil recently, work had entirely ceased. The present company, who succeeded to all the rights of the orignal owners, took charge of the works only a few weeke ago and have let contracts to complete the last remaining eight milee that will bring the canal to its sonrce of supply. A large force of men are now, and have for eome weeke past, been actively engaged in the finishing work. The oanal in size, exclnsive of embankment, is eight feet on top, five feet on the hottom, and four feet in depth, and will we are informed, convey about 3,000 inches of water.

In length, from the point where it taps the north fork, following its sinuosities to the distributing reservoir on the divide on the sonth side of the stream above the town of Sutter Creek, the canal is 46 miles. Along the line of the canal and within reach of its waters, are large bodies of land susceptible of cnltivation either in vineyards, orcharde or vegetable gardens. The distrihuting reservoir being npon an elevated ridge, the water from this point by lateral ditches, can be distributed over a vast area of country for nse in all indnetries where the agency of water may be reqnired. It is estimated that the waters of the canal can be distributed over more than one half of the popnlated portion of the country. Along the line of the canal and within reach of the distrihnting reservoir, are extensive gravel hille that will ere long be worked profitably by hydranlic proces employing a great many men. But, our object in thie article ie to give persons who are not conversant with the canal some idea of its extent and capacity as well as of the natnre and character of the lands that can be reached by ite waters. Lande well adapted to vineyards, orchards and gardens, can be had along the canal by eimply settling npon them, and on these lands hy industry, valnable homes can be made and profit realized from the labor of cultivation. When the canal shall be completed, which will he in time to farnieh water for all purposes by early spring, a wide field will he opened np for varione industries, farming, gardening, mining, orcharde and vineyards, and with proper indnstry homes can soon be made which for comfort and profit cannot be surpassed in the State. For families, or yonng men with moderate means, or only industry and perseverance, here is the place for you ahove all others.—*Amador Ledger.*

CONSUMPTION OF HORSE-FLESH IN FRANCE.—According to the report of the Comité De la Viande de Cheval, there were consumed in Paris during the first half of the year 1897, 893 horses, asses and mnles, which supplied 106,030 kilogrammes of meat; during the ffrst half-year of 1870 (before the war), 1,992 animals were slaughtered, giving 366,440 kilogrammes of meat; lastly, during the first half of the present year, the figures amonnted respectively to 5,186 animale and 883,844 kilogrammes—not including hearts, livere, brains, tongues, etc. which are coneumed in common with those of meat cattle. The provinces exhibit, says the report, the same progress as the capital in the consnmption of horse-flesh. Horses elanghtered for consumption, fetch on an average from 125 to 150 francs each, so that the industry has added 100 francs per head to the value of worn ont, bnt not diseased horsee. In the words of the report, the pnblic wealth of France ie increased by the eating of horse-beef to the extent of 480 millione of francs. It is beyond question that horee-meat is received with considerahle favor in France, hnt the high price of bntcher's meat and general impoverishment, have doubtless considerably aided the progress of horse-butchery.

THE KEARSING MILL.—This mill having been put in excellent order and condition, has for the past few days been ponnding and grinding away on the large lot of "gonge" and refuse rock obtained from the Kennedy mine. Messrs. Kearsing Bro. and Mr. Gonway, have now at the mill 300 tone of rock and gonge from the Kennedy, and are crushing and grinding at the rate of nine tons in twenty-fonr honre' run. Judging from the gold to be seen on the plates in front of the battery, we can eafely predict a good yield from the rock and gouge now heing crushed and gronud. We herdly think any mill in the county can snrpass the Kearsing mill in saving snlphurete and fine gold, the machinery and pane for this pnrpose heing so arranged that the snlphurets are not only graded as to fineness, but it seems impoeeible for them to escape in any appreciable qnantity.—*Amador Ledger.*

MECHANICAL PROGRESS.

Aluminum as a Material for Balloons.

A writer in the N. Y. *Journal of Commerce* makes a suggestion which, if not original, merits attention:

Before dismissing "The Balloon" to the limbo of old sensations, it is worth while to inquire whether some material for the making of aerostats could not be found better than the fabrics commonly used. The objections to silk or cotton are these—that, no matter how carefully varnished or oiled, they permit the escape of gas; that they are not strong enough to resist the pressure of the gas, when made beyond a certain size; that they are easily torn; that they absorb moisture when passing through the clouds, fog or rain, necessitating the sacrifice of ballast in order to rise into sunshine, and then, as they rapidly dry, requiring the release of gas in order to check their upward flight. With silk or cotton balloons there is a constant alteration of pitching out ballast and letting off gas. Consequently, it is indispensable to put a large surplus of gas in the balloon, and also to take a large amount of ballast, or spare weight of some kind. One of the most serious obstacles to voyaging over the Atlantic in a balloon—to say nothing hero of hitting and keeping an easterly wind—is the steady, inevitable loss of gas that occurs.

If this problem of transatlantic ballooning is to be seriously attacked, the first and indispensable thing is to make a balloon free from all the objections we have mentioned. We suggest that the (comparatively) new metal, aluminum, may be found to meet the want. Its specific gravity is about one-eighth of that of gold, a fourth of silver, and less than a third of copper. It weighs less than common glass, and but little over twice as much as sea-water. Lightness is not one of the good qualities of this extraordinary metal. It is malleable like gold, and may be hammered or rolled out in sheets of extreme tenuity; and yet it is stronger and more tenacious than iron itself. Furthermore, it resists the oxidizing influence of the atmosphere. It does not rust or corrode under any circumstances, and is proof against the most biting acids in the cold. Our purpose here is not to throw ont the hint; those particularly interested in aeronantics can follow it up if they like. But there seems to be no good reason (unless the one of expense) why a balloon, or at least the upper and more exposed half, could not be successfully made from aluminum. It would not leak; it would not tear; it would last forever, barring accidents in landing, and then, if injured, it could be easily repaired. There would be some mechanical advantages in the use of a metal balloon. The valve at the top could be more accurately fitted and worked than it is at present, and automatic safety valves could be provided to relieve the balloon from too great a pressure, also gauges to mark the pressure during the process of filling. These are incidental considerations. The chief object gained is the saving of gas, and if gas can be saved up, then it is not necessary to make a very large balloon or to take along a great dead weight of ballast.

With an aluminum envelope above him, the aeronant might float about for weeks or months. It would be an advantage with this form of balloon, more than any other, to use pure hydrogen, which is considerably lighter than the street gas. Assuming, as we do, that it is possible to make a balloon of aluminum by rolling that tenacious metal down to the proper thinness, the question of expense comes into play. There is no aluminum made in this country, and none seen here save in the form of delicate balances, mathematical instruments, bronzes and ornaments. The crude article has no quoted market price in England or France, which are the chief places of manufacture. The metal is produced on a small scale now, the demand being limited, and the price is necessarily higher than that of copper or tin. It was reported some time ago that, by a new method, the cost of manufacture had been greatly cheapened, and that aluminum would soon be taking the place of other metals for some of the commonest uses. Its source of supply is unlimited. All varieties of clay contain it in abundance. It is one of the most widely distributed of the elements, though never found in a native state, but always as a carbonate or silicate, or in some other compound condition. At present prices it might be too costly for use in the quantity required for a balloon; though, as it is indestructible, there would be true economy in using it for repeated aeronantic exhibitions. If anybody to whom money is no object has his mind bent on making an air trip to Europe, he would do well to look into this subject of an aluminum balloon before committing himself too far to the hazardous enterprise.

New Churn.—A Kentuckian has invented a churn which causes the butter to appear in a very short time. The dasher-shaft, to which is attached wide arms slightly inclined, revolves in a tube, the top of which is slightly above the surface of the milk. When set in motion, the milk runs over the top and comes into the tub again from the bottom, thus causing a continuous circulation and violent agitation.

The Tunnel between England and France.

M. Deseilligny, the French Minister of Public Works, has addressed a circular to the French Prefects respecting the proposed submarine channel railway, between France and England, which is to be laid in a tunnel 34,400 metres in length, to be connected with existing railways of each country by means of subterranean lines to measure in length ten kilometres in England, and as many in France. The circular interests more immediately the Prefect of the Pas-de-Calais, but has nevertheless been addressed to the remaining local officers, requesting them to submit the plan to their respective Chambers of Commerce. Previous to the late war the company which has undertaken to build this international tunnel had petitioned the governments of England and France for aid, and for a perpetual right of way to the exclusion of every other similar international sub-marine route. Financial aid was then declined by Franco. The subsequent war threw the entire scheme into the background, and only quite recently has it been taken up again, and is now being pushed with vigor. The governments of England and France have since entered upon an exchange of views upon the subject, and while the company of its own accord waives all pretensions to financial aid from France, it still presses its petition for an exclusive right of way in perpetuity, although it is agreed by both governments that it would be inexpedient and improper to give it a permanent monopoly. Important international questions having been raised, such as the use and control of the tunnel in case of war, it will have to be discussed in the legislatures of both countries, and the circular of the French Minister is the first step toward popularizing the scheme in France.

Anthon's Sewer-Gas Trap.—This invention consists of a box, preferably cylindrical in form, and open at the top. Into the bottom of this box, the pipe leading to the sewer is inserted, which pipe extends up to some distance above the bottom. Into the side of the box, the waste-pipe from the basin, tub or sink is led, having its open end at a lower level than the upper end of the sewer-pipe. The sewer-pipe may enter at the side of the box as well as at the bottom, always provided that its open end is higher than the open end of the waste-pipe. Upon the top of the box is fitted a closely fitting cover, which is used to exclude the gases and prevent overflow through the waste-pipe, in case the sewer-pipe becomes partially closed. The cover is held by a bayonet joint to the body of the trap. The cover has an outer flange extending nearly to the bottom of the trap. The inner flange has an annular bottom. The fluid from the waste-pipe, rising around and above the bottom edge of the inner flange of the cover, effectually seals the trap, so that no gases can escape, except by forcing off the cover. It will be seen that it is impossible for this trap to syphon out—as it is called—a difficulty with the old style of sewer gas traps, which when it occurs, leaves no obstacle to the escape of sewer gas into the house.—*Scien. Amer.*

A Wonderful Agricultural Machine.—Here is what an English exchange—*Iron*—says about a reported invention: "Our enterprising American cousins are not content with machines designed to perform ordinary operations in agriculture, but they devise extraordinary operations, and then proceed to invent machines to carry them out. In this country we are satisfied to wait a while after reaping before we begin to plough for another crop. At St. Louis, a machine is being built which is designed to cut and take up grain, and at the same time to plough and seed the ground. Surely the ingenuity of agricultural machinists cannot transcend this."

We hear of the construction at Cronstadt of a submarine vessel of enormous dimensions, in which two thousand tons of iron and steel have been employed, which is propelled by two powerful air-engines, will be armed with a powerful ram, and will carry all the means for fixing to the hulls of vessels large cylinders of powder which it can afterwards explode by electricity. Two glass eyes will enable the crew to find their way about, and they may choose their course at what depth they please below water.

Mr. Friedrich Asthoewer, engineer, of Witten, Prussia, in the construction of steel rails, combines hard ingots or blocks of steel, in the process of casting, with laminæ of soft steel or wrought iron, in such a manner that the latter, in undergoing the rolling process, may assume an internal position; thus combining a certain amount of elasticity, ductility and toughness in the interior, in resistance to fracture, with a hard exterior to undergo wear and abrasion. The details of the process—not the idea—are new.

Another Perpetual Motion. — J. W. S. writes to the *Scientific American* to say that he has a perpetual motion in running order, and he will dispose of it for $2,000,000 for a "plot;" but if he has to carry it to Washington, he will ask $5,000,000. The *Scientific American* replies: "The existing financial crisis will, we fear, prevent our correspondent from receiving either of the sums he mentions."

SCIENTIFIC PROGRESS.

On Atmospheric Ozone.

M. Houzeau, a distinguished French physicist, has made critical examination of that elusive substance, ozone. In a paper written by him, a portion of which we republish, the author, after giving a history of the researches upon atmospheric ozone since its discovery by Schoubein, describes the reagent with which his own observations have been made, namely, red litmus-paper impregnated over half its surface with a one per cent. neutral solution of potassium iodide.

This paper in contact with ozone assumes a blue color only in the part impregnated with the iodide, this change of color being due, not to the liberation of iodine, but to oxidation of potassium, the alkali thus formed changing the color of the litmus. In this respect the iodized litmus-paper is preferable to iodized starch-paper (Schonbein's reagent), which turns blue when the iodine is set free, and will therefore exhibit this reaction over its entire surface under the influence of free acids, especially nitrous acid, as well as of ozone. The part of the litmus-paper which is not iodized serves to reveal the accidental presence in the air of alkaline vapors (free ammonia, ammonium carbonate, etc.), which turn the red litmus-paper blue throughout its whole length; it is impossible, therefore, to mistake the indications. Moreover, the iodized litmus-paper cannot be turned blue by chlorine, bromine, etc., since chloride and bromide of potassium are neutral.

From a large number of observations made with this reagent in various localities and at different times of the year, the following conclusions are drawn:—

1. The air of the country contains an odoriferous and oxidizing principle which imparts to it a peculiar odor, and the power of blueing iodized red litmus-paper; also of decolorizing blue litmus-paper without previously reddening it; and of destroying certain bad smells.
2. That this principle is ozone.
3. That ozone exists in the air normally, but that the intensity with which it acts at any given point of the atmosphere is often very variable.
4. That the air of the country contains at most about 1-450000 of its weight, or 1-700000 of its volume of ozone.
5. That the manifestation of ozone by all the iodized litmus-papers is much more frequent in the country than in town.
6. That this difference may be due to the greater circulation of air in the fields.
7. That at Rouen, the frequency of the ozone-manifestations varies with the seasons, being greatest in spring, strong in summer, weaker in autumn, and still weaker in winter.
8. The maximum of ozone manifestation occurs in May and June (15 ozone days per month), and the minimum in December and January (4 ozone days per month).
9. That with respect to the frequency of ozone manifestations the meteorological year in our climates, may be divided into two great seasons: the *very active season* (spring and summer), comprizing 78 ozone days, and the *feebly active season* (autumn and winter), including 32.
10. That in general ozone shows itself most frequently on rainy days (48 ozone days in a hundred of rain, to 28 in a hundred of fine weather).
11. That winds, according to their strength, exert the greatest influence on the manifestation of ozone (24 ozone days in 100 when the air was calm or but slightly agitated, and 60 in 100 when the air was greatly disturbed).
12. That at Rouen, the largest number of ozone days occur when the wind is in the west or southwest, the smallest number when it is in the east.
13. That most frequently an exaggerated manifestation of ozone is in intimate relation to the great atmospheric perturbations, known as storms, gales and hurricanes.
14. That these great commotions of the atmosphere act at very great distances. Sometimes they momentarily effect the ozone of entire towns and localities, which nevertheless continue to enjoy very fine weather.
15. That atmospheric electricity appears to be the most active cause of the formation of atmospheric ozone.

Coating Fabrics with Tin.—According to Richard Jacobsen, linen and cotton goods may be covered with a thick and flexible film of tin, which gives to them a very silvery appearance. The method to be adopted is as follows: Ordinary commercial zinc-dust is rubbed up with a solution of egg albumen to a thin paste, and applied to the goods with a brush or roller. When dry, this coating is fixed by coagulating the albumen with steam, and the fabric is then placed in a solution of bichloride of tin. The tin is precipitated upon the zinc in a very finely divided state. The stuff is then washed with water, and, after drying, put through the finishing-machine, when the tin comes out with a brilliant luster. A very beautiful effect may be produced by printing different designs in this way, or applying the material with stencil plates, and its use may be extended to decorations. It is even possible that this strong, elegant, and waterproof material may yet replace tin-foil for packing certain articles.

Flooding the Sahara.

The following letter of M. Tallichet to the editor of *Appleton's Journal* explains itself. The position maintained by the writer appears to be perfectly tenable. Would anyone but a Frenchman originate the idea of flooding the great desert for climatic improvement?

Having read in the "Scientific Notes" for your issue of November 1st a paragraph on a paper read before the French Geographical Society by Captain Baudelaire, in which he urges the feasibility of creating an interior sea in the Desert of Sahara, will you allow me the privilege of asking, through your valuable paper, the answer to one question—not as to the feasibility of the plan, but as to its ultimate effects upon Europe after it is accomplished?

It is a well-known fact that the direct rays of the sun do but little toward melting the snow and ice accumulated on the Alps during the winter; and all persons who have lived in Switzerland know that the wind called *Vaudaire, or Föhn*, which is the dying breath of the African simoom, often causes the waters of the lake of Geneva and other Alpine reservoirs to rise several feet in the course of twenty-four or thirty-six hours, and thus shows that wind to be the chief agent in reducing the Alpine glaciers.

If the Sahara, instead of being a desert, were a sea, would the simoom still reach the Alps? And if it did, would its heat not be so considerably reduced as to have little or no effect upon the glaciers? And is it not a safe speculation to make that the glaciers would, in course of time, spread all over Switzerland, and perhaps over a large part of Europe?

A point in favor of my theory is, that all geographers concede the Sahara to be the bed of a dried-up inland sea; while eminent scientists see in the granite boulders found over a large portion of Europe a proof that, during a prehistoric period, all that country was covered with glaciers. Is it not safe to argue that these two facts were cause and effect, and that, by restoring the cause by the creation of an inland sea in Africa, the climate of Europe would be most seriously affected?

A Step Forward.—It is announced that Mr. A Ladiguin, of St. Petersburg, has overcome the difficulties which have hitherto stood in the way of applying the magneto-electric light to the purposes of illumination. He has constructed a machine, rotated by a three-horse power engine, which, he declares, can keep several hundred lamps going, the lights being regulated by a simple contrivance. Hitherto the want of steadiness has been objectionable, and was caused by its dependence on the uniform proximity of two carbon points, which, when heated by the current and exposed the air, were rapidly burnt away. In Mr. Ladiguin's invention, only one piece of charcoal is necessary. This is connected with the electro-magnetic machine, and inclosed in a glass tube from which the air is extracted. The tube is then filled with gas which will not combine with the charcoal at a high temperature, and hermetically sealed. On the machine being set in motion the charcoal becomes gradually and equally heated, and emits a soft, steady light, which will burn at the bottom of a mine, or even at the bottom of a river, as readily as in a street lamp, and at about one-fifth of the cost of coal gas. It is said that this discovery is at once practical and simple, and it is to be experimented on in Paris, Vienna and London with little further delay. Even as a safety lamp in mines its value would be incalculable if it stands the test of trial.

An English exchange has the following description of an ingenious, but most likely impracticable process for economizing fuel in puddling and blast furnace uses: "Mr. W. Mickle, of Tynemouth, proposes to draw coke from a retort (in which coal has been treated by dry distillation) at a red or white heat, into iron tubs, without having it cooled by water, and to convey it to the smelting furnace, to be used as fuel. With the coke he proposes to combine the use of coal gas and the naptha or other combustible oil or spirit obtained from the coal used for smelting, the gas being pumped from an ordinary gasholder erected for the purpose, by engine power, and conveyed into the furnace through pipes and tuyeres in the usual manner. By this process, which he also proposes to apply to puddling furnaces, Mr. Mickle expects to dispense with calcining and heating stoves; to diminish the available air-blast power required about one-fourth, and to make eight to ten cwt. of the gas produced and heated coke sufficient to melt one ton of metal, inclusive of what is required for the deoxidation of the ore and the carburization of metal."

The success of micro-photography, as a means of transmitting dispatches, so clearly demonstrated during the Franco-Prussian war, has suggested to a French engineer the possibility of establishing a general system of communication on this principle. In order to effect this, it is proposed to reduce messages photographically to microscopic size, and then, having inclosed them in metallic spheres or other vessels, to blow them through a tube under the Straits of Dover. At the office where the message is received, it would again be restored to full size, and would then be forwarded by post or regular telegraph. As the two systems here combined have both been successfully tested, there seems no reason why the scheme should not prove a success. A point in its favor is that, in case the conveying vessel is a sphere, the tube need not of necessity lie in a straight line, provided the curves be not too abrupt.

Weekly Variations in Stocks.

[Based on Regular Sales of all Stocks in the San Francisco Stock and Exchange Board.]

For 6 days ending Wednesday, Dec. 24, 1873.

NAME OF COMPANY.	SHARES IN MINE.	SHARES IN MINE.	HIGHEST.	LOWEST.	ADVANCE.	DECLINE.
WASHOE.						
Alamo Gold and S. M. Co			4¾	4		¾
Alpha Consolidated	300	6000	66	47½	9	
Alta	3600					
American Flat		30000	8	6½		1
Arizona & Utah	1900	18000	3½	2		½
Bacon Mill & Mining Co.	65	24000	6½	4		1½
Baltimore Consolidated		54000	9	7¾		1¼
Belcher	1030	10 1000	102	90	6	
Best & Belcher	224	22400	33	22½	4	
Bowers	20	5000				
Buckeye		16000	2½	1½		½
Bullion	2500	25000	31	24		½
Caledonia Silver M. Co	5000	20000	35½	27		½
Central	150	10800	8½	63	20	
Central No. Two	100	20000	46	25	23	
Challar	2300	28000	74	56½		1
Confidence Silver M. Co	130	24960	14½	12	2	
Cons. Gold Hill Quartz	34½	20000	3¼	2½		½
Consolidated Virginia	1169	108000	82	70	3	
Cook & Geyer	1600	32000				
Crown Point G. & S. M. Co	600	100000	105	99		2
Dancy	2000	24000	3¾	3		¼
Dardanelles	1200	24000	2	1⅞		
Eclipse	70	20000	3½	1		2½
Empire Mill & M. Co	75	50000	5½	5	1⅞	
Exchequer	400	8000	42	32	2	
Fairmount			3¼	3		¼
Flowery	3000	12000				
Franklin			3¼			¾
Globe		20000	2¼	1¾		¾
Gould & Curry S. M. Co	1200	48000	27	19	1	
Hale & Norcross	400	16000	61	42	7	
Imperial	184	100000	7¾	6⅞		⅞
Indus						
Insurance	2000	30000				
Jacob Little			1¼	1		¼
Julia Gold and S. M. Co	2000	30000	7	6¼		¾
Justice	3000	21000	13	9		1¾
Kentuck	95	30000	20	18		6
Knickerhocker	1200	24000	8	6		¾
Lady Bryan						
McMeans	3000	36000				
Mint Gold & S. M. Co	1600	50000				
Nevada	3000	40000	2¼	2		⅛
New York Consolidated	3600	36000	5¼	3¾		¾
Occidental	800	10000	4½	3		7
Ophir Silver Mining Co	1400	28000	185	139	29	
Overman Silver M. Co	1200	37400	80	48	20	
Phil. Sheridan	1200	24000				
Pictoo	2000	30000	60c	50c		10c
Rock Island		24000	2½	1⅝		⅝
Savage	800	16000	38	32	10	
Segregated Belcher	160	6400	115	93	1	
Segregated Caledonia		10000				
Sep. Rock Island			80c	60c		20c
Senator Silver M. Co		24000	¾			1⅛
Sierra Nevada		24000	28	22½		½
Silver Hill		20000	15	13¼		2
South Comstock			2½	2⅛		
South Overman		24000	1¾	1½		¾
Succor Mill and M. Co	2400	22500	3¾	3½		¾
Sutro		24000	4½	3½		½
Trench	20	5000	7½	5½		½
Tyler	2200	33000	1½	1		
Union Consolidated	803	20000	16½	13	1	
Utah		40000	12	9½		½
Woodville G. & S. M. Co	1400	28000	2¾	2¼		⅞
Yellow Jacket	1200	24000	90	80		3½
NEVADA.						
Adams Hill		50000				
Alps Silver Mining Co	600	30000	¾	¾		
Amador Tunnel & M. Co						
American Flag M. & M		30000	5¼	4		½
Arkansas	300	30000				
Belmont			2½	2¼		¼
Bowery		30000	1	75c		
Chapman Mill & M. Co		30000				
Charter Oak S. M. Co	1000	30000				
Chief of the Hill		30000		1½		½
Chief East Extension		30000	¾	¾		10c
Columbus M. & M. Co	10000	50000				
Condor		25000				
El Dorado South			6	5½		½
Eureka Consolidated		50000	10	9½		½
Excelsior		12000				
Harper Silver Mining Co		30000				
Hayes			1½	1⅜		⅛
Hermes	1000	30000				
Home Ticket						
Huhn & Hunt S. M. Co	3600	30000	1¾	1½		¼
Ingomar Silver M. Co	1000	40000	⅔	60c	15c	
Ivanhoe		30000				
Jackson		30000				
Josephine		50000	2	2		
Juniata Consolidated	5000	50000	4	3½		
K. K. Consolidated						
Kentucky Gold & S. Co	1000	20000				
Kinston	1000	30000				
Lehigh	1000	30000				
Lillian Hall	1000	15000				
Louise	2400	30000	40c	40c	10c	
McMahon	1000	30000				
Marion		30000				
Meadow Valley	24023	60000	13¾	13		¾
Mocking-Bird	1200	30000				
Monitor-Belmont			6	5½		½
Murphy	2000	60000				
Newark Silver M. Co	800	32000	2⅞	2		⅜
Pacific Tunnel & M. Co						
Page & Panaca S. M. Co	2400	40000	3¼	2⅞		⅜
Peavine	1000	30000				
Phœnix		50000				
Pioche Silver Mining Co	1000	20000	9	6	3¼	
Pioche West Extension		35000				
Piochs-Phœnix		40000				
Portland						
Raymond & Ely	5000	30000	51	46		4
Rye Patch		30000	11¼	10½		¾
Silver Peak			1¾	1¼		½
SilverWest Consolidated		30000				
Standard Mill and M. Co						
Star Consolidated	18000	50000				
Starlight	6900	25000				
Sterling		20000				
Spring Mount		35000				
Spring Mountain Tunnel		20000				
Ward Beecher						
Washington and Creole	500	30000	4¾	4		⅜
Watson			5¼	5	2¼	
Yellowstone						
CALIFORNIA.						
Alpine	1200	12000				
Bellevue	3000	20000				
Calaveras Gold M. Co	3200	20000				
Cederberg Gold M. Co		24000				
Consolidated Amador						
Cottonwood Creek		20000				
Dunderberg M. & M. Co						
El Dorado Ind. Quartz M						
Eureka Gold Mining Co	1680	20000	18	17½		½
Gillis		24000				
Independent Gold M. Co	1800	25000	2¾	2½		⅜
Keystone Quartz		10000				
Mt. Jefferson	1500	25000				
Oakville Quartz M Co						
St. Lawrence M. & M. Co						
St. Patrick	1800	20000	9½	6⅞	1½	
Tecumseh	3000	30000				
Yule Gravel	400	10000				
IDAHO.						
Empire						
Golden Chariot		25000	4¾	4		¼
Ida Elmore	750	30000	21	19½		1
Mahogany G. & S. M. Co	1300	10000				
Minnesota Gold & Silver	720	10000	5½	3½		½
Red Jacket	1070	20000				
South Chariot			2	2		
War Eagle	660	20000	12	11		
WHITE PINE.	1000	10000				
General Lee						
Mammoth Silver M. Co	1000	20000				
Vanday	1800	36000	¼	20c		
Hidden Treasure	1000	20000				
er Wave	800	21333	27½	23½		⅛
Beecher						
UTAH.		24000				
eret Consolidated						
lington	2400	30000				
EGON.		50000				
OR	3309	20000				

MINING SHAREHOLDERS' DIRECTORY.

Compiled every Thursday from Advertisements in the Mining and Scientific Press and other S. F. Journals.]

NOTE.—In the Stock Boards an assessment is delinquent thirty days from the date of levy, exclusive hat date. The delinquent dates given in this list are those of the mining offices.

ASSESSMENTS.—STOCKS ON THE LIST OF THE BOARDS.

Company.	Location.	No.	Amt. Levied.	Delinq'nt.	Sale.	Secretary.	Place of Business.
Arizona & Utah M. Co.	Washoe.	7	50	Nov 11	Dec 15	Jan 3	J. Maguire,	419 California st
Alpha Cons M. Co	Gold Hill, Nev.	6	2 00	Nov 11	Dec 15	Jan 3	Wm. Willis,	419 California st
Bowers Tunnel M. Co.	Ely District.	4	50	Nov 5	Dec 16	Jan 9	G. E. Elliott,	419 California st
Baltimore Cons. M. Co.	Cold Hill.	4	1 00	Nov 18	Dec 23	Jan 14	D. T. Bayley,	401 California st
Buckeye G & S M Co	Nev	9	1 00	Dec 18	Jan 20	Feb 7	J Maguire	419 California street
Caledonia S. M. Co.	Washoe.	6	3 00	Nov 13	Dec 18	Jan 8	R. Wegener.	414 California st
Caroline M. Co.	Ely District.	3	30	Nov 11	Dec 22	Jan 15	G. E. Elliott.	419 California st
Dardanelles M. Co.	Cal.		1 00	Nov 4	Dec 8	Dec 29	J. L. King,	434 California st
Empire M & M Co	Gold Hill	14	1 00	Dec 18	Jan 26	Feb 16	G R Spinney	320 California street
Gould & Curry S. M. Co.	Washoe.	20	1 50	Nov 14	Dec 16	Jan 7	A. K. Doerhorn,	Merchant's Ex.
Huhn & Hunt S. M Co	Ely District	4	50	Dec 22	Jan 29	Feb 23	T. L. Kimball	419 California st
Ophir M Co	Nev	8	2 00	Dec 17	Jan 19	Feb 6	R Wegener	414 California street
Knickerbocker M. Co.	Am. Flat.	7	1 50	Nov 16	Dec 13	Jan 2	H. Boyle,	Stevenson's Bldg
Mahogany G & S M Co	Idaho		2 00	Dec 18	Jan 24	Feb 17	T J Owens	Express Building
Mint G. & S. M. Co.	Washoe.		10	Nov 28	Dec 31	Jan 22	D. A. Jennings,	401 California st
Ophir Slopes G. & M. Co.	Cal.		10	Nov 12	Dec 13	Jan 5	A. H. Bogart.	411½ California st
Overman S M Co	Gold Hill	28	2 00	Dec 23	Jan 27	Feb 13	W W Stetson	414 California street
Pioche S. M. Co.	Ely District.	5	1 00	Oct 30	Dec 10	Jan 6	C. E. Elliott	419 California st
Rye Patch Cons. M. Co.	Nev.		1 00	Nov 7	Dec 15	Jan 6	D. F. Verdenal.	409 California st
Silver Hill M. Co.	Washoe.	2	2 00	Nov 14	Dec 16	Jan 5	W. E. Dean,	419 California st
Savage M. Co.	Washoe.		5 00	Dec 3	Jan 6	Jan 26	E. B. Holmes	419 California st
Sierra Nevada S. M. Co.	Washoe.	37	2 50	Nov 14	Dec 22	Jan 12	R. Wegener,	414 California st
Senator S. M. Co.	Washoe.	9	50	Nov 26	Dec 29	Jan 19	Henry Boyle,	Stevenson's Bldg
Utah S. M. Co.	Washoe.	4	1 00	Dec 8	Jan 9	Jan 28	W. E. Dean.	419 California st
War Eagle M. Co.	Idaho.	3	1 50	Nov 18	Dec 24	Jan 15	L. Kaplan,	Merchant's Ex

OTHER COMPANIES—NOT ON THE LISTS OF THE BOARDS.

American Flag M & M Co	Ely Dist	4	1 00	Dec 16	Jan 21	Feb 19	G R Spinney,	320 California st
Alpha Cons. M. Co.	Gold Hill, Nev.	6	3 00	Nov 11	Dec 15	Jan 5	Wm. Willis,	419 California s
Auburn G. M. Co.	Placer Co.	6	50	Nov 17	Dec 23	Jan 12	R. Wegener,	414 California st
Bunker Hill Q. M. Co.	Amador Co.	12	10 00	Nov 12	Dec 20	Jan 12	W. L. Palmer,	19 Fir st
Atlantic & Pacific Cons. G. M. Co.	Cal.	6	6	Oct 6	Dec 5	Jan 5	A. Noel,	419 California st,
Black Mountain Coal M. Co.	Cal.			2½ Oct 8	Dec 1	Dec 29	W. H. Parshley,	602 Montgomery st.
City Paving Co.	S. F.	1	4 00	Oct 2	Nov 6	Nov 28	W. Firdcrer,	513 Monty y st
Columbus M. & M. Co.	Esmeralda Nev.		50	Nov 26	Dec 31	Jan 26	B. B. Minor,	411½ California st
Com Coal M Co	Cal		50	Dec 16	Jan 23	Feb 25	S H Hanson	402 Montgomery st
Eureka M. & S. Co.	Eureka, Nev.	3	25	Nov 11	Dec 13	Jan 2	T. P. Beach,	217 Sansome street
Esta Anema Cons. M. Co.	Nye Co. Nev.	3	50	Dec 3	Jan 8	Feb 7	A. Noel,	419 California st
Forest Coal M. Co.	Santa Cruz Co.		32½	Dec 8	Jan 5	Jan 26	C. E. Burroughs,	402 Montgomery s
Gold Canon Cons. M. Co.	Gold Hill.		5	Nov 21	Dec 30	Jan 19	A. A. Pardow,	424 California st
Great Blue Gravel R. M. Co.	Cal.		10	Nov 20	Dec 22	Jan 12	W. H. Watson,	302 Montgomery st
Gold. Mountain M. Co.	Amador Co Cal.		25	Oct 31	Dec 13	Jan 5	W. Knapp,	116 Liedesdorff st
Hidden Treasure M Co	White Pine		1 00	Dec 13	Jan 17	Feb 11	D A Jennings,	401 California st
Ingomar S. M. Co.	Ely District.	6	25	Nov 6	Dec 6	Jan 8	C. S. Neal,	419 California st
Independence Con. M. Co.	Grass Valley		10	Nov 3	Dec 9	Dec 29	F. J. Herrmann.	418 Kearny st.
Knickerhocker M. Co.	American Flat	7	1 50	Nov 10	Dec 13	Jan 2	Henry Boyle,	Stevenson's Building
Kentucky G. & S. M. Co.	Arizona.		6	Dec 3	Jan 5	Jan 21	T. L. Kimball	419 California st
Lamb & Kurtz Carihou M Co	Brit Col		3 00	Dec 11	Jan 12	Feb 2	B B Minor	411½ California st
Moreau Machine Mfg. Co.	S F.	4	10	Dec 3	Jan 17	Feb 9	W. B Isaacs,	304 Pine street
N. S. F. Homestead & Railroad Assn.			2 00	Dec 1	Jan 3	Jan 26	A. D. Smith,	314 California st
North Pork M. Co.	Plumas Co. Cal.	1	1 00	Nov 7	Dec 11	Jan 3	A Martin,	Sacramento City
Newark S. M. Co.	Ely District.	5	1 50	Dec 1	Jan 8	Feb 4	D. T. Bagley,	401 California st
New York Cons M Co	Washoe	7	50	Dec 13	Jan 15	Feb 2	H C Kibbe	419 California st
Ohio Con M Co	Cal		20	Dec 17	Jan 17	Feb 9	W Aug Knapp	116 Liedesdorf st
Pacific Associtos Co.	Placer Co. Cal.		6	Nov 17	Dec 22	Jan 21	H B Longdon,	306 Montgomery st
Pocohontas G M Co	El Dorado Co Cal		50	Dec 18	Jan 23	Feb 16	D A Jennings	401 California street
Seattle Coal & T Co	W T		1 00	Dec 11	Jan 22	Feb 19	H L Hutchinson	537 Market street
South Chariot M. Co.	Idaho.	8	1 00	Nov 14	Dec 12	Jan 14	Frank Swift,	419 Californiast
St. Lawrence M. & M. Co.	Placer Co.	4	25	Dec 1	Jan 5	Jan 22	R. B. Noyes,	411½ California st
Thompson Coal M. Co.	Cal.			2½ Oct 8	Dec 1	Dec 29	W. H. Parshley,	602 Montgomery st.
Washington M. Co.	Mariposa Co. Cal.		1 00	Oct 30	Dec 8	Dec 31	T. B. Wingard,	318 California st
Woodville G. & S M. Co.	Gold Hill Nov.	4	1 00	Nov 12	Dec 16	Jan 5	A. Noel,	419 Californiast st
Wonder G. M. Co.	Cal.	1	10	Nov 5	Dec 15	Jan 5	H. C. Howard.	332 Montgomery st
Wellington M & S Co	Utah	3	50	Dec 11	Jan 22	Feb 12	R Wegener	414 California st
Ward Beecher Con M Co	White Pine		1 50	Dec 13	Jan 19	Feb 10	D A Jennings	401 California st

MEETINGS TO BE HELD.

Name of Co.	Location.	Secretary.	Office in S. F.	Meeting.	Date.
Antilles M Co	Ely District	E S Kerrst Pres	6 Liedesdorf st	Special	Jan 5
California Academy of Sciences	S F	Chas H Yale	622 Clay street	Annual	Jan 6
Central S M Co		Wm Willis	419 California street	Annual	Jan 12
Cons Washoe M Co	Washoe	M White Pres	6 Liedesdorf st	Special	Jan 6
Cons Virginia M Co	Washoe	D T Bagley	401 California st	Annual	Jan 8
Ophir S M Co	Washoe	Called by Trustess	419 California st	Special	Jan 21
Pacific Powder Co	S F	J F Nesmith	402 Front street	Annual	Jan 2
Phenix S M Co	Nev	J Maguire	419 California st	Special	Dec 30
Ruhy Hill M Co	Nev	F W Van Winkle,	304 California st	Annual	Jan 8
San Joaquin & Kings River Irriga'ion Co		G W Holmes	418 California street	Adjourned	Jan 15
Tecumseh G S & C M Co		F J Herrmann	418 Kearny street	Special	Jan 2

LATEST DIVIDENDS—MINING INCORPORATIONS.

Name of Co.	Location.	Secretary.	Office in S. F.	Amount.	Payable
Black Bear Quartz M. Co.		W. L. Oliver.	216 California st.	30	Oct 17
Black Diamond Coal Co.	California.	F. B. Gorwall.	Cor. Harrison & Spear.	½ per cent	Mar. 10
Belcher M. Co.	Washoe.	H. C. Kibbe,	419 California st.	5 00	Dec 10
Crown Point G. & S. M. Co.	Washoe.	C. E. Elliot,	419 California St.	3 00	Dec 10
Cederberg G. M. Co.	California.	D. M. Bokes.	420 Montgomery St.	50	Feb. 9
Con. Amador M. Co.	Cal.	F. B. Lathrop.	402 Montgomery St.	50	Dec 5
Derby Con. Co.		F. Cunningham,	301 Monig'y st	50	Nov 25
Diana M. Co.		N. C. Fasset.	220 Clay St.	1 00	Jan. 20
Eureka M. Co.	Grass Valley, Cal.	R. Wegener,	414 California st	1 00	Dec 1
Eastport Coos Bay Coal.	Oregon.	J. L. Pool,	Merchants' Ex.	5 00	Apr. 1
Eureka Consolidated M. Co.	Nevada.	W. W. Traylor.	419 California st.	1 00	Sept 17
Golden Chariot M. Co.	Idaho	L. Kaplan.	Merchants' Ex	2 50	Oct 24
K. K. Consolidated M. Co.		B. B. Minor,	411½ California St.	25	Oct 15
La Grange Ditch & Mining Co.		R. Athey,	312 Montgomery St.		Aug 12
Minnesota G. & S. M. Co.		Wm. Willis,	419 California st	1 50	Sept 12
Meadow Valley M. Co.	Ely District.	T. W. Colburn.	409 California St.	1 00	July 15
Mahogany G. & S. M. Co.	Idaho.	E. McFadden.	402 Mont'gry, St.	1 50	Aug. 1
Monitor-Belmont M. Co.	Nevada.	B. B. Minor.	411½ California St.	50	Dec. 5
Providence G. & S. M. Co.		J. M. Baffington.	Merchants' Ex.	1 00	Nov. 1
Raymond & Ely M. Co.	Ely Dist., Nev.	A. J Moulder	419 California St.	3 00	Sept 10

Our Weekly Stock Review.

WEDNESDAY EVE., Dec. 24, 1873.

There has been a very large business done in mining stocks during the past week, and prices have been high and sales active. The expectation that all the mines on the Comstock will eventually make developments on the continuous ore body of the lodge, has quickened transactions in their stocks and inspired confidence in the mines. This rise in values has caused an increase in the number of new incorporations which have filed their certificates during the past few weeks. Some of these may be valuable; others again are doubtless "wild cats."

The development in Ophir has been one of the exciting features of the past few weeks. This development, with that of others recently, is important, as it shows the permanency of the ore deposits in the Comstock. This is referred to more at length in our "Mining Summary" in this issue. A special meeting of the Ophir Company has been called for the 21st of January, to take into consideration and decide upon the proposition to increase the capital stock of said company from $5,040,000, divided into 16,800 shares of the par value of $300 per share, the present capital stock of the company, to $10,080,000, divided into 100,800 shares of the par value of $100 per share.

The dispute between the Belchor and Crown Point companies, relative to the boundary line between them and the ore alleged to have been taken by the Belcher from the Crown Point through an incorrect survey, has been finally and satisfactorily compromised, by the Belcher company agreeing to pay the Crown Point $275,000 and relinquishing all claim to the ground in dispute. According to the most accurate survey, the Belcher company were found to have worked fifteen feet over their line at their 1,400 or lowest working level, and a proportionately less number of feet at each level above, up to the 900-foot level, where the variation commenced. The dispute was amicably settled, without resort to law or the courts, and the money has been paid.

In speaking of the developments on the Comstock, the *Alta* says that the developments that are making along the whole ledge at great depths are gradually demonstrating the continuity of the ore at perhaps a level of 2,000 feet. It has become pretty well settled that the ledge extending from the Sierra Nevada on the north, running south to the Seg. Belcher and Overman, curves towards Silver City, embracing what is known as the Lower Comstock mines, making three distinct sections—the Virginia mines, the Gold Hill and the Lower Comstock. These latter mines are now coming into notice under very favorable circumstances, including the Justice, Silver Hill, Dayton, Kossuth, Genessee, Daney, etc. The descent of the ground in that direction is rapid, and the distinct vein of the Comstock crops out at lesser depths than above, directing attention towards it by many, who think the Lower Comstock will be, in the future, by no means the least productive portion of the great Comstock ledge.

As showing the buoyancy of the market we quote the closing prices of the 22d: Best and Belcher was $4 higher than on the previous days; Belcher, $3; Crown Point, $1; Con. Virginia, $4; Central No. 2, $4; Challar, $3; Gould & Curry, $1; Ophir, $6; Overman, $20; Caledonia, $7; Central, $10; Hale & Norcross, $12; Savage, $10; Jacket, $5.

At the close of Tuesday's Board Best & Belcher was $2.50 higher; Belcher, $1; Crown Point, $5; Challar, $8; Con. Virginia, $1, Gould & Curry, $3; Savage, $12; Hale & Norcross, $3; Ophir, $30; Central, $3; Overman, $2; Seg. Belcher, $2.

Our Stock Tables show the Market Prices only up to Tuesday night this week, as we go to press one day earlier than usual, on account of the holidays; and, moreover, the Stock Board only holds one session on Wednesday.

Notices of Recent Patents.

Among the Patents recently obtained through Dewey & Co's. MINING AND SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of mention:

WIRE ROPE TRAMWAYS.—C. W. E. Bunster, Valparaiso, Chili. This invention relates to an improved pulley for supporting the endless wire rope which is used for transporting anhstances from one place to another, and consists of two pulleys, each of which is provided with inclined fingers forming an inverted conical series of flats. The two pulleys are so arranged that their fingers interlock and serve as teeth to drive each other, and also to support the wire rope in the angle formed by their covering each other. By this means the load can be depended in a direct line below the wire rope, and the hanger or connecting rod will pass between the fingers of the pulleys readily.

HYDRAULIC ELEVATOR.—Philip Hinkle, San Francisco, Cal. This patent covers a novel application of hydraulic power for raising and lowering a cage or platform for hoisting purposes, and is especially useful for operating a passenger hoist. One or more cylinders are mounted on wheels, and the wheels move on a track similar to an ordinary railway track. Each cylinder is provided with a stationary piston and hollow piston rod. Water is admitted between the stationary piston and end of the cylinder through the hollow piston rod, so that the pressure causes the cylinder to travel on its track and raise the cage or platform. By releasing the water from the cylinder the weight of the descending cage will draw the cylinder back to its first position.

SHEEP SHEARS.—Andrew S. McWilliams, Colusa, Cal. Mr. McWilliams provides ordinary sheep shears with an elastic thumb plate and rest upon one branch of the shears and finger saddle upon the opposite branch, so that the operator will have a better grasp upon the shears, while his fingers and thumb, being provided with convenient and neatly fitting seats, will not become fatigued by the operation of shearing, while they also form guards and prevent accident to the fingers and thumb.

STEAM PLOW.—P. J. McDonald, San Francisco, Cal. In this invention Mr. McDonald combines the English Fowler system of operating steam plows with the American system of dragging a series of plows after a traction engine over the field. Mr. McDonald provides an ordinary traction engine with ways or guiding beams extending twenty or thirty feet upon each side of the engine. The plows to any desired number are mounted upon these ways and are drawn by a rope towards each other and towards the engine. After making each cut of forty or sixty feet, the plows are hauled back along the ways by another rope to the outer end of the ways, ready to make another cut. While the two gangs of plows are in the ground and moving towards each other, the engine remains stationary, but when the plows are being hauled to the outer ends of the ways, empty, the engine moves forward to the proper position to give the plows a new land. The main driving shaft is driven uniformly in one direction by the engine, and the changes of motion necessary to move the plows back and forth along the ways, are accomplished by ingeniously arranged mechanism, which is very simple and effective. Thus the engine alternately moves forward into position and remains stationary, while the plows are working, cutting a land of forty or sixty feet in width as it proceeds according to the length of the ways employed.

SADDLE FOR WIRE ROPEWAYS.—Thomas M. Martin, San Francisco, Cal. This invention relates to a saddle for supporting the load upon wire ropeways, which is provided with an inside lining of india-rubber, for the purpose of giving great adhesion to the rope, as well as a perfect seat of the saddle upon the rope.

TYPE.—William Shaw, Holliater, Monterey Co., Cal. This invention is intended for the benefit of printers, and it consists in making types with a small shoulder at some point of their length, so that in correcting a "proof" any letter can be readily removed by inserting a thin hooklike having a hook formed on its end, so that the hook will catch upon the shoulder and allow the type to be raised vertically without disturbing any of the adjoining type.

SCRUBBING BRUSH AND MOP COMBINED.—J. D. Smith, Sacramento, Cal. This invention is intended to benefit housekeepers, and it consists of a very neat long handled scrubbing brush, which is combined with a mop cloth so that the entire operation of scrubbing, mopping and wringing the mop cloth can be done without knee work, as is usually necessary in order to do good work.

DEVICE FOR UNLOADING HEADER WAGONS.—Richard Threlfall, Centerville, Cal. Heretofore header wagons have been unloaded by means of forks operated from a swinging derrick or crane, but this method is too slow to keep the threshers supplied with a uniform feed. Mr. Threlfall proposes to spread a netting or other fabric over the bottom of the wagon bed and fill the grain into the wagon bed upon the netting, and when it is desired to unload the grain the corners of the netting or fabric are gathered together, and the crane employed for lifting the entire load out at one operation.

MINING SUMMARY.

THE following is mostly condensed from journals published in the interior,in proximity to the mines mentioned.

California.

ALPINE COUNTY.

MINING.—*Miner*, Dec. 20: The continued storm and cold weather have prevented any new movements duriag the week. The M. & N. W. mill was started, and worked part of a day on some old concentrations that have been lying at the mill more than a year, but the cold was so intense and ice formed so rapidly in the pipes and about the machinery that Mr. White deemed it prudent to discontinue work until the weather should moderate. In the Silver Glance shaft work goes on steadily. There has been a marked change in the ground since leaving the 100-foot level. Quartz with seams and feeders is daily coming in from the north and pitchiag south, with frequent pockets of good ore. A piece of this stuff taken from a bucket, and not selected, assayed by Mr. White, showed a value of $46.80 in silver, with a decided trace of gold. This rock carries less base metal, and works much freer than anything before taken from the mine.

AMADOR COUNTY.

VALPARAISO MINE.—Amador *Ledger*, Dec. 20: By late advices from Fiddletown, we are pleased to learn that the Valparaiso mine is looking remarkably well. At the present depth of the shaft, the ledge is full 4 feet thick, and the ore of excellent quality.

CALAVERAS COUNTY.

BIG BLAST.—*Chronicle*, Dec. 20: Sixteen barrels of powder were exploded in the Daryea claim, last Saturday, for the purpose of shattering the bank of gravel. A transverse drift was run across the end of an old tunnel that extended from a gulch into the hill to within about 20 feet of the face of the bank, in which the powder was placed. The blast did no execution, however, owing to the fact that the tamping blew out. The experiment is to be tried again.

RAILROAD FLAT DISTRICT. — No notable changes at the Sanderson mine. The 200-ft. north level is in 50 ft., indicating the vicinity of another body of ore. The 200-ft. south level is in 70 ft., ore in the face rich as ever. The horizontal extent of this body is now 107 ft. Raise in south level, up 22 ft., shows a uniform abundance of the precious metal. The mine will be supplied with an Ingersoll drill in a few days—the first on this Coast. Some very handsome ore is being shipped to San Francisco.

WEST POINT DISTRICT.—In spite of the severe storm, a new company have been preparing to reopen an old mine at Anderson's Flat. Operations will be inaugurated by horse power, a steam engine to take its place in the spring.—Nothing of note, otherwise.

MARIPOSA COUNTY.

GOOD FOR MINERS.—*Gazette*, Dec. 20: The rains of the past ten days, and the heavy fall of snow in the mountains, assure a plentiful supply of water for placer miners. Quite a number of old miners, who have "summered" on the plains, have returned and are placing their sluice boxes in position for a winter campaign.

QUIT WORK.—We learn that work has again suspended on the Francis mine—nothing being found to remunerate the owners for the money being expended.

NEVADA COUNTY.

MAGENTA MINE.—*Union*, Dec. 20: The work of opening the second level in the Magenta mine, at the depth of 210 ft., has been commenced, and the rock gives every indication that it will realize in richness the most sanguine expectations of its shareholders. The little rock yet taken out is wonderfully heavy in galena and sulphurets, which contain an abundance of gold. The ledge is 18 inches in thickness, well-defined and more regularly in places than upon the first or upper level. Drifting upon the second will be prosecuted vigorously, in order to be ready for stoping out as soon as possible.

PLUMAS COUNTY.

LET US REJOICE. — *National*, Dec. 21: The stormy season has arrived, and gives every indication that the prayers of the miners for a "huge old winter" are about to be answered. Let it come, for God knows they need it, and when the miners fail everything else looks "blue." The weather-wise people and the old "croakers" had decided on having another dry winter. The steady, heavy rain which commenced on Friday last, and the snow which has since fallen, have scattered their gloomy forebodings to the winds, and now, in the place of long faces, a feeling of security and of strong hope for the future has filled the minds of our people. A hundred rich placer claims in this section are to-day waiting for water. The owners have already had to stand the brunt of two or three hard winters, and are sadly behind. One good season will make the most of them even, and the present weather promises that that season is at hand. Let it come, and it will prove that the hills and gulches of Plumas contain more treasure than any mining county in the State.

GOOD PROSPECTS.—Messrs. Garland & Dow, whose gravel claims are located on Quien Sabe ravine, about two miles from Spanish ranch, have been fitting up for several months past, and are now all ready for water. They have put on upwards of $2,500 worth of improvements, in the shape of iron pipe, flumes, ditches a little giant, etc., and, judging from the prospects obtained last fall, will open an exceedingly rich and extensive claim. They have splendid natural advantages, dump, pressure, grade, etc., and there is no reason why the claim should not be largely remunerative.

TRINITY COUNTY.

RICH QUARTZ.—*Journal*, Dec. 20: John Seigfried, of Indian creek, was in town last Monday and showed us some pieces of quartz in which considerable free gold was visible. He says that himself and James Morris found the quartz during a recent prospecting trip in the mountains of that section, but storm coming on they were compelled to leave for home before ascertaining the extent of their discovery. They will return in the spring.

TUOLUMNE COUNTY.

THE EXCELSIOR.—Sonora *Democrat*, Dec. 20: This fine gravel claim, now owned by the El Dorado Water and Deep Gravel mining company, commenced hydraulic operations last Monday, with an abundant supply of water for present purposes and every assurance of a continuous supply throughout the winter. Prior to the commencement of the storm the claim had been put in first rate shape for profitable working; there is every reason to anticipate early reports of big clean-ups in that quarter, to be continued for more years than most of us can reasonably expect to live, as the richness of this mine has been established beyond a peradventure and the deposit is of vast extent.

ANOTHER STRIKE.—Shepherd and Whitten have opened another deposit of very rich ore in the old Shepherd claim, south of the Pacific mill. In richness, so far as developed, this surpasses any previous discovery in that neighborhood, showing an abundance of free gold in a coarse grained and remarkably porous quartz, heavily loaded with rich sulphurets.

RAW HIDE MINE.—*Independent*, Dec. 20: The water has been mastered at last in the shaft of this mine, and there is nothing to contend against now but the slum that oozes in from the sides, which will, however, be lagged up as speedily as possible. There is no perceptible increase of water on account of the recent heavy rains.

MOAR GOLD QUARTZ.—J. F. Irwin & Co., while prospecting, last Monday, on Wolfling's Hill, near the west side of the city boundary, picked up a large piece of curious slate bearing gold, and in digging two or three feet in an old hole found the vein. Nearly all the rock taken out thus far has more or less free gold in it.

Nevada.

WASHOE DISTRICT.

AMERICAN FLAT.—Gold Hill *News*, Dec. 20: Work on the 400-foot level has been suspended for almost the entire week for the purpose of adding a new hoisting reel to the machinery.

ARIZONA, UTAH AND GLOBE.—The face of the main west drift on the 400-foot level is in ore of a low grade, but shows improvement as the work advances. The south drift from the bottom of the main incline is also in ore of a fair grade.

BALTIMORE CONSOLIDATED.—The shaft is down 135 feet below the 400-foot level, the bottom in good sinking ground and excellent headway being made. There is no change of importance to report of the prospecting operations on the upper levels of the mine during the week.

BELCHER.—Daily yield, 450 tons. The ore breasts and stopes on the different levels never have yielded better or looked more promising for the future than at the present. The main south drift on the 1,300-level is in 525 feet south of the Crown Point line, still in quartz. The winze from the 1,200 to the 1,300-foot levels, is finished, passing the entire distance through good ore. The up-rise from the 850-foot level, has also made connection with the south drift on the 900 ft. level, greatly facilitating the ventilation of that part of the mine. The north drift on the 1,300-foot level to connect with the south drift on the same level from the Crown Point is in 241 feet, good headway being made.

CALEDONIA.—Repairing the main shaft is making rapid progress. Work has been resumed in the main drift at the 500-foot level. The up raise, and drifts connecting the 300 and 400-foot levels are being repaired for the purpose of keeping good the ventilation of the mine. The lower drain tunnel is being driven ahead at the rate of eight feet per day.

CHOLLAR-POTOSI.—Daily yield, 120 tons of ore, the assay value of which is $30 per ton. The ore breasts are looking quite as well as usual, but the dumps being full and the roads bad the teams are unable to haul the ore to the mills as fast as extracted. The quartz in the main southwest drift, at the third station, still continues of a very favorable character, although no rich and permanent body of ore has yet been encountered.

CONSOLIDATED VIRGINIA.—The north winze on the 1,200-foot level is down 140 feet, the bottom in fine ore. The raise from this level is up 135 feet, also in rich ore. The ore at both the bottom of the winze and the top of the raise shows a decided improvement over that heretofore encountered. There is no change in the character of the ore in the ore breasts both north and south on this level. The main east drift at the 1,000-ft. level is driven vigorously ahead without change of interest. The main drift on the 1,300-ft. level is also making excellent headway. The Trench mill at Silver City has commenced reducing ore from the mine. The daily yield of ore from the mine is being steadily increased in proportion as the crushing capacity is extended.

EUROPA.—Main west tunnel still being driven ahead in the back ledge.

GOULD & CURRY.—The main east drifts, on both the 1,500 and 1,600-ft. levels, are driven vigorously ahead, both in vein matter of a promising nature. The main east drift, on the 1,700-ft level, is making good progress, not yet having reached the west wall of the ore vein. No water to impede progress.

HALE & NORCROSS.—Sinking the main incline is making good progress. The exploring drifts on the lower levels are still prosecuted with the utmost vigor. The Hoosier State mill, adjacent to the mine, will be started up on ore from the mine in a very few days. The distance from the mine to the mill being so very short the stormy winter weather can cause no delay in the transportation of ore.

IMPERIAL.—Sinking the main incline is making good progress, the rock in the bottom blasting finely.

PIOTOU.—Work progresses satisfactorily with favorable indications.

JUSTICE.—The main north drift on the 300-ft. level is in clay and porphyry, with occasional streaks of fine ore. The east cross-cut, in the south winze on the 400-foot level, is still in quartz of a very promising character. The west cross-cut, from this winze, has reached the west wall, passing through 6 or 7 feet of low grade ore.

JULIA.—Both the southwest drifts on the 900-foot level are progressing at the usual good rate, with flattering prospects of good ore developments soon. The water in the shaft is subsiding.

KNICKERBOCKER.—The contract for the mason work of the foundations for the hoisting and pumping machinery is nearly completed. The work has been done in the most thorough and substantial manner. The heavy timbers are fitted and all ready to be put in place and the work will be hurried forward as fast as possible, in order that the further development of this valuable mine may be proceeded with at the earliest practicable opportunity.

KOSSUTH.—The main west drift is still driven vigorously ahead, cutting during the week stringers of fine looking quartz with strong indications of soon reaching the main ledge.

LADY BRYAN.—This famous mine, after several months quietude, is soon to be worked again, and under better and more favorable auspices than heretofore. The company has recently been re-incorporated with a capital stock of $5,000,000, divided into 50,000 shares of $100 each.

SAVAGE.—There is nothing new to report of this mine, except the steady and favorable progress of the main incline downward and the east cross-cut on the 1,600-foot level.

ELY DISTRICT.

AMERICAN FLAG.—Pioche *Record*, Dec. 13: Shipped during the past week $16,700 in bullion. Nothing is doing in the mine except to sink the main shaft, owing to the late heavy snow-storm and the difficulty of gathering timbers and material to work the mine. The shaft is now 73 feet below the eighth level and sinking continues with 8-hour shifts. New mullers and pan bottoms are being put into the mill, which will resume work by Tuesday. Also ready to receive custom work, and intend to give satisfactory results.

AMADOR MILL AND MINE.—The mill will start upon ore from the Washington & Creole mine to-day. The shaft of the Amador mine is now down 450 feet, and sinking is still going on.

ALPS.—The cross-cut at the 300-ft. level is now in about 500 ft. from the shaft. The winze at the second level still shows a good vein.

HUHN & HUNT.—Work is progressing as usual, with good indications.

INGOMAR.—Work in this mine will be resumed to-morrow (Monday).

MEADOW VALLEY.—No. 3 shaft down 1,081 ft., and sinking still continues as fast as possible. Running drift west from tenth station; now in 41 ft.; no change worthy of note in that drift. Running drift east from ninth station; now in 372 ft. Sinking winze from east drift of eighth station to the ninth station. East drift, on 8th station, in 418 feet. Good indications. East drift on 520 ft. level still being carried ahead. Summit shaft down 879 ft—rock very hard, progress slow. Running drift south from Summit shaft to connect with drift now being run west from the eighth station of No. 7. Teams loaded yesterday for the first time since the storm. Dump full of ore. Expect to continue shipping.

PEAVINE.—Drifting towards the new shaft is still under way, and it is expected that a connection will be made between this time and Christmas. Will commence to take out ore as soon as the connection is made.

PAGE & PANACA.—Busily engaged in putting in a station in the winze, so that a large force of men can be put to work and ores hoisted more expeditiously. The ledge struck the other day is improving. Assays made since our first notice of it show a yield of $1,969.78 to the ton.

PIOCHE.—The hoisting works have been moved from No. 9 to the new shaft a short distance east of the old Burke shaft. Still extracting ore in the old shaft, and hoisting will be commenced in a few days. We saw at Butler's assay office a very handsome bar of bullion just as it came from the mould, which is worth about $1,400, and was made from ore extracted from the Pioche mine.

SILVER PEAK.—Work is still progressing satisfactorily, and the prospects of the mine are generally good.

SPRING MOUNT.—In this mine work is being pushed energetically, without material change.

WASHINGTON AND CREOLE.—Sinking progresses on the prospect and west winzes, each of which has a good ledge, being of an average width of 2 ft., and containing rich chloride ore. Also drifting east and west and stoping up from the bottom of the two winzes in same character of ore. Drifting has progressed west from the prospect winze until a connection has been made with the Newark mine. The Washington & Creole ships to-day by Wells, Fargo & Co. $9,005 in bullion. The company is working about 50 men, and in addition to the work before mentioned the Mazeppa shaft is being sunk to connect with the Washington & Creole.

Idaho.

RED JACKET.—*Avalanche*, Dec. 13: The buildings are all completed, the steam hoisting works in full blast and everything in tip-top shape for the winter's operations. The mine continues to develop splendidly.

EMPIRE.—The 1st, 2d, 3d and 4th level drifts are still being driven north in excellent ore, and we understand that the shaft will soon be started for the 5th level. The ore house is full of first-class mineral that will mill at least $100 per ton, and what is henceforth taken out will be stored away in the mine till spring, when they expect to have 1,000 tons ready for crushing.

THE GLENBROOK.—This mine is developing splendidly. The last crushing paid $36 per ton, and they will have another crushing of 75 tons, between now and Christmas that will pay equally as well.

SILVER CHAD.—This mine is situated on the same mineral belt as the Poorman, and was formerly considered one of the most promising in camp. It was abandoned from mismanagement, rather than from any lack of intrinsic merit. The buildings are all enclosed and the hoisting works will be ready to start up in a few days, when sinking the shaft will immediately be commenced.

SIMONDI & Co. have had the Cosmos mill running on their Oro Fino ore this week.

THE ILLINOIS CENTRAL continues to pan out handsomely.

Arizona.

WEAVER—MINING NEWS.— Arizona *Miner*, Dec. 5: Mr. Stanton has prospected his great Sexton mine well enough to satisfy himself and others of its ability to pay for working, so he has started for San Francisco with the view of procuring a quartz mill, which purpose is good.

Two arrastras were running, in camp, and a gentleman named Reardon was preparing material with the view of erecting two arrastras.

Placer miners, down there, are doing well.

FROM WICKENBURG.—Smith's good ten-stamp mill is doing full night and day duty.

George Monroe and others had started towards Bradshaw, on a prospecting tour.

IN TOWN.—Many pick, pan and shovel patriots were in town yesterday, loading their animals with provisions. Result—a great deal of gold dust in the tin cans of our storekeepers. A good rain would enable hundreds of men to make fair wages in our auriferous creeks and gulches.

Colorado.

SAN JUAN.—*Miner*, Dec. 11: The San Juan fever seems to be abating in this vicinity.

NOTWITHSTANDING the fact that the panic reduced the number of ore buyers, as well as the prices paid, there is, at the present time, no appreciable diminution in the quantity of ore being offered.

POLAR STAR.—The workings of Eldridge & Co. on the Polar Star mine have reached such a depth that windlassing by hand is extremely onerous, and almost impracticable. They are now erecting a horse whim, which will soon be completed, when sinking will be resumed with increased vigor. The mine is largely productive, and has fully proven the fact that with greater depth the value and quantity of ore also materially increases.

Montana.

MINING MATTERS.—*New North West*, Dec. 13: The mining season, now closed, has been the best average one for the miners of Deer Lodge county they have ever had. The long session, the unusual abundance of water through the summer and until the late freeze and the general productiveness of the mines have contributed in a gratifying measure to the prosperity of the country, and the mining element as a class is in a better financial condition than for several preceding years. Business men note cash sales larger, collections easier and money more plentiful than last year—a judgment sustained by the showing of the County Treasurer's collections before the 1st inst., when the additional per cent. is added. Notwithstanding the large entry of lands for patent, no diminution of gold product is noticeable by reason thereof. Very considerable bodies of bar land, not heretofore worked, will next year be mined, and they are of a character that, it is believed, will not only produce largely, but with the methods and appliances purposed, will instigate the occupation and development of thousands of acres of bar lands heretofore passed by as unavailable. It is fair to assume that, with an ordinarily favorable length of season and quantity of water, next year will have fully as prosperous and productive a mining season as the present, and, not unlikely, a better one.

Yosemite Valley.

[Written for the PRESS by J. G. LEMMON.]

The Alcoves.

Leaving our "picturesque rock" and passing on a mile, we find the upper end of the Yosemite picture gallery receding into three deep alcoves—the better to display their several studies.

Entering the north alcove about a mile, a most charming and sublime perspective is before us. The limpid mirror lake—*Ah-wy'-ya*—in the foreground reflects with startling distinctness the great domes on either side, and beyond is a partial view of Cloud's Rest and other peaks with the silvery North Fork of the Merced, fed by snow drifts, winding down by their bases and debouching into the lake. Of the domes before mentioned as embossing the head of the valley, the lowest one is

North Dome—To-coy-ae.

The summit of this beautiful dome is 3,775 feet above the valley, only 195 feet less than three-fourths of a mile, and only 106 feet less than Mt. Diablo, the most noted peak, from its central position, in California, and in sight of two-thirds of its population. Its shape is described by the Indian name *To-coy-ae*, meaning "shade to Indian baby basket." This, the highest point yet described, reaches up to the region once swept by icebergs, and its bald, rounded crown is a record of the world forming laws in their vigorous action in the ages long past. Opposite, across lake *Ah-wy'-ya*, is the famous

South Dome—Tis'-sa-ack.

This magnificent object is so lofty, so conspicuous and so singular, that it is the cynosure of all eyes at Yosemite and the loved theme of tourists. It has been split through vertically and robbed of its north half, which crumbling to pieces forms the dam of the lake below, but the remaining half, a clean cut hemisphere, towers up 6,000 feet above the valley; 720 feet more than a mile and 10,000 feet or nearly two miles above the sea.

From time immemorial this colossal demilune has been regarded with veneration by the natives, for it was the throne of *Tis'-sa-ack*, the beautiful "goddess of the valley," beloved of *Tu-tock-ah-nu'-la*, the great chief who had his throne on the wondrous bluff, the gate post, at the opposite end of the valley. The legend is very beautiful, when fully related, but must be shorn of its ornaments by condensation here.

Legend of Tis'-sa-ack and Tu-tock-ah-nu'-la.

In the good old days when the sky touched the earth, the children of the sun dwelt in Yosemite. All was lovely for *Tu-tock-ah-nu'-la*, their great Sachem, being neither a member of Congress, a railroad contractor nor a chief of the Tammany ring, attended to the wants of his people. Leaving his gorgeous throne daily, he herded the deer and ran them down into the valley, and often roused up a grizzly for them to hunt. His smile caused the flowers to spring up in great beauty, but his sighs for a companion, a royal-blooded Mahala, lodged the pine trees. He prayed to the Great Spirit for his people, and the rain descended to nourish the corn, the gentle winds shook the acorns out of the oaks, and grasshoppers were found on every patriarch's table. He also added a petition for a wife. One evening, as he happened to look eastward, he saw one of Joaquin Miller's yellow-haired maidens sitting on the South Dome—then a complete rotunda. She was transcendently beautiful, dressed in fashionable attire, and was certainly divine, for from her shoulders depended radiant white wings. Throwing him a kiss and pronouncing his name in dulcet tones, she gathered up her Dolly Varden and fled over the dome. The fascinated chief pursued, being no scrub in a race, but the Y. M. passed the string too lengths ahead. Time—2:13¾. This fastest time on record would have been excelled by "*Tu-tock*," but for the down from "*Tis'*" wings which the angel shook into his eyes. He yelled "foul!" but the judge, a rival Mona chief, would not hear him. "*Tu-tock*" became excited. Every evening, for an entire moon, the fleet maiden repeated her taunt, and the race was renewed. In the meantime the interests of *Tu-tock-ah-nu'-la's* people suffered. The leaves of the corn rolled up, the acorns remained shrivelled in their cups, and the song of the grasshopper was unheard in all the valley.

One morning, after an unusually hard night's race, *Tis'-sa-ack* returned to her perch, and looking down, beheld the plight of the neglected people. She repented her coquettishness, and a great pity rose up in her heart. She knelt upon the smooth dome and besought the Great Spirit to send again the rain for the nourishing corn, the wind for the toothsome acorns, and blades of grass for the delicious grasshopper. With an awful sound the dome split open; water poured out, and flowing down, formed first the lake; a reservoir kept back by the shattered rock, then coursed through the valley, reviving the corn and grass; a rushing wind coming through the gorge shook down showers of plump acorns, and with a chorus of chirpings the grasshoppers crawled out of their retreats to nibble the sprouting grass. But the lovely, yellow-haired, angel-winged maiden for whom the people had suffered, and by whom they were rescued from starvation, vanished, never to be seen again. But in memory of her deed of pity there shines the glorious Half-Dome; beneath it reposes Mirror Lake, and bordering all the water courses of the valley are thousands of beautiful white violets, born of the down of *Tis'-sa-ack's* wings, lost in her tantalizing flight from the desperate *Tu-tock-ah-nu'-la*.

Retreating from the North Alcove we cross over again and enter the deep South Alcove a mile and a half. This is occupied by the single study—the beautiful

South Fork Fall—Tu-lool'-wy-ack.

This cataract is 600 feet high and as it terminates a rapid and plunges sidewise over the precipice it presents a novel and interesting appearance. It is 100 feet more than twice as high and much more interesting than the falls of Montmorenci in Canada—a greatly celebrated cascade.

Retreating again to middle ground we confront the central, very high and elaborate Alcove. Entering through the screen of forest trees about half a mile, a roar of many waters warns us that a larger, more stupendous cataract than any we have seen is near. The scene opens grandly; nothing ever chosen by an artist is more striking for a center piece to the foreground of a landscape, than a magnificent water-fall. When this can be fringed with noble pines and framed with towering, frowning mountains, the picture is well nigh complete. Add to this a glittering cascade leading to a background which is a repetition of the first, but with every object projected on a vastly larger scale, with a cloud-flecked sky, pierced by snow-helmeted peaks, the study may justly be regarded as the culmination of artistic effect—and such is the Central Alcove of the Yosemite gallery.

The thundering, flashing, vaulting centerpiece is

Vernal Falls.—Pi'-wy-ack.

This fall is terrible. The volume of water—the main Merced—is so great that is is not entirely comminuted by the wind, but continues in a corving column of whitening, glittering diamonds thrown over the rock wall into a yawning gulf 250 feet below. This appearance is exactly described by the Indian name *Pi'-wy-ack*, meaning "Shower of Sparkling Crystals." Though but a tithe as great in volume, this cataract is 50 feet higher than the Great Shoshone Fall in Idaho. Behind it is a curious rock-shelved cave, lined with mosses, ferns and lichens, and beside it a series of long ladders and platforms leading up to the rock balustrade running out to the edge of the rapid where it begins the awful plunge. The original Architect—aided by human enterprise—has also contributed a bridle trail, rough and zigzag, but finally triumphant, around this fall, and leading back to other grander scenes in a loftier, more extended region.

Just above Pi'-wy-ack, the river spreads out over a flat, descending rock-floor forming a still, glistening, swift-darting cascade 60 feet wide, called "Spangled Apron;" and a quarter of a mile farther it comes rushing noisely through a crooked, rocky, steep gorge called "Diamond Flume." Above the Flume and half a mile from Pi'-wy-ack, a tumultuous roar, a glittering cloud of spray, and a shining shower of rockets shooting out from the sky tell where pours the matchless

Nevada Fall—Yo-wy'-ke.

This, the largest, grandest, last to be described fall in Yosemite, is also one of the highest and most celebrated for grandeur in the world. It is formed artificially in part, by obstructing with rocks and trees, a cut-off from the main Merced, confining it with the rest of the river, joined at this point by another large stream, and, all together, plunging head-long over a mountain side 700 feet high! —just twice as far as the lately discovered Victoria Falls in South Africa, and 40 feet more than four times as high as the great Niagara, but, of course, infinitely less in volume than either.

This cataract is awfully sublime—past description. Its Indian name, *Yo-wy'-ye*, "Meandering," refers to the grand sweep of the side-long curve striking near the bottom against the inclined rock, giving it a new direction and forming a folding, shimmering, spray-wreathed curtain, 130 feet wide.

Nature's Flower Gardens.

Near the base of this fall—as in all the other falls of Yosemite, but intentionally omitted in their description — is a mound or spreading mass of soil or mould, found on one side of the the stream, in the direction of the greatest descent of spray, and covered with luxuriant grass, flowers and shrubbery, its projecting rocks draped with rare and beautiful mosses, and all constantly saturated with the nourishing spray. The grass patches of the *Pi'-wy-ack* and *Yo-wy'-ye* cataracts approach the dimensions of meadows, being fifteen or twenty acres in extent. Their gigantic and rare vegetation affords a paradise to botanists, but to explore their treasures involves the necessity of wading knee-deep through the dense wet grass, sinking ankle-deep in the sticky mud, and taking the chances of being momentarily enveloped in a bewildering series of raining cloud-spray, quickly saturating your clothing, unless protected by water-proof over-garments, but compensating for the annoyance by affording, if the afternoon sun is shining, the most brilliant double rainbows, in a complete circle about you,—the Hindoo type of the Deity.

The arrangement of the cataracts in this Alcove resembles the disposition of the loftier cataracts in the great Yosemite landscape before described, but the connecting cascade river here is three times longer, and the volume of water perhaps, is four times as large. Heightening the effect of these greater cataracts, is added the more stupendous mountains enclosing them. The one on the south or right side of the Alcove is an immense mass of stratified granite, clothed with a forest of evergreens. On the left opposite the highest fall rises in solemn grandeur the naked

Cap of Liberty—Mah'-tah.

This swelling, sloping, smooth-worn, cloud-wreathed rock is 2,000 feet above *Yo-wy'-ye* thundering at its base, 5,000 feet above the floor of Yosemite valley, and 9,000 feet above the sea. It resembles in slope the symbolic cap which artists represent on the scepter held by the Goddess of Liberty; and by common consent, but against the ambition of certain tourists, is called "Cap of Liberty." It is rounded like the domes described in the North Alcove, for, like them, it rises into the region once swept by crushing icebergs. The Indian name *Mah'-tah*—"Suicide," is pertinent as relating to their traditions, but the legend must be omitted.

For sky ornaments to the cusnoy of the Central Alcove there rise in the dim distance the snow-striped spires of the culminating peaks of the Sierras, with the perfect dome of Starr King—*Se-wah-lam*, reposing grandly in the foreground and connecting them to earth.

The peak is easiest approached by the zigzag stair case, but otherwise smooth trail above the falls, and also the one commanding the most extensive bird's-eye view of Yosemite is on the left, back of "Cap of Liberty" and the "South Half Dome," and is poetically named

Cloud's Rest.

We can ride almost to the very summit of this commanding peak, and here, at an elevation of 10,500 feet or almost two miles, the scene is one of the most interesting anywhere presented in the wonderful Sierras. This summit remains a sharp, rugged comb of granite—for it is above the level of glacial action which rounded lesser peaks and smoothed the base of this. The same phenomenon is observed in all the higher peaks beyond—smooth bases with bristling, often beetling crowns.

What a scene of splendor and magnificence is presented on every hand! First let us try to realize our own great height, which so enables us to command an accurate view of greater ones.

The summit of Cloud's Rest, beautifully carpeted with flowers, but with banks of snow striping its north side, was determined by Professors Whitney and Hoffman, just the day before our visit, to be 6,500 feet above Yosemite valley, and 10,500 feet above the sea. This is but 77 feet less than the perpetually snow-draped and much celebrated Lassen's Peak, and much higher than Spanish, Pilot, Alturas, Table Rock, Saddle Back, Downieville Buttes, Pyramid, Castle Job's, or any other peak between Lassen in Shasta county, and Silver Peak in Alpine county, only 50 miles north of our position.

The Higher Peaks

Northward, near at hand are Mt. Hoffman, 10,872 feet, and Catbedral Peak, 11,000 feet high. Southward the Starr King dome, 9,600, Clark's Peak, 10,000, and Gothic Peak, 10,850 feet. Eastward are the culminating peaks of Lyell, 12,270; Castle, 12,500, and 40 miles away, but towering distinctly to view, the chief over all—Mt. Dana, 13,227 feet or very nearly two and one-third miles high!

River Sources.

That we are in the midst of a group of the loftiest peaks of the Sierras is indicated also by a glance at the map. Within a few miles of our position and compassed in a day's ride, a person may visit the headwaters of five of the principal rivers of this coast. Northward flows the Tuolumne, with its wonderful newly-discovered *Hetch-Hetchy* cañon. Northeastward the Walker river sinking into the Great Basin. Southeastward Owen's river, running into Owen's lake, and southwestward King's river emptying into Tulare lake, and westward the San Joaquin entering finally San Francisco Bay.

EMBALMING AT VIENNA.—In the Exhibition there were several specimens of the embalming of parts of the human body. Those exhibited by Dr. Marini, of Naples, were particularly to be noted. One of these was a large round table made of muscles, sinews, etc., of a dark brown color, with a handsome polish. This practioner is reported to have been specially successful. Among his other exploits he petrified Thalberg, and the widow is said to keep the corpse in her drawing room. He also embalmed Mazzini, and so well that some of the more economical admirers of that statesman, urged that the body should be set up in Rome as a statue, and thus save expense. The London *Chemist and Druggist* remarks that a petrified collection of kings, queens, philanthropists, murderers, poets, etc., would be a capital speculation to start in London, and would leave Madame Tussand's wax-works hopelessly behind.

Water Tanks and Health.

San Francisco depends principally for its water supply on the Spring Valley Water Company's Works. The water from this source is introduced into houses in two different methods. The first is by direct communication between the main pipes and the emission faucets in the houses. The water is thus supplied entirely by direct pressure from the head of the reservoir. But in many parts of the city this pressure is too great for the convenience of consumers. Another method of introduction is accordingly extensively resorted to. In order to moderate the force of the stream, tanks are built on the tops of houses. These receive the water from the street mains, and it is thence conducted through the houses by the usual pipes. To regulate the supply in tanks and prevent overflow, an ingenious device is used, which quite fulfils its purpose, but is open to a serious objection from a hygienic point of view, viz., that in interrupting the free and constant flow of fresh water from the receivers, it creates a little lake of stagnant water on every house-top where it is employed. The water is detained in the tank by not being steadily drawn out and exposed to the rays of the sun for indefinite periods of time, and all the organic operations of vegetable and animal germination and decomposition have the same opportunity to occur as in stagnant pools. Months, sometimes years, elapse, and no thought is given to cleaning and sanifying the tanks. These remarks are equally as applicable to those larger tanks in the Mission plain, which are elevated the air and filled from wells by the aid of windmills. In these latter the water often remains for a long while, for the owners are induced to economize the water in order to maintain their supply, when during the summer season there is often quite a length of time in which the wind does not blow strong enough to work the windmill.

Attention has, at different times, been called to these facts by physicians, and also to the danger of generating disease which ensues. Housekeepers do not, however, appear to have been sufficiently warned to induce them to take steps to obviate the difficulty. Following is a portion of a paper on "Water Tanks on the Tops of Houses," which was recently read by Arthur B. Stout, M. D, member of the State Board of Health, before the San Francisco Microscopical Society. It deserves the attention of all who are interested in the matter:

It not unfrequently happens that these house-top tanks are inaccessible, except at considerable trouble and expense, and are not supplied with covers. Housekeepers, who otherwise would be careful, are consequently deterred from taking the proper precautions to sanify their tanks. Persons unacquainted with these facts, and finding the water impure would be disposed to inculpate the reservoir of the Spring Valley Water Company; when in truth the noxious swamp is on the roof of their own houses.

The question of the purity of water, and strictly careful analysis of the various ingredients which the analytic chemist can detect, are from time to time urged upon the public, doubtfully appreciative of the scientific skill displayed; but let any housekeeper, not too lazy to take the trouble, enter a search into the contents of the tank on his house roof; let him collect a bottle full of its soil, and put one drop of it under a proper microscope, and then pronounce—having seen it with his own eyes —upon the soup which he drinks.

Many observers know that these house-top tanks are the birth-place of mosquitoes, like many other swamps, only on a smaller scale, and that their offspring migrate into the apartments below them; that various devices of window screens and mosquito nets are resorted to, and that one house will be infested while adjacent ones will be exempt—and yet, the hint of the mosquito, truly piquant, fails to awake them to the quality of their beverage.

The water when first drawn from the tank may appear clear and pure, but in a short time it becomes cloudy, emits a faint odor and soon turns to a greenish color. After a time green vegetable matter forms, some of which floats on the surface and also gathers on the bottom of the containing vessel. This vegetable growth now becomes the nidus or homestead of innumerable microscopic animalcules of many different species. In due time these plant and animal creations die and decompose, adding thereby another noxious ingredient to the water. Air and water for human use should be pure, or nearly so. Anything short of purity is an incentive to gastric disorder and unfavorable digestion. We may not be able to specify with precision if all these vegetable and animal products are actually poisonous when taken into the stomach; nor yet how far the heat of the organ may destroy them, and the gastric juice assimilate them like other vegetable and animal food, but we do know that such infected water, when drank, produces nausea very promptly. The stomach revolts and indicates to the mind that something unhealthy has been swallowed. We also know that certain of them escape destruction in the stomach and are absorbed into the blood, and give rise to toxæmia. It is not our object here to discuss these questions, but accepting the well-admitted fact that water under the above conditions is unwholesome, to show that these tanks, when neglected, are the prolific generators of septic fevers and other diseases of anæmic type not necessarily, febrile.

Useful Information.

A Perfect Water Proof.

A writer in an English paper says: By the way, speaking of water proofs, I think I can give travelers a valuable hint or two. For many years I have worn India rubber water proofs, but will buy no more, for I have learned that Scottish tweed can be made entirely impervious to rain, and, moreover, I have learned how to make it so; and for the benefit of readers I will give the recipe:

In a bucket of soft water put half a pound of sugar of lead, and half a pound of powdered alum; stir this, at intervals, until it becomes clear, then pour it off into another bucket, and put the garment therein, and let it be in for twenty-four hours, and then hang it up to dry without wringing it. Two of my party—a lady and a gentleman—have worn garments thus treated, in the wildest storms of wind and rain, without getting wet. The rain hangs upon the cloth in globules. In short, they are really water proof. The gentleman, a fortnight ago, walked nine miles in a storm of rain and wind, such as you rarely see in the South; and when he slipped off his overcoat, his under clothes were as dry as when he put them on. This is, I think, a secret worth knowing; for cloth, if it can be made to keep out wet, is, in every way, better than what we know as water proofs.

Consumption of Timber in Ties.—Estimating the railways of the United States as equal, including sidings, double tracks, etc., to 60,000 miles of single track, the aggregate number of ties would be 150,000,000, at the rate of 2,500 to the mile. This, says a recent circular of the Lumbermen of Pennsylvania, requires the timber from twelve and a half acres of well-timbered lands to furnish, because the average of trees from which railroad ties can be cut will not exceed forty to the acre, nor can there be cut more than five ties from each of these forty trees. The average life of a railroad tie is said to be about five years—consequently, 30,000,000 are requisite for repairs annually, and to furnish this amount will consume 2,500,000 acres of best timber land. In addition to this vast area, about 500,000 acres are required annually to supply ties for the new roads which are being constructed each year. The circular referred to has been sent to lumber dealers and consumers through the State, calling attention to the condition of the lumber interests. It appears from this that the amount of pine lumber annually cut on the Susquehanna river and its tributaries exceeds 500,000,000 feet. Should this amount be cut for the next five years it would amount to 2,500,000,000 feet. A careful estimate has been made of the area of timber lands, and the average yield of lumber per acre, and the alarming conclusion is reached that three years', stocking at the present rate of 500,000,000 feet per year would entirely exhaust all the pine lumber now standing. These statements are made after very careful estimates, and with the endorsement of the most experienced lumberers in the State.

Softening Ash Timber.—Steam is the usual agent, but where practicable, boiling in water is the very best means. The great thing is to have the right quality of ash; some kinds will bend and some won't. One locality will yield prime ash, another close by, with equally good soil, will yield inferior. The timber should be heavy, tough, and cut from a good butt; no matter if three years cut and seasoned. A splinter from this quality of ash will peel or pull off toughly, and run a long way down the plank before it gives way. Half an hour's boiling will soften two inches square. Then have everything ready. Oat with your stuff, from the boiler to the mold, and screw or wedge it up without stopping, and leave it to cool for a few hours.—*Cabinet Maker*,

Preservation of Hair for the Hatter.—A method of treating animal hair for the use of the hatter, which has been kept secret for a long time, is now known to consist in the application of a solution of the nitrate of mercury for the purpose of preventing the putrefaction of the fiber. This substance, however, is very deleterious, both to the health of the workmen and to the implements of the trade, and recently carbolic acid, or creosote has been used to great advantage as a substitute. This has the property, not only of preserving the animal matter, but of causing the hairs to contract, thus rendering them more apt to felt. The subsequent treatment of the fiber is according to the usual process, and the carbolic acid may be added to the oleaginous or astringent elements used by hatters.

New Process for Cleaning Pictures.—It is well-known that it is very difficult to remove the old varnish from pictures without injuring the delicate lines beneath. The new system consists in simply spreading a coating of copaiba balsam on the old painting, and then keeping it face downward over a dish of the same size filled with cold alcohol, at an altitude of about three feet. The vapors of the liquid impart to the copaiba a degree of semi-fluidity, in which state it easily amalgamates with the varnish it covers. Thus the original brilliancy and transparency are regained without injuring the oil-painting. After the picture has been hung up for two or three days, it looks as if it had just been varnished afresh.

To test the Purity of Atmosphere.—First, a simple method of ascertaining the presence of impurity (carbonic acid) in the atmosphere, is to nearly fill a glass tumbler with lime-water, and to place it in any convenient position, as on the mantle-piece of a room. The rapidity with which a pellicle forms on its surface, or the water becomes cloudy, corresponds to the amount of the carbonic acid present in the atmosphere that surrounds it. Second, a little moist carbonate of lead put on a plate or saucer, and exposed in the same way, will turn black, should any sulphureted hydrogen be contained in the air. This is a very delicate test for that destructive gas.

Protection of Iron from Rust.—The following mixture is stated to be an excellent brown coating for protecting iron and steel from rust: Dissolve two parts crystalized chloride of iron, two parts chloride of antimony, and one part tannin, in four parts water, and apply with a sponge or rag, and let dry. Then another coat of the paint is applied, and again another, if necessary until the color becomes as dark as desired. When dry, it is washed with water, allowed to dry again, and the surface polished with boiled linseed oil. The chloride of antimony must be as nearly neutral as possible.—*Engineer*.

A New Method of Coloring Leather.—By an invention recently patented, leather, and other substances used in hats, are claimed to be colored, elegantly and cheaply. Logwood is employed to give the materials a ground color, and the dyeing is further conducted by the use of aniline. The ground color is applied with starch, and by the addition of supplementary colors, a peculiar softened clouding or spotting of the colors is effected, the result being something like that seen in marbled paper used in book binding.

Domestic Economy.

How To Cook Potatoes.

There is probably no daily food which is capable of yielding us such a variety of healthful and tasteful dishes as the potato; and yet many respectable families seem to have but one mode through the entire year and that with as little care as possible—namely, boiling. Some might be interested to notice a few of the pretty ways in which I have seen them prepared in a pleasant rural home, where the mistress does not think it beneath her to give some time and thought to the planning of nutritious and even fanciful dishes.

Do you say, "a potato is only a potato when you have done and said it all?" Ah! my dear Mrs. B., I agree with you exactly—a potato is only a potato, but as long as they are made a standard dish on almost every table, is it not better to give the preparation of them a little study and care, rather than bring them in to dinner cold, wet and indigestible? So while our brothers and husbands are pondering over the kind best adapted to the climate and soil, let us give a few minutes to the nice preparation of the fine crop they will put into our cellars by and by.

Care should be taken to select from the bins all alike in size, being sure to allow them just sufficient time to become nicely crisp and brown at the hour the remainder of the dinner is ready. They should not be allowed in the open oven the moment after "done," there to shrink, as if protesting against delay; neither to be sent to the table to wait five or ten minutes the movements of some tardy husband and children. Mashed potatoes that are nicely pared, boiled and dried, seasoned richly with salt, cream, or milk and butter, are always good, always nice, if smoothed down into the dish with care, and prettily spotted with pepper. The mashed potatoes left from dinner make a fancy dish for breakfast by making into little cakes, or patties, with the hand, and frying brown in dripping or batter. The butter should be hot when the cakes are put in.

The boiled potatoes, left after yesterday's dinner, are very good chopped fine and warmed for breakfast in good milk and butter, with salt and pepper. When you are boiling your tea-kettle to-night, you can boil half a-dozen good-sized potatoes, and when cold slice them the long way, something less than a quarter of an inch in thickness. In the morning lay them one by one on the griddle, to slowly toast or brown in good butter or fat, salting them carefully and evenly, after placing them in a covered dish. Gentlemen always like these with their coffee; and these, or the potato balls, are an addition to the tea-table when gentlemen are present. Still another way to fry is to pare the potato round and round, like an apple, until all is used, cooking slowly and evenly in a covered "spider," until brown.

In the spring, when the potatoes are poor, difficulty is experienced in preparing them to relish. Pare and cut them half an inch in thickness, putting to boil in salted water until tender; then pour off the water and put on cream, or good milk, seasoning and thickening carefully with only a little flour. For those who have no milk, fresh boiling water can be used with nearly as good results. But I am outstretching my limits. For, a little aside, nearly all housekeepers know the value of potatoes in yeast, and that grated they make an excellent pudding with the usual additions. After all, perhaps, there is no form which is used, both for excellence and health, equal to the good old-fashiond mashed potato.—*Country Gentleman*.

Dress of Our Extremities.

During the damp and cold season, says Dio Lewis, deficient dress of the feet and legs is a fruitful source of disease. The head, throat and liver are, perhaps, the most frequent sufferers. The legs and feet are far from the central part of the body. They are not in great mass, like the trunk, but extended and enveloped by the atmosphere. Besides, they are near the damp, cold earth. For these and other reasons they require extra covering. If we would secure the highest physiological conditions, we must give our extremities more dress than the body. We wear upon our legs in the coldest season but two thicknesses of cloth. The body has at least six. Women put on them four thicknesses under the shawl which, with the various doublings, furnishes several more; then, over all, thick padded furs, while their legs have one thickness of cotton, under a balloon. They constantly come to me about their headache, palpitation of the heart, and congestion of the liver. Recently one said to me, "All my blood is in my head and chest. My head goes humpety-bump, my heart goes humpety-bump."

I asked, "How are your feet?" "Chunks of ice," she replied. I said to her, "If you so dress your legs and feet that the blood can't get down into them, where can it go? It can't go out visiting; it must stay in the system somewhere. Of course the chest and head must have an excessive quantity. So they go 'humpety-bump,' and so they must go, until you dress your legs and feet in such a way that they shall get their share of blood." In the coldest season of the year I leave Boston for a bit of a tour before the lyceums—going as far as Philadelphia, and riding much in the night, without an overcoat; but I give my legs two or three times their usual dress. During the coldest weather men may wear, in addition to their usual drawers, a pair of chamois-skin drawers with great advantage. When we ride in a sleigh, or in the cars, where do we suffer? In our legs, of course. Give me warm legs and feet, and I'll hardly thank you for an overcoat.

My dear madam, have you a headache, a sore throat, palpitation of the heart, congestion of the liver, or indigestion? Wear one, two or three pairs of warm, woolen stocking, and thick, warm shoes, with more or less reduction in the amount of dress about your body, and you will obtain the same relief permanently that you would derive temporarily from a warm foot bath.

I must not forget to say that a thin layer of India rubber cement upon the boot sole will do much to keep the bottom of the feet dry and warm.

Good Health.

Catching Cold.

Catching cold is "as easy as lying," but to explain the pathology thereof is by no means so readily done. In fact, until the recent researches of Dr. Rosenthal, whose work on the subject is attracting much notice in Europe, almost nothing was known about it except the mere fact that the ailments popularly ascribed to "cold" are liable to occur after the body, or some part of it, has been suddenly chilled, that is, cooled below the normal temperature. There are two factors concerned in this chilling process; the nature of the external medium—such as air or water—in contact with the body; and the condition of the blood-vessels.

Dry air has very little power to abstract heat, if it be still; but a slight wind from the constant contact of fresh particles of cold air on the surface of the body, soon carries off its heat. If there is much moisture in the air it greatly increases its power of abstracting heat, and when wind and moisture are combined, the chilling effect reaches its maximum. Experience has shown that it not so much the absolute lowness of temperature which gives rise to colds, as sudden changes from a higher to a lower. The reason of this was not understood until Dr. Rosenthal explained it. When the surface of a healthy animal is exposed to cold the cutaneous vessels contract, and by thus confining the blood to the interior of the body, prevent its cooling, and preserve the temperature of the vital organs, unless the application of cold be continued for a considerable time. This is not the case, however, when the animal has been previously exposed to warmth. The cutaneous vessels become paralyzed by the heat, and remain dilated even after the cold has been applied. The blood is thus exposed over a large surface and becomes rapidly cooled, even though the temperature of the surrounding medium is not very low.

In Rosenthal's experiments, animals were kept at a temperature from about 97° to 104° F. The temperature of the animals themselves quickly rose during their confinement to 111° or 113°. After their removal it not only sank to the normal temperature but even below it, so that an animal which was from 108° to 111° in the warming apparatus fell to 96.8°, and remained at that for several days, although the room in which it was kept was moderately warm. Confinement in a close office, hot theater, or crowded ball-room, will have a similar effect on man. From such places people pass out into the cool open air, or sometimes even purposely station themselves in a draught. The blood, which is coursing through the dilated vessels of every part of the surface, is rapidly cooled, and on its return to the internal organs, cools them much more quickly than it could have done had the person simply been exposed to cold without dilatation of the vessels by previous warmth. Rosenthal lays much stress on the great effect of sudden *cooling* in bringing on a cold, the sudden change in the temperature of the blood producing an irritating effect, and inducing inflammation in any weak organ in a way that a gradual alteration would not do. It would seem, however, that the alteration must be made from a temperature above to one below the normal temperature of the blood, and not a mere reduction from one considerably above the normal to one at or near it.

When much heated we may stand for a short time in a cool atmosphere with impunity; but if we stand long enough to produce a shiver, we run a great risk of catching cold. The fact that it is more dangerous to sit for a long than a short time in wet clothes, appears to indicate that a considerable and more gradual cooling, such as may then occur, will produce similar effects to a slight cooling suddenly effected by exposure to a cold draught after having been in a warm room. The effect of a chill in causing inflammations may be partly due to the effect of cold on the tissues themselves, and partly to the congestion which will occur in some parts when the blood is driven out of others by the contraction of their vessels. Rosenthal is inclined to ascribe the chief power to the former cause. Everybody knows the beneficial affect of cold baths, cold sponging, etc., in "hardening" persons, as it is termed, so that they are able to face almost any weather, and to endure sudden changes of temperature without injury. Rosenthal considers that the frequent application of cold water or cool air increases the tone of the cutaneous vessels, so that they do not become so much relaxed by heat as to be unable to contract with sufficient force when necessary. The power of regulating the temperature is thus preserved, and the person prevented from catching cold.—*Boston Journal of Chemistry*.

Regular Eating.

Half of all ordinary diseases, says Dr. Hall in his *Journal of Health*, would be banished from civilized life, and dyspepsia become almost unknown, if everybody would eat but thrice a day at regular times, and not an atom between meals, the intervals being not less than five hours, that being the time required to digest a full meal and pass it out of the stomach.

If a person eats between meals, the process of digestion of the food already in the stomach is arrested, until the last which has been eaten is brought into the condition of the former meal; just as, if water is boiling and ice is put in, the whole ceases to boil until the ice has been melted and brought to the boiling point, and then the whole boils together.

But it is a law of nature that all food begins to decay, after exposure to heat and moisture for a certain time. If a meal is eaten, and in two hours another, the whole remains undigested for seven hours, before which time the rottening process commences, and the man has his stomach full of carrion—the very idea of which is horribly disgusting.

As, then, all the food in the stomach is in a state of fermentive decay, it becomes unfit for the purposes of nutrition and for making good, pure blood. Small wonder is it that dyspeptics have such a variety of symptoms, and aches and complaints in every part of the system, for there is not one drop of pure blood in the whole body; hence, the nerves, which feed on this impure and imperfect blood, are not properly nourished and, as a consequence, become diseased. They "complain"; they are hungry—and like a hungry man—are peevish, fretful, restless. We call it nervousness, and no one ever knew a dyspeptic who was not restless, fretful, fidgety, and essentially disagreeable, fitful and uncertain.

The stomach is made up of a number of muscles, all of which are brought into requisition in the process of digestion. But no muscle can work always. The busy heart is in a state of perfect repose for one third of its time. The eye can work twice in a second, but this could not be continued five minutes. The hands and feet must have rest, and so with the muscles of the stomach; they only can rest when there is no work for them to do—no food in the stomach to digest. Even at five hours' interval, and eating thrice a day, they are kept constantly at work from breakfast until the last meal is disposed of, usually ten o'clock at night. But multitudes eat heartily within an hour of bed time; thus, while the other portions of the body are at rest; the stomach is kept laboring until almost daylight, and made to begin again at breakfast time. No wonder is it that the stomach is worn out—has lost its power of action. Many girls become dyspeptic before they are out of their teens, in consequence of being about the house and nibbling at everything they lay their eyes on that is good to eat.

Glycerine in Subcutaneous Injections.—Dr. Constantin Paul recommends glycerine as a dissolvent for subcutaneous injections. He considers it to be far superior to water, alcohol, etc.; it is neutral, can be kept easily, and is, of all liquids, the one which approaches the nearest to the composition of subcutaneous cellular tissue.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR

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San Francisco:

Saturday Morning, Dec. 27, 1873.

Legal Tender Rates.—S. F., Thurs., Dec. 25—buying, 91¢ selling, 91½.

TABLE OF CONTENTS.

GENERAL EDITORIALS. — Palmer's Power Spring Hammer; California Gravel Mines, 401. Close of Volume; A Profitable Mine—The Idaho; Agassiz Memorial Meeting, 408. Howard's Automatic Car Coupling; Camp Floyd Mining Company, 409. Notices of Recent Patents, 404.

ILLUSTRATIONS.—Palmer's Power Spring Hammer, 401. Howard's Automatic Car Coupling, 409.

CORRESPONDENCE.—The Origin of Veins and Formation of Mineral Lodes; Julian and Banner Districts, 402.

MECHANICAL PROGRESS.—Aluminum as a Material for Balloons; New Churn; The Tunnel between England and France; Anthon's Sewer-Gas Trap; A Wonderful Agricultural Machine; Another Perpetual Motion, 403.

SCIENTIFIC PROGRESS. — On Atmospheric Ozone; Coating Fabrics with Tin; Flooding the Sahara; A Step Forward, 403.

MINING STOCK MARKET.—Table of Daily Sales and Prices and Comparative Prices for the Week; Notices of Assessments; Meetings and Dividends; Review of Stock Market for the Week, 404.

MINING SUMMARY from various counties in California, Nevada, Arizona, Colorado and Montana, 405.

USEFUL INFORMATION. — A Perfect Water Proof; Consumption of Timber in Ties; Softening Ash Timber; Preservation of Hair for the Hatter; New Process for Cleaning Pictures; To Test the Purity of Atmosphere; Protection of Iron from Rust; A New Method of Coloring Leather, 407.

DOMESTIC ECONOMY. — How to Cook Potatoes; Dress of our Extremities, 407.

GOOD HEALTH.—Catching Cold; Regular Eating; Glycerine in Subcutaneous Injections, 407.

MISCELLANEOUS.—The Meadow Valley Company's Mill; Amador Canal; Consumption of Horse-Flesh in France; The Kearsing Mill, 402. Yosemite Valley; Embalming at Vienna; Water Tanks and Health, 406. The Hunt & Douglass Process; Do Insects Devour Lead? Ancient Timber; A Famous Armor; The San Juan Country; A Remarkable Phenomenon; Sharp Practice of Mining Partners; Troy District, 410. The Hoosac Tunnel, 411.

Close of the Volume.

With this issue we conclude Volume XXVII. of the MINING AND SCIENTIFIC PRESS. We devote considerable space in this number to a copious index of the volume, which will prove of great convenience to all who file the paper. It is a gratifying fact to know that a large portion of our subscribers preserve the PRESS, with a view of having them bound for future reference. This is evidenced by the large number of file holders we have disposed of this year. Advertisers will recognize in this fact an important advantage to be obtained in our columns over those of papers which are thrown aside as soon as read.

The past year has been a very successful one in mining affairs on this coast. The important developments on the Cometock, the new districts discovered, the increased interest in California gravel mines, the large dividends paid and the capital invested, have caused more attention to be turned to mining interests then perhaps ever before. Our journal devotes the larger portion of its space to mining matters, and increases in prosperity with mining interests. A glance at the index on the last page will give the casual reader an idea of the detail with which we have paid attention to mining matters. All the new and improved appliances worthy of note have been illustrated and described. New discoveries have been noted carefully, and we have taken great pains to inform ourselves and our readers of the merits and demerits of new districts, and are confident that our efforts in this line alone have saved our readers many dollars.

Our mining summary gives all the important news concerning the different localities in California, Nevada, Utah, Colorado, Idaho, Montana, Arizona, Oregon, Washington Territory, New Mexico, and is carefully compiled weekly from the columns of journals published in the immediate vicinity of the mines mentioned. The mining stock department of the PRESS is attended to with care, and gives our readers in the interior ample information on this subject. The Mining Shareholders' Directory, which is carefully corrected and published in every issue, gives a complete list of mining assessments, dividends, meetings to be held, etc., and is valuable as a means of reference to all interested in mining operations.

New processes of all kinds, of interest to our readers, are described in detail, and the discussions carried on in our columns by practical and professional men on such subjects are more than worth the price of subscription. The discussion as to the working of quicksilver, and that about the Bear River Tunnel, are the prominent ones of this volume.

We obtain all the names of officers of different mining companies, as they are elected from time to time, and publish the list of new incorporations every week. In fact, everything of interest to the mining community that can be collated appears in our columns. In this particular field we are alone, there being no other paper devoted to this special interest published on this coast.

We expect next year to be more profitable for the miners than any that has passed, and no one who is at all interested in the pursuit can afford to be without the PRESS. The commencement of a new year is a good time to send in new subscriptions, and we expect to add many more names to our already large list of subscribers. Our paper has been running 14 years, and is established on a firm basis, with a permanent subscription list and an increasing circulation. We shall endeavor during the coming year, as before, to merit the continued support of our many patrons.

A Profitable Mine—The Idaho.

The Idaho mine, Grass Valley, is a prominent California mine, which is not quoted on the Stock Board list, but owes its prominence to its bullion-producing and dividend-paying capacity. It has paid regular monthly dividends for several years, having disbursed to stockholders some $1,284,950, of which $682,000 was paid this year. The entire receipts of the mine have been $2,311,437, of which 1,010,612 was the product of 1873.

The Secretary's report, which is published in full in the Grass Valley *Union*, together with the report of the President, shows in detail the operations of the fiscal year, ending Dec. 1st, 1873. That the operations have been successful, can be seen from the fact that $682,000 have been divided among stockholders after expenses were paid. As trouble was anticipated from an adjoining location, the company bought out the interests of the Schofield Mining Company for $25,000, which perfects their title to all the claim. The developments in depth in the mine seem to indicate that they may reasonably expect the mine to last many years with good returns.

The old shaft has been abandoned and the new one is completed to the 700-foot level, 35 feet toward the 800-foot level, not being yet of the full size. The 400-foot east level is in 765 feet from the shaft, of which 368 feet are through pay ground, and the last 397 feet are through barren ground, with a small stringer most of the distance. The 600-foot east drift are worked up to the 500-foot level, 210 feet from the shaft, thus enabling them to form that level in worked-out ground for that distance, and the quartz is all standing between the 400-foot level and 500-foot level.

During the year they have worked 27,624¾ tons of rock, of which 8,605½ tons came from the 400-foot level; 11,481⅛ from the 600-foot level; 6,937¾ from the 700-foot level. This gave a gross yield of

66,210.80 ounces bullion	$979,969.39
212½ tons of sulphurets	28,318.00
25 tons on hand est'd	3,000.00
Specimens	364.50
Tailings	12,950.00
Total	$1,024,691.89

Giving an average of $37.91⅛ per ton. During the year they ran 1,012 feet of drift and completed 329 feet of shaft. The machinery is all in good working order.

The superintendent gives the following as the receipts and disbursements:

Disbursements.

Mill and mining	$232,847 44
Saving sulphurets	2,908 00
Prospecting in 400	3,124 00
New shaft	22,792 00
Blacksmith shop	1,263 49
Construction account	8,096 67
Water works	3,602 46
Extension of ditch to Scott Flat	8,738 84
General account	41,612 00
Total	$324,984 80

Receipts.

Cash on hand from last settlement	$ 6,669 70
Proceeds from bullion	979,950 39
Sale of sulphurets	23,119 00
Sale of specimens	364 60
Percentage from tailings	5,265 83
Total	$1,008,708 12
Pan rent	$ 907 00
Water	436 00
Old material	511 08
Total	$1,904 08
Total receipts	$1,017,281 90
Total expenditure including dividends	1,006,984 80
Cash on hand	$10,297 10

The milling and mining account in the disbursements is interesting; it is as follows:

Surface Labor	$ 41,654 59
Underground Labor	119,036 24
Wood, poles and lagging	23,314 21
Powder and fuse	3,795 00
Hardware	10,233 18
Lumber	3,091 77
Candles and oil	4,680 13
Coal	2,006 37
Quicksilver	2,941 41
Foundry	10,046 60
Drill steel	1,106 36
Water	1,463 50
Superintendent's salary	6,000 00
Sundries	3,679 08
Total	$232,847 44
Average cost of milling and mining, $8 61½ per ton.	
Saving 237½ tons of sulphurets	$2,908 00
Prospecting 397 feet in barren ground in 400 level	$ 3,124 00

In sinking the new shaft the sum of $14,046 was expended for underground labor, and $3,329 for surface labor. The labor on the water works cost $1,147, and the labor on the extension of the ditch to Scott Flat was at an expense of $5,828,

The secretary's report shows the receipts and disbursements, not only for the year, but for each fiscal year beginning in 1869. The total receipts for the year ending Dec. 1st, 1873, were $1,010,612.20, to which the balance on hand Dec. 2d, 1873, being added, shows the total assets to have been $1,017,281.90.

The total expenses for the year, including the dividends, were $1,006,984.80, and balance in the Treasury is $10,297.10.

The dividends for the year amount to 220 per per cent. on the capital stock, and aggregate $682,000. The dividends of January, February and March, were 15 per cent., or $46,500 each. Those of April, May and June, were 20 per cent., or $62,000. That of July was 25 per cent., or $77,500. Those of August, September and October, were 20 per cent., or $62,000; and those of November and December were 15 per cent., or $46,500.

This is a very fine showing, and the aggregate receipts and expenditures of the company for the past five fiscal years, are still more interesting. The receipts from all sources were as follows:

1869	$306,038.75
1870	183,450.23
1871	407,301.16
1872	404,036.52
1873	1,010,612.20
Receipts for five years	$2,311,437.86

Dividends have been as follows:

1869, 11 div. or 66 per cent	$170,500.00
1870, 8 " " 12 " "	37,200.00
1871, 12 " " 76 " "	232,500.00
1872, 11 " " 62½ " "	162,750.00
1873, 12 " " 220 " "	682,000.00
Total	$1,284,950.00

This shows that 53 dividends have been paid in five years, aggregating 414½ per cent. of capital stock, and amounting to the sum of $1,284,950. What mine can make a better showing than that, and who says that California quartz mines are played out?

INDIAN DEPREDATIONS.—The Trustees of the Walnut Grove mining company of Arizona have petitioned Congress for $300,000, which they say they have lost by Apache depredations. We hope they may get their $300,000, but think that if every one who was damaged financially by the Indians in Arizona, should obtain a money compensation therefor, the taxes would increase. If these Indians were exterminated the mining interests of Arizona would become more prominent, and the country would be rapidly settled up.

THE Lady Bryan mine near Virginia has been purchased by a company in this city for $50,000 and they have incorporated. There are 6,000 feet in the lode. Machinery will be put up and the mine put in good running order.

THE annual meeting of the California Academy of Sciences will be held at their rooms on the evening of January 5th, when the election of officers will take place.

THE course of lectures to be delivered by the Professors of the State University will commence on the evening of January 3d.

Agassiz Memorial Meeting.

The Agassiz Memorial Meeting of the California Academy of Sciences, held in Mercantile Library Hall on Monday evening last, was very well attended, showing how deeply even the general public feels the loss of the distinguished scientist. The exercises consisted of addresses by members of the Academy. The rostrum and the portrait of Agassiz in the rear were draped in mourning. The platform was occupied by Professor Davidson, President of the Academy; President Gilman, of the State University; Professor Le Conte, Professor Carr, General Hewston, Mr. Dall, and Rev. Doctors Scott and Stebbins.

President Davidson opened the proceedings with an address of considerable length, from which we make a few extracts:

In his own handwriting, upon a souvenir of his Pacific Coast visit, is the legend, "L. Agassiz, born May 28, 1807." On the 14th of December, 1873, the telegraph flashed to the uttermost parts of the earth that he was no more, and we meet to-night to render homage to his memory. After a few occasional meetings, from my first acquaintance with him, thirty-seven years since, it happened to my lot last season to introduce him to the Academy after his voyage of twenty-two thousand miles, undertaken at a time of life when most of us look forward to rest from life's toiling. You saw that his old enthusiasm was still ablaze. You felt the peculiar charm of his presence and voice, and were happier and better in knowing that you had come into personal relations with one who commanded such influence and power for good. So it had been through a busy, earnest life, devoted to but one object; to see him was to love him; to know him was to willingly promise service to science for all time, and to feel amply repaid in fulfilling the promise. Learned men and statesmen, educated and brilliant women had hung on his words, and had paid the same tribute—all mourn with the same sorrow. In our hearts he cannot be forgotten; in the centuries hence, his influence and labors will assure students there were intellectual giants in those days. Simplicity and purity of character, singleness of purpose, directness and comprehensiveness of the highest order, were the bases for that subtle power which gathered facts from observation, combined and correlated them, and thence deduced order. Words of praise can add nothing to his fame; but we can honor his memory by imitating his fervid devotion to science; it never faltered; it pervaded his being. He was the incarnation of science, and greater love hath no man than this. He laid his life down for it.

It seems a marvel how much of the enthusiasm and industry of Agassiz has been developed among those who have studied or come in contact with him. If there were any that became weary with the heat and the burthen of the day, they have dropped by the wayside: but the young, the earnest, the ambitious are scattered over the globe, searching, working, studying to increase our knowledge. He impressed them that their real student life but just commences when they leave their college halls."

I close with a few words of a power which he possessed, so unusual among scientific men, yet so absolutely necessary for the development of science as understood by the specialists, and of knowledge as taught by the collegee, that we can pray without ceasing that his mantle may fall and cover many shoulders. Others possess it, perhaps differing only in degree, or the magnificent endowments which have been made to our higher seats of learning would have been diverted to other purposes. Yet he first made the claims of science a demand upon the affluent who had grown wealthy through practical applications of scientific investigations and discoveries. He would admit of no compromise measure. He boldly stood forth as the champion of the self-sacrificing devotees of science; for the benefit of human knowledge he had given with unsparing prodigality the mental and physical activity of a life noted for its remarkable vigor, endurance and consecutiveness; and his sense of justice was aroused to appeal for help from those who could so easily and so largely endow our colleges and universities, our museums and academies of science. You have listened to those appeals, and know that even in our midst they have not been in vain. Throughout the country the leaven has reached the bank accounts of large-minded men who, during their lifetime, wish to see the fruition of their noble instincts. In the last ten years millions of dollars have been devoted to learning and science; but many more millions are needed, and the apostles of science must cease not to urge and prove her claims. The interest which he imparted to science on this coast in one short visit has steadily increased; the cheering words he spoke in our behalf have fallen upon the hearts of our people and awakened their sympathy. The Academy certainly has cause to rejoice in its benefactions; but we need still more freely the helping hand of endowment to realize what he prophsied.

We can listen no more to the magic of his voice, but his example is ever before us. He has gone, but his name will be a landmark in human knowledge through the long roll of centuries.

The address of President Gilman dwelt more particularly upon the character of Agassiz as a

teecher and the infinence he exerted upon Americen edncation:

The name of Agassiz does not belong to the learned alone, though it is honored most by the wise and the profound; it likewise belongs to the common people, for it is a household word throughout the land.

Few men while they live, attain renown among the multitude, and also retain their eminence among philosophers; but he wore fitly this double crown—"The praise of praised men," which is gold, and the applause of the unlearned, which is silver. How few of those whom we call distinguished, whether writers, teachers, statesmen, merchants, scholars, or leaders in arms, are equally known and honored with this college professor, this comparative zoölogist, this interpreter of natnre! The news of his decease has brought to learned societies, and to common schools, to universities, and to fishermen's cottages, the sense of a personal bereavement, for it tells of the loss of a guide, the death of a friend.

When such a man departs, old, honored, unsullied and beloved, it is well to inquire into the antecedents of his character, the elements of his renown. It is not every teacher who is endowed with a good constitution, neither too nervous, nor too phlegmatic. Agassiz was fortunate in his physical character, his noble figure, his beaming countenance, his elastic step, his excellent health. He was not of that type of scholars whose shriveled faces, and whose withered forms declare the neglect of exercise and the misuse of food; nor was he one who gained by stimulant extraordinary force. He possessed what might be called a commending presence, favorable personal equation, a magnetic influence, a manly beauty, or an easy dignity—a quality not to be defined, but everywhere appreciated, which may be inyet hred, must be first in-born

His early culture was most liberal. In many countries, and through many years, his studies were prolonged. Four years, the record runs, in the gymnasium at Brienne, two years in college at Lausanne, two years in medical school at Zurich, five years in the universities of Heidelberg, Munich and Erlangen; thirteen years, at least, of preparation in the period youth.

Thus he came in contact with some of the most renowned teachers in Europe—Cuvier, Hamboldt, Martius, Spix, and a host besides—and received that intellectual impress from superior minds, which is far more influential than a library full of books, or a city full of museums.

Hence he laid a broad basis for his Scholarship. Ancient and Modern Languages, Philosophy under Schelling, Humen Anatomy and Physiology, Botany, Minerology and Zoölogy were all pursued with such enthusiasm that, in any of these departments, he might have been distinguished.

So was he qualified for work—by natural endowments, personal presence, honorable ancestry, narrow circumstances, prolonged culture, and broad foundations. What, now, were the consequents of such antecedents—the superstructure on such a foundation?

There was supreme kindliness or self-control in his disposition, which led him to be patient with ignorance, and what is harder yet, with arrogence; which made him generous in bestowing his time, his learning and his letters upon others, which made him accessible to the most timid student, and the most humble discoverer of a cnrious thg.

To this was added a charming enthusiesm, which gushed forth in no spasmodic intermittance, but bubbled up perpetnelly with refreshing effervescence. He captivated all whom he met. He made them believe that his work was his play; that they too might engage in it, with a surety of reward. He seemed to say perpetually to his associates, as Feraday said to Tyndall, under untoward circumstances: "Our subjects are so glorious, that to work at them rejoices and encourages the feeblest, delights and enchants the strongest."

Genuine gratitude was also conspicuous in all he did. The school-boy who brought him an uncommon fish, or the farmer who sent him a nest of turtle's eggs, or the woodsmen who favored him with a family of little rattlesnakes, was as sure of his hearty acknowledgement as the millionaire of Boston who endowed his museum, or the tobacconist of New York who bought for him Penikese Island, or the officers of the Government who placed at his command the resources of the Coast Survey. No Emperor or King ever received such homege, voluntarily bestowed by high and low alike, or such tributes from the united realm of earth, and air, and sea; none retnru such gratitude. This gratitude was marked by numistakable sincerity.

There was, moreover, a hearty co-operation with other workers, and in other spheres—a friendly indorsement of their effort, which was free from the tone of patronage or of interference. The members of this Academy must well remember the generous words which he uttered on the evening when he first set foot in San Francisco—his congratulations at the success of the Academy, his words of encouragement for the University, and his eulogy of the Geological Survey, the pride of all the science of the State.

Still more remarkable in Agassiz was his readiness to aid in the diffusion of knowledge. Devoted as he was to scientific researches—to the advancement of learning, by investigations of the most profound sort, extending down to the lowest organisms at the bottom of the sea, and back to the remotest æons of geological history, he was always ready to come before the public and bring the newest and the best of his acquisitions. There are such men as intellectual misers, but he was not of that race. There are also those who are deaf and dumb, but he used all his faculties. He did not wait for costly diagrams or extraordinary specimens. A blackboard and a piece of chalk were all the apparatus which he required for a lecture on Natural History. At the oldest University in Cambridge, or at the newest in Ithaca, through the *Atlantic Monthly* or the extra *Tribune*, in the National Academy, or on Penikese Island, in the State-House at Boston, or in Pacific Hall at San Francisco, he was ready to teach all who wished to be taught. The wisest would enjoy the clearness, the liveliness, and the method with which he told his tale; and the uninformed would think they were growing wise because they could follow so agreeably and intelligently the utterance of a master. He believed in the public schools; and one of the last acts of his public life was to give a lecture at a teachers' meeting.

Professor Joseph Le Conte then treated of the scientific work of Professor Agassiz, and the results of his labors, delivering an interesting and able address.

Professor Carr then read a eulogy in the form of a letter addressed to the Academy, from R. E. C. Stearns, who was unable to be present.

Rev. Dr. Stebbins then made a brief but interesting address and was followed by Rev. Dr. Scott.

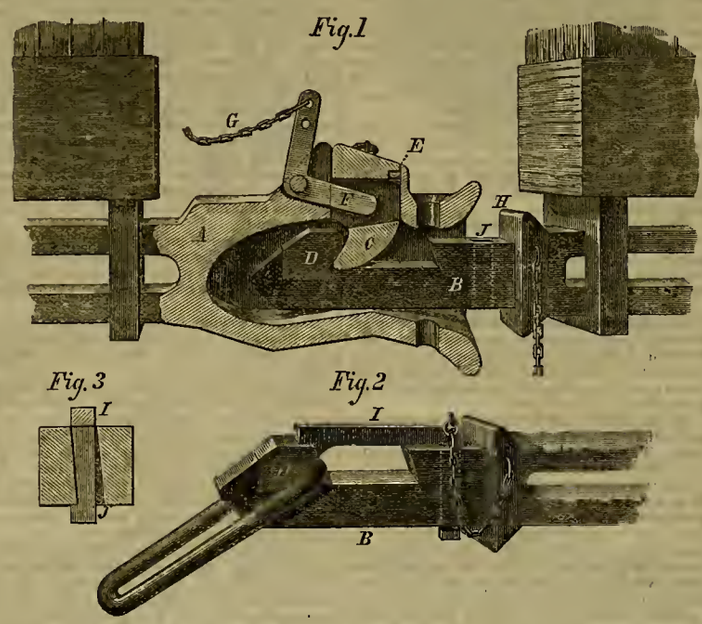
A series of memorial resolutions were then read and the Secretary instructed to forward an engrossed copy to the family of the deceased. Altogether, the exercises were very appropriate and interesting, and the attendance showed the feeling of the community in regard to the death of the illustrious scientist.

Howard's Automatic Car Coupling.

Among the many forms of automatic car couplings in use, is one patented in September of this year, by Franklin E. Howard, of Genesee, Livingston county, N. Y., which, while it connects the cars automatically as they are brought together, allows of the uncoupling of the cars from either their tops or sides.

The device is claimed to operate perfectly on the sharpest curves and steepest grades, and to bring the cars as closely together as the ordinary drawheads now used. It is attached to the carriages in the usual manner, with perhaps somewhat more up and-down and sideways play.

From Fig. 1 the construction will be readily perceived. *A*, is the drawhead of one car, made with a cavity of sufficient size to receive the connecting drawhead, *B*. Fitting into a recess in *A*, so that its lower and hook-shaped end may project down into the hollow portion, is a steel coupling block, *C*, which engages with another steel block, *D*, dovetailed and bolted to the drawhead, *B*. The block, *C*, is provided with a ring or handle at its upper portion to admit of its being readily lifted ont by hand, when it is so desired, to unconple the cars, while its movement is limited by a pin or screw, *E*, working in a suitable groove on its surface. When raised, the coupling block, *C*, may be held up by a pin placed in a hole therein and above the drawhead.



HOWARD'S AUTOMATIC CAR COUPLING.

Pivoted in a slot in the upper part of the letter is a bent lever, *F*, of which the forward arm enters a slot in the coupling block, so that, by snitably operating the lever, said coupling block may be easily lifted up, and the cars thus uncoupled. This is effected by a chain, *G*, attached to the upright arm which, passing under a suitable roller, connects with one lever near the top of the car with two other levers attached to the sides of the vehicle.

The draw-bar, *B*, has a collar, *H*, to prevent its being forced too far into the opposite drawhead when the cars are brought together.

A point claimed as of considerable advantage in the invention is the facility with which it may be adapted to connect with and in the same manner as the common form of drawhead. In the forward part of the bumper, *A*, is a hole for a coupling pin which secures one end of the link. The other extremity of the letter slips over the coupling block, *D*, where it is held in place by a square angle bar, *I*. One portion of this bar drops into a square though somewhat inclined hole in the drawhead, *B*, at *J*, and its lower extremity, being notched, locks itself in. This will be more clearly understood from the section shown in Fig. 3. The horizontal portion of the bar, *I*, simply rests along the top of the drawhead, *B*, and terminates in an end angle to fit the corner of the block, *D*, thus securely confining the link.

The Camp Floyd Mining Company.

The Camp Floyd Mining Co. (Limited,) which has been for some time under a cloud, is making a good showing through the efforts of the Resident Manager, Mr. Henry Sewell. This gentleman has been for the past five months energetically at work in bringing the affairs of the company to a satisfactory paying basis. Though he has had up hill work he has not received a cent from London, where the property is owned, and has succeeded in paying some $2,500 worth of liabilities of the former management. He personally lent the company about $8,000 until the new capital could be raised.

During this time 500 tons of custom ore hee been milled and $51,000 in bullion produced, on which a cash profit of about $7,000 was made, and $9,000 in tailings. Mr. Sewell is now expecting about $60,000 as fresh working capital and will then be able to extend milling operations.

In connection with this subject the prices paid for ores by the Camp Floyd mill will he interesting to mill men. They are as follows:

Ore assaying 40 dollars per ton, 25 per cent.
Ore assaying 50 dollars per ton, 30 per cent.
Ore assaying 60 dollars per ton, 35 per cent.
Ore assaying 70 dollars per ton, 40 per cent.
Ore assaying 80 dollars per ton, 43 per cent.
Ore assaying 90 dollars per ton, 46 per cent.
Ore assaying 105 dollars per ton, 50 per cent.
Ore assaying 130 dollars per ton, 57 per cent.
Ore assaying 150 dollars per t n, 60 per cent.
Ore assaying 175 dollars per ton, 63 per cent.
Ore assaying 200 dollars per ton, 65 per cent.
Ore assaying 225 dollars per ton, 67 per cent.
Ore assaying 250 dollars per ton, 68 per cent.
Ore assaying 300 dollars per ton, 73 per cent.
Ore assaying 350 dollars per ton, 74 per cent.
Ore assaying 400 dollars per ton, 75 per cent.
Ore assaying 500 dollars per ton, 78 per cent.
Ore assaying 600 dollars per ton, 80 per cent.
And upwards.

The assays are guaranteed to correspond with those of the U. S. Mint, and ores can be sampled by battery or crusher at the option of the shipper. Mr. Sewell, publishes in the Salt Lake *Tribune* a communication in which he speaks of the success of the company and says:

"For valuable services during the trying past I have to thank the First National Bank for the kindness and confidence it has reposed in me, in coming forward on several occasions, as Mr. Hussey has done, during the worst part of the financial crisis, with sums varying from $6,000 to $8,000, for the purchase of ore; in consequence all the bullion from this mill has been consigned to the First National Bank, and forwarded by Mr. Hussey to New York. I have also to thank that gentleman for supplying the mill, up to date, with about 400 tons of ore from the Sunnyside mine, and for his continued patronage in that respect, as ores from that mine continue to be shipped daily. Before Christmas some $25,000 more of bullion will he consigned to that bank. When the new capital of the Camp Floyd mining company arrives, we shall he in a position to return past favors, and I am glad to mention in this connection that two of the principal properties which the new Camp Floyd company will try to acquire, now belong to Mr. W. Hussey.

I have also to thank Mr. James Baxter, our Superintendent, for the great zeal, activity and intelligence which he has displayed in the management of the company's mill, which has greatly contributed to our permanent success.

We are very glad to see that the affairs of the company are in a more satisfactory condition, and that a profit will ho realized on their investment. Utah mines are in the shade just now on account of the many swindling transactions carried on by unscrupulous trickstors, who had their own welfare and not those of the mining interests at heart. People here and in England had almost begun to think that honesty and Utah mining could not go hand in hand, and the Territory has suffered accordingly. The success of only a few of the properties held in the English market, will do much to dissipate those ideas and inspire confidence in mining property. With competent and honest managers and a due regard for the interests of the company, not individuals, many of the mines now behind a cloud, will no doubt come into the sunshine again.

We notice in the *Tribune* of the 21st, that the mill at Camp Floyd is working satisfactorily, and that a complimentary testimonial to Mr. Sewell has been gotten up, thanking him for his energy, skill and perserverance in "bringing on" the mining interests of that district, and has been universally signed by the residents of Lowiston and the surrounding country. Three bars of high grade silver bullion from the Sunnyside and Lion Hill mines, Camp Floyd, are on exhibition this week at Salt Lake City.

Telegraphy in the Mines.—We have been shown by Mr. Heenen, telegraph operator, the recently arrived materials and apparatus for the construction and equipment of a system of telegraphic signals in the Manhattan shaft. A gong 8 inches in diameter which was made to Mr. Heeneu's order in Cleveland, Ohio, will he mounted on an oiled walnut base in the engine room and will be worked on what is called the "open circuit" instead of the closed, as is usual, the return wire instead of going into the earth being returned to the gong. The length of the line will be 800 feet and its construction will be commenced as soon as Mr. Curtis returns from San Francisco. When completed, it will be a great convenience, enabling the miners not only to direct the engineer as to desired movements of the cage but by a system of signals to communicate as to what supplies are needed below. The entire apparatus is of the best and most expensive quality, the greater part of it having been made expressly to Mr. Heenan's order.—*Reese River Reveille.*

A Battle Mountain paper is informed that the White and Shiloh mine at Galena, has been bonded to an English company for half a million of dollars. Parties are negotiating for the Trenton, and other parties for the Butte, in the same district.

The ore body recently struck in the famous and much abused Emma mine, is said to be one of the most extensive yet discovered in the mine. The Emma may yet regain her former reputation.

The Boston Gas Company charged a citizen $18 for gas consumed at a time when he had not a burner in his house.

It is estimated that the value of wheat and flour shipped from San Francisco this year, foots up $25,000,000.

The Hunt and Douglass Process.

The following letter on the Regenerative (Hunt & Donglass) Process of extracting copper from its ores, as carried on in Chili, recently appeared in the London *Mining Journal*:

Thie method, which can be adopted at any mine, is applicable to all classes of copper ores, whether they contain snlphur or not. The only difference consists in the fact that ores containing sulphur must be calcined first. Even native copper, if it is present only in minute quantities, will he fonnd to he dissolved. This method offers the following advantages over all others that have been proposed by the wet process.

1. In its application no acid or salt is nsed to dissolve the copper. In the ordinary wet processes tho oxidised copper is dissolved in hydrochloric or sulphuric acid, or the ore is calcined with 2 or 3 tons of salt to each ton of copper. In this method (Duglass and Hunt's) the solvent employed is the protochloride of iron (neutral), which is contiuually regenerated by the act of precipitation, with ouly a very trifling loss.

2. Less than half the qnantity of metallic iron is reqnired to precipitate the copper than is necessary in acidnlated solntions.

3. The only operation in which fuel is used is in the cslcination of the metals, and only a very small qnantity of this. So that this method is applicable, with great advantage, to those places of the glohe where the low ley of the ores, or the high price of fuel, would render smelting impossihle or unprofitable. The ley of the copper which is obtained hy this process being about 90 per cent., the cost of rsdncing it to bar copper is almost insignificant.

Details of the Operation.

Grinding the Ores.—The character of the base of the mineral determines the extent to which the grinding must be carried. If, for example, the specks of metal are very finely distributed in an impermeable hase, it is eviduut we must grind them as fine as possible, because if the ore is a sulphurous one, the ahove-mentioned specks of metal can he thus calcined perfectly, and also he exposed with facility to the action of the chloride of iron in the dissolving bath. But if the copper in the ore is of considerable quantity and size, the calcinatiou does not reqnire such an extreme grade of fineness to become effective. We must, however, hear in mind that if we do not grind the ores sufficiently fine onr consumption of fuel during calcination will be considerably greater. In other words, the consumption of fuel is in inverse ratio to the coarseness of the powder to he calcined. With regard to ores found in Chili, we may ohserve that sulphnrets extracted from *vetas*, or veins, ought to he passed throngh a sieve of 8 to 12 holes to the inch, while those extracted from *mantas*, or patches, ought to be ground finer still. To grind the ore to the first state it is best to use cylinders, and for the last state of pulverisation stamps will he fonnd the most economical. A pair of 28-in. cylinders ought to grind one ton of ore in the hour, with a power of six horses, and each stamp ought to powder about 2¼ quintals in one hour, supposing that the ore has been previously ground np in an ordinary Blake's crusher. Each stamp generally requires 1-horse power. Speaking generally, we may state that carbonates do not require the same degree of fiueness as sulphurets.

2. *Calcining.*—As I have already said, we mnet calcine the sulphurete, an operation which, when they have been pnlverized, can he dous at the rate of 200 quintals in 24 hours. If the metsl is in coarse powder it is hetter to use a mechanical furnace, but whether the metal is coarse or fine, we esn nse the ordinary reverberating frrnace, taking care to keep up a low heat, and to frequently stir up the charge. In the case of certain classes of ore very rich in sulphnr, calcination in heaps in the open air heforehand is very advantageous, inasmuch as this operation facilitates in a very high degree its subsequent complete pnlverisation, and also considerahly diminishes the cost of cslcining iu the furnace. The object of this calcining is to convert the snlphnrets of oopper into oxides and snlphates: the very last trace of sulphur will disappear if the operation be condncted with care, and in this case the copper will be completely extracted in the eubsequent operations. Such an exact resnlt is very difficult to obtaiu unless with skilled workmen. However, without very great expenditnre of coal, and with ordinary care, not more than one-half, or at most one per cent., will he lost, which will be afterwards arrested in the re-washings.

3. *The Solution.*—The solvent used ia the protochloride neutral of irou. This can be manufactured by mixiug common salt aud snlphate of iron in certain proportions. By dissolving metallic iron rich in sulphur a considerable portion of copper is converted iuto snlphate, which is aoluble in water; now, if for every 60 lbs. of copper dissolved in this manner there are added 120 lbs. of oommon salt, and the liqnid treated with metallic irou, the copper will be precipitated, and there will be formed in the solution such a quantity of protochloride of iron, that it will be only necessary to add 200 lbs. more of common aalt, and aufficient water to form a bath of 100 gallons of the reqnired strength. This solveut can be applied to all oxidised metals, whether they are subseqnently placed in the filtering haths, or whether, through containing exceedingly finely divided mineral, they are treated with an "agitator."

It often happens that the coarse powder (granza) of the carbonates is very friable. It is better in this case to separate the coarse powder from the fine, which always contains and indeed constitutes, the friableness; after this separation has been effected the coarse is worked by the filtering method, and the fine in a bath by means of an "agitator."

These haths may be of wood or of brick. A oonvenient size for wooden baths is 12 ft. in diameter and 3 or 4 ft. in depth: 3-inch American pine answers well for this purpose, with iron bands of 3 by 3-8th inches.

The filter can he made in various methods. We may place in the bottom of the butt a layer of stones 3 inches thick, or ashes, or clean coke, with a covering on top of sand. Or we may make the filter with a false bottom, with holes in it, protected by common sacks. The metal is placed on the top of the filter, to the thickness of 1 or 2 ft., according to its fineness of division. In case we nse brick tanks, the bricks must be of a close texture, well fastened with good Roman cement, and faced with the same material.

The liquid will run out by a hole placed at the bottom of the bath or tank, which must be always kept covered up, to prevent loss of heat. It is advantageous to damp the mineral before throwing it into the bath, as this promotes the uniform percolation of the solution. We must be careful to prevent the formation of a depression in the bed of the metal, and take care that there always remains 3 or 4 in. of liquid on top. To obtain this result it will be sufficient to go on replacing with fresh liquid that which runs out at the hottom of the bath. When the liquid which flows out at the bottom ouly contains copper in minute proportion, the exhausted bath is washed to extract the salt eolution. This water serves over and over again to replace the iron and salt which were lost in the original bath—iu other words, to regenerate the hath; 24 honrs are snfficient for the extraction of copper from ores of 5 per cent., always supposing that the solution is of sufficient strength and the bath is maintained at a temperature of 50° centigrade.

Iu a hath of the above-mentioned capacity, with an "agitator," four or five hours are sufficient to dissolve the copper coutained in 5 tons of 5 per cent. metal, inasmuch as the "agitator" effects the extraction very much quicker than filtration only.

The solution of the chloride of iron works npon the oxides of copper, converting them partly into protochlorides and partly into dichlorides of copper, giving room, at the same time, for the formation of peroxide of iron, and a very smsll quantity of oxi-chloride. When the copper is obtained hy filtration only, by excluding the air as much as possible, the prodnction of suh-chloride of copper is augmented, and that of oxi-chloride of iron diminished, and a very notable saving of iron is obtained in the precipitation of the copper.

In the subsequent precipitation, the chloride of iron is returned to the bath with a very small loss. The chloride lost in the basic oxi-chloride, and that which is lost in the re-washings, when this latter operation is imperfectly done, is so small that one qniutal of salt is sufficient to replace the loss in one ton of copper. This loss can be greatly lessened, and, indeed, the loss of iron entirely avoided, by passing a cnrrent of sulphurons acid from the calcining fnrnsce over the top of the bath in the "agitation" baths, or in the ordiuary filtering ones.

When working npon metals that form snlphate of copper in their calcination no loss of iron is experienced: it even may happen that an excess of iron accumnlates in the bath, which can be separated from time to time by mixing small qnantities of chalk with the calcined metal. In the working of carbonates a small loss of chloride of iron is inevitable. To avoid this it is recommended that a small quantity of sulphurets be added to them, hecanse the sulphate formed during the calcination of 1 tou of yellow snlphnrets will replace the loss cansed by the treatment of some numher of tons of carbonates.

Precipitation.—The fluid, charged with copper, which rnns ont of the baths falls iuto a vessel, which has the form of a large rectangle, and the bottom of which is filled with pieces of iron. It has longitudinal divisions, like canals, which compel the flnid to run over a considerable space of ground. The oopper solution goes in at one end, and after having run through all the divisions, at the bottom of which it comes in contact with the iron, is drawn off at the other end by means of a pnmp, and returned to the original bath, the chloride of iron in the hath heing regenerated at the expense of the metallic iron cousumed in the preoipitation.

Materials such as pails, pumps, pipea, &c., ought to be of wood; connecting tnbes, whether for the conducting of steam or for the distribution of fluids from bath to bath, ought to be of gutta percha, inasmuch as the greater part of the common metals and their alloys are attacked by a liquid charged with chloride of copper.

(Method of workiug metals containing gold and silver by the same process). The bath of proto-chloride of iron and salt, after heiug more or less completely saturated with copper, will dissolve chloridised silver, or any of its componnds, by virtue of the well-known action of protochloride of oopper. Repeated experiments have proved that metals of sulphur containing gold and silver in Colorado, United States, and Chili, when duly calcined, leave all the silver contents dissolved in the hath in the shape of chloride, which can be precipitated in the metallic state, by treatiug it with metallic copper, or passing it throngh copper cement. After the silver has been thus passed the copper is precipitated, as usual, by metallic irou. The residue of the bath, after it has thus lost both its silver and its copper, contains all the gold in a state favorable for its removal. The same method is also applicable to copper and silver regulus. Experiments on a large scale have proved that a reguln containing at the same time gold, copper and silver, can be treated by the present system for the extraction of pnre copper, with a very trifling additional cost for the extraction of the gold and silver. To remove the silver we need only make nse of a portion of the copper cement obtained by a previous operation, and for the removal of the gold we can nse either the method of chloridisation or amalgamation.

This method has been tried extensively at Tiltil, and also near Coquimbo, but has hitherto signally failed. A great difficulty was experienced at first in getting the tuhs to stand, hut after this difficnlty was got over the "bath would uot regenerate. A great deal of money was sunk at Tiltil, and no adequate results followed. The process may, then, he condemned practically, though glowing with 25 per ceut. theoretically.

Do Insects Devour Lead?

This curious question is suggested from correspondence to *The London Builder*, in which Mr. John Murray makes the following etatements:

"In stripping old lead flats you will often find the whole under surface much oxidized, and where the boards are much decayed the oxidation is alwaye greatest. I have never found an insect in old lead, nor have I heard or read of one whose digestive orgaus were strong enongh for so tough a morsel. I have often known mice to gnaw a hole through lead-pipe, but you may always find the shavings under their work. Is it not likely to be the acid formed in decomposition of the insects, or their excrement, that has destroyed the lead? I once met with a cistern with a six pound lead hottom, that had not been used for several years. The water that was left in it had evaporated long since; and on the bottom were the dried remains of a nnmber of wiry worms, and theee lay in a perfect bed of oxide of lead, whereas all other parts of the hottom and sides were sound.

"The pin-holes mentioned in lead valleys, etc., are caused by oxidation either from vegetahle or sooty deposit, snd sometimes from dross flaws in the lead, which are sooucst acted upon."

In the following number of the same journal, Mr. Bonel A. Evans attributes the holes in the lead described hy Mr. Murray, to a different cause. He says:

"In making some repairs lately, it became necessary to remove some five pound lead flat, which had heen down ahout thirty-five years; one of the hoards was found *extensively wormeaten and decayed*, also one of the next partially so. Upon examining the lead which covered the decayed wood, it was found full of holes, similar to those in the wood heneath, the other portiou which covered the sound hoards heing perfectly sound.

"I have ehown it to some practical builders, and they say they never came across such a thing. Will you please mention it in your journal, to learn whether such a thing has occurred elsewhere; as, if it is established, it will readily account for the pin-holes pinmhers find in guttering, or other lead work in combinstion with wood-work?"

ANCIENT TIMBER.—Probably the oldest timber in the world which has heen subjected to the use of man, ie that which is fonnd in the ancient temples of Egypt. It is found in connection with stone work, which is known to be at least 4,000 year old. This wood, and the only wood used in the construction of the temples, is in the form of ties, holding the end of one stone to another in its upper snrface. When two blocks were laid in place, it appears that an excavation about an inch deep was made in each hlock, into which an hour glass shaped tie was driven. It is therefore very difficult to force any stone from its position. The ties appear to have been the tamarisk, or chittem wood, of which the ark is said to have been constructed, a sacred tree in ancient Egypt, and now very rarely found in the valley of the Nile. These dove-tailed ties are just as sound now as on the day of their insertion. Although fuelis extremely scarce in that conntry, these bits of wood are not large enough to make it an object with Arabs to heave off layer after layer of heavy stones for so small a prize. Had they been of bone, half the old templea would have been destroyed years ago, ao precions would they have been for various pnrposes—*Manufacturer and Builder.*

A FAMOUS ARMOR. — Hanging ahove the throne of Nadir Shah, at the Vienna Exhibition, is the coat of armor and Persian helmet of Sultan Mourad I Ghazi the first, who established Ottoman rule in Europe, and took up his residence in Adrianople. This armor is doubly interesting, for the great Sultan was killed in it by a Servian youth in the battle of Kossara, whioh destroyed the empire of Dushau. The armor ia of Syrian steel, the rims all of gilt links and open in front, where beantifnlly-worked gold clasps, ornamented with large diamonds, close it over the breast. It is an entire suite, gauntlets iucluded; the armlets are of solid steel, inlaid with gold aud precious stones.

The San Juan Country.

The Denver *World* of the 11th says: The remnant of Lieutenant Marshall's divisiou of the Wheeler topographical party arrived in town yesterday afternoon. They had heen out since the 11th day of June, making a topographical and geological survey of a portion of Conejos county. This portion of the outfit consisted of thirty members and seventy animals. They have had some very hard work, been snowed in several times, and have worked until the snow has driven them out of the country. They all speak highly of the country and say that altogether it is the finest portion of Colorado. In timber and grazing especially it is the *bon terre* of the territory. The mountains are steep and rugged, hut in the valleys of the numerous streams that water the conntry, there exists fine rolling land, well adapted to agricultural purposes, and covered with the finest quality of grass and ahounding in all kinds of berries and wild frnit. The elevation of the Atlantic and Pacific divide, in this portion of the Territory, is very high, and the pass from the head of the Rio Grande to Baker's Park is 13,200 feet high. On one side of this psss there is a peak, towering up from 800 to 1,000 feet higher. This peak is not the highest in the Territory, as there are in the Uncompagre district peaks that will ont-tower anything on the earth. The descent for the first mile after crossing the range, is 2,700 feet; and for tbree miles afterward is 1,500 to 1,600 feet per mile. The valleys of every one of the streams that flow into the San Juan from this divide are the finest in the world, and are very rich in fine grass. They speak very highly of the conntry, and say that it is bonnd to he one of *the* spots of the United States. They will recommence their work next spring as soon as the suow will permit them.

A Remarkable Phenomenon.

In a recent communication to the Vienna Academy, Professor Czermak investigated some curious hypnotic phenomena occurring among the lower animals. More especially, hs examined a phenomenon which has heeu long known—viz., that if a shy hen he caught and held down on the ground for a little while (its strnggling resisted), and if a chalk line he drawn on the gronnd, out from its heak, or in cross direction from its eyes, it will become quite still and helpless, and make no attempt to escape, after the hands are removed. A Jesuit, Kircher, in the seventeenth century, describing this "experimentum mirable," attributed the effect to the influence of the chalk line on the hen's imagination!—for he had previously bound the hen's legs; the bandage, however, heing removed when ths fowl wae reduced to quietness; his explanation was, that the animal mistook the chalk lines for bandages, and supposed itself still hound, though its legs were now free. This was an ahsurd theory, and was disproved hy the fact that the hen might he quieted without having its legs tied.

Prof. Czermark at first thought the chalk lines were qnite nnessential; hut he discovered that they played a very important part. In fact, the essential point appears to be the arresting of the animal's attention hy some object put before its syes. The same effect may he ohtained by holding a finger or glass hall, a candle, etc., before the space betweeu the eyes. The phenomenon is of the nature of those investigated by Braid. Prof. Czermak's paper contains many curions facts on the subject, and will he found in *The Sitzungsbrichte* of the Academy.

SHARP PRACTICE OF MINING PARTNERS.—John D. Cusheon, real estate agent, has filed a complaint in the Nineteenth District Court, against John William Crawford, James G. Maxwell, Thomas B. Prince and George B. Somner to recover a judgment against each of the defendants for $5,000. Cusheon complains that in June, 1872, Maxwell represented that he was the owner of a valusble ditch and water privilege and mines located in Pinmas county. Maxwell uot having the means to improve the property, Cusheon joined with the other defendants in an agreement to pay Maxwell $1,000 each, and to coutribute $4,000 each to a commou fuud for developing the mines. They each contributed $1,538. Cusheon says that he was always anxious to carry out the terms of their agreement, hut, the defendants, uuder a plea that it was necessary to perfect the title, relocated and recorded the property. In this relocation Cusheon's name was left ont in the cold. He uow hrings this action to recover his one-fifth interest.

TROY DISTRICT.—Mr. Davies, manager of the property of the Troy mining company, ou a recent visit to Hamilton, expressed himself as much pleased with the mines there, and is confident in their future. The late storm may somewhat retard operations around the mill, but will not interfere with the working of the mines, as the men are under ground. It affords us much gratification to be ahle to chrouicle the faot of the continned prosperity of the Troy company, and it is our hope, one shared in by all, that the prompt and ready manner in which the busiuess has been performed by the efficient manager, may acorue to the advantage of all interested. No company has expended so much money, and paid their bills so promptly, as has the one in question, and they certainly deserve success.—*White Pine News.*

The Hoosac Tunnel.

A correspondent of the New York *Times* writing from North Adams under dato of November 27th says:

The Hoosac mountain was penetrated this afternoon at 3:15. The last barrier against an uninterrupted passage from one side to the other was completely removed, and a few minutes later the parties which had entered from opposite sides were shaking hands on the western side of the breach.

The Preparations.

The holes for the final blast had been drilled by this morning, and but for the previous determination to allow visitors to witness the operation, the whole thing might have been over at 10 o'clock. But there were persons to arrive from Boston, and the opening was postponed for their benefit. The old workman, who had faced death a thousand times in charging holes with nitro-glycerine, was sent down the central at about 1:30 o'clock, with his long cans of the explosive. All the glycerine for this final blast was carried down the shaft, and that for the west end holes was passed through the hole already drilled. The most dangerous task connected with the work of the tunnel was accomplished, and word was brought up that nothing remained but to connect the wires of the battery. The cage was packed full half a dozen times, and the visitors were speedily dropped down the shaft into the dismal regions below. The hollow echoes of the walls, the dim and flickering lamps, the drip of the water, and the reports of occasional explosions where the workmen were engaged in trimming east of the shaft, were the only sights and sounds

The Blast.

Word was at once dispatched to the man who had charge of the blast to connect the wires. This man was stationed only about 500 feet from the heading, and from the effect at our distant station, 2,000 feet from the blast, the crash when the wires touched must have been terrific. The report of the explosion came first with a distinct crack, followed instantly by a dull, prolonged boom, and accompanied by a very perceptible puff of wind. A shout was given by all present, and the company began to flock forward toward the heading in a general scramble, but this was soon stopped, for it would have been highly dangerous to have gone into the heading before it was known whether all the explosives had been discharged. A few hundred feet from the shaft, therefore, the visitors were stopped until two men, who had gone up to examine the holes, came running back with the information that a fine, clean breach had been made. Then there was another pell-mell scramble for the opening.

The Breach.

The breach made was about five feet by four, large enough for two people to pass abreast quite easily. The explosion on the west side was much louder than on the other, and had a great effect on persons in the tunnel. The work done was tremendous. One great rock, weighing fully a ton, was thrown a distance of 300 feet, where its momentum was still sufficient to break down the ponderous gates set up as a barrier.

The Later Work Done.

The western half of the tunnel differs greatly from the eastern half in the headings of the rock. It is nearly all quartz for upward of a mile, and then the material grows gradually softer, until at a distance of 2,000 feet from the portal it gets so soft that it was necessary to brick it the whole distance where it has been completed. Not less than 7,000,000 bricks will have been used in arching. The west end differs from the eastern half, also, in the amount of water; for almost the whole distance of twelve thousand feet the floor of the tunnel is composed of slimy mud, ground down by the feet of the mules and miners, while through the whole length runs a considerable stream of water. The contractors, Messrs. Shanly, have used in the five years they have been at work up to to-day, 275,000 pounds of nitro-glycerine, 312,000 pounds of common powder, 48,500 pounds of giant powder, and 3,500 pounds of dualin, making in all nearly 650,000 pounds of explosives. Forty-three persons have been killed in and about the tunnel, of whom twenty-one met their deaths by premature explosions, four by explosions of nitro-glycerine magazines, nine by falling down the central shaft, eight by rock falling from the roof and similar accidents, and one by drowning. There is some quiet rejoicing to-night in the town of Adams, but no demonstration.

The Work Done on the Tunnel.

One may form such an opinion as one pleases, about the probable satisfaction or otherwise of the high hopes entertained by some that the tunnel is to divert a large share of the Western business from New York to Boston; but in any case it must be admitted that the Hoosac Tunnel is one of the greatest engineering works of the age—second, as a tunnel, only to that at Mount Cenis. If I am correct in a rough calculation, the total amount of rock removed by blasting, in the entire work, will not be very far from 512,000 cubic yards, or an amount sufficient to make a cubic pile of perfectly solid masonry with a side of 225 feet. It has cost, principal and interest, more than ten million dollars, and it is already fifteen years since work was begun, though the enterprise has not been prosecuted from the first, nor always energetically prosecuted when it was in progress.

The tunnel has a length of 25,031 feet. Its dimensions are 24 feet in width and 20 feet in hight above the railroad track when laid, with a central covered drain two feet square. Its form is a rough semi-circle, the variation being such as to give greater hight at the sides than could be given by a true semi-circle. There is a shaft 12,837 feet from the east, and 12,194 feet from the west end, with a conjugate diameter of 27 feet, and a transverse diameter of 15 feet, this shaft being 1,036 feet in depth. Owing to the poor character of the rock near the west end, there is a shaft about half a mile from the end, and 315 feet deep, through which most of the work of this section has been done.

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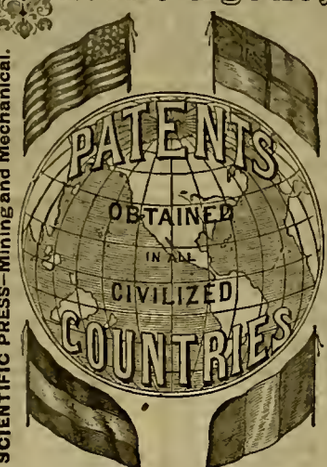

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Information Wanted of Ezra S. Gaver.
When heard from last, ten years ago, was at Pikes Peak, Colorado. Any information of him, or his fate, will be thankfully received by his brother, JOHN GAVER, at 1309 Vallejo street, San Francisco.
25v27-3m

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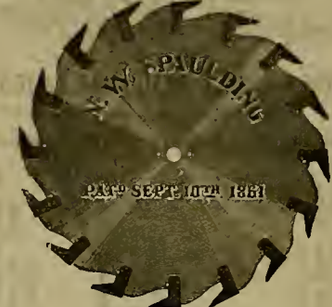

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Eureka, Nevada, July 10, 1872.

T. M. Martin My dear sir: On your leaving for San Francisco, it gives me great pleasure to hand you my written acceptance of the HALLIDIE TRAMWAY put up by you upon our mine in Frelburg.

It is a perfect success, discharging ten tons of ore per hour with two men's labor. It is perfectly simple in construction, and, as far as I can judge, there is nothing about it to ever get out of order—nothing to wear out. While ours requires but about two thousand five hundred feet of wire rope, I can see no reason why the line could not be extended almost indefinitely with equally happy results. Again, the carrying capacity might be doubled or quadrupled if desired. After several weeks trial upon our mine, the unanimous verdict of all who have seen it is a complete, unquestioned success. If this can be of any service to you, use it in any way you think proper. Very respectfully, C. C. GOODWIN.

Emma Hill Consolidated Mining Co., Little Cottonwood, Utah, Superintendent's Office, Sept. 28, 1872.

T. M. Martin, Esq.—Sir: The Ropeway constructed by you (HALLIDIE'S PATENT) for the Emma Hill Consolidated Mining Company, has been built in a most substantial and workmanlike manner, and is at this time in splendid working condition. I most cheerfully accept the work for the Company, and recommend it to others wishing a sure and speedy transit for ores over places impracticable for wagon roads, etc. Respectfully,
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The Vallejo Ropeway.

The Vallejo Tunnel Company's Tramway in Little Cottonwood, built on the HALLIDIE PATENTED PLAN, is a complete success. It is between 2,300 and 2,400 feet in length, and is supported by thirteen stations. The fall in this distance is about 600 feet, and the wire rope, which is three-fourths of an inch in diameter, will safely and easily deliver one hundred tons in six hours. The machinery is automatic, loading and unloading the sacks or buckets. About one ton and a half can be sent down at one time. The stations are about two hundred feet apart, and the entire apparatus is strong and safe. As the wire rope is elevated about forty feet above the surface of the hill, the Tramway can be worked all winter long, without the slightest trouble.—Utah Mining Journal, Salt Lake, Sept. 23, 1872.

Mining Companies and others desiring to negotiate for the erection of this system of Ropeway, can communicate with me personally, or through Postoffice Box 2014.

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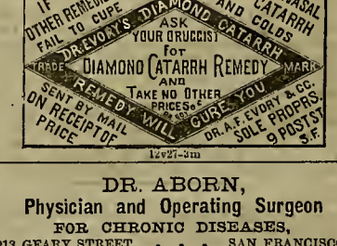
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[FROM OFFICIAL REPORTS FOR THE MINING AND SCIENTIFIC PRESS, DEWEY & CO., PUBLISHERS AND U. S. AND FOREIGN PATENT AGENTS.]

By Special Dispatch, Dated Washington, D. C., Dec. 23d, 1873.

FOR WEEK ENDING Dec. 9th, 1873.*

STEAM AND AIR ENGINE.—Frank J. Crouch, San José, Cal.

GRAIN AND MALT CLEANER AND CRUSHER.—Nicholas Thielan, Sacramento, Cal.

INGOT MOULD. — Ney Curchman, Pioche, Nevada.

DENTAL FILLINGS.—Charles E. Blake, S. F., Cal.

METALLIC FOIL FOR DENTAL PURPOSES.—Chas. E. Blake, S. F., Cal.

MACHINE FOR PRINTING OIL CLOTH.—Wm. E. Worth, S. F., Cal.

PROCESS OF MANUFACTURING ARTIFICIAL STONE. —Ernest L. Ransome, S. F., Cal.

SUBSOIL GANG PLOW.—Christian Myer, assignor to self and Francis J. Schaeffer, Marysville, Cal.

APPARATUS FOR COMPRESSING CAST METALS IN A LIQUID STATE.—Horace W. Barnum, Omaha, Nebraska.

TRADE MARK.

BOURBON WHISKY.—E. A. Fargo & Co., S. F., Cal.

———*The patents are not ready for delivery by the Patent Office until some 14 days after the date of issue.

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New Incorporations.

Theresa M. & M. Co., Dec. 17— Location: Mariposa County. Directors—M Gately, J. W. Tripp, J. B. Laport, J. Whalen, and L. W. Taylor. Capital stock, $1,500,000, in shares of $50 each.

Gopher Hill Consolidated Mining and Ditch Co., Dec. 13—Location: Mineral Township, Plumas County. Capital stock, $1,000,000, in shares of $20 each. Directors—George H. Hinckley, Wm. H. McCarger, O. U. Ham, R. P. Flinn and Wm. Small.

Andes S. M. Co., Dec. 18—Location: Story County, Nevada. Directors—Edward Barron, George S. Dodge, John Landers, R. F. Bunker, George W. Brittan. Capital stock, $5,000,000, in shares of $100 each.

Phelps Manufacturing Co., Dec 18.—Object: To manufactnre iron holts, iron nuts and washers, and the general manufacture of iron and steol, or other metals. Directors—Wm. C. Phelps, Augustne E. Phelps, Alanson H. Phelps, Wm. H. White and Pemberton B. Horton. Capital stock, $300,000, in shares of $100 sach.

Pearl S. M. Co., Dec. 18.—Location: Arizona. Directors—Robart Sherwood, C. T. Hutchinson, A. A. Loudcrhack, J. C Morrison, Jr., and Louis Franconi. Capital stock, $3,000,000, in shares of $100 sach.

Daisy Doan S. M. Co., Dec. 18.—Location: Arizona. Directors—R. Sherwood, C. J. Hutchinson, A. A. Loudcrhack, J. C. Morrison, Jr., and Lonis Franconi. Capital stock, $3,000,000 in shares of $100.

Prussian G. and S. M. Co, Dec 18—Location: Jefferson Mining District, near Belmont, State of Nevada, or elsewhere in said State. Directors—James S. Kennsdy, C. H. Runrill, John E. Dixon, G. W. Grayson and W. S. Mycrs. Capital stock, $3,000,000, in shares of $100.

Mahogany Mining Co., Dec. 22.—Location: Amador County. Directors—Ignalz Steinhart, Wm. M. Stswart, J. D. Fry, L. Jacobi, Solomon Heydenfeldt. Capital stock, $1,200,000, in shares of $100 each.

A certified copy of the proceedings of a meeting of the Dayton Gold and Silver Mining Company, held on the 19th instant, was filed in the office of the County Clerk on the 22nd. The meeting was held for the purposs of voting on the proposition of continuing the existence of the Corporation, under the provisions of Title 1., Part IV, Division First of the Civil Code. All the stock was representsd, and the vote was unanimous in the affirmative.

A certificate of incrsase of the capital stock of the Greene Mining Company was filed at a meeting of the Company, held on the second instant, at which all of the stock was represented. The capital stock was increased from $500,000 to $2,000,000, in shares of $100 each. The liabilities of the Company are the ordinary fluctating current accounts, together with $600 horrowed monsy.

Green Point Dairy and Transportation Co., Dec. 23.—Object: to engage in the business of agriculture, stock raising and improvemsnt of the breed of domestic animals, in Alameda County, navigating the waters of the Bay of San Francisco, construction of wharves and landing places, and the supply of water to the public. Also, the erection of dairy, hutchering and tanning establishments, and of acquiring, renting and selling real sstate, to be used in connection with the business of agriculture and stock raising. Directors—E. B. Perrin, R. L. Tracy, Robert Perrin, James T. Boyd, A. L. Gurney, B. B. Miner and G. F. Thornton. Capital stock, $250,000, divided Into 5,000 shares of $50 each.

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Mining and Other Companies.

Owing to the time necessary to mail the present large edition of the M. & S. Press, we are obliged to go to press on Thursday evening—which is the very latest hour we can receive advertisements

Antilles Mining Company—Location of works, Ely Mining District, Lincoln County, Nevada.

NOTICE OF STOCKHOLDERS' MEETING.—Notice is hereby given, that a meeting of the stockholders of the Antilles Mining Company, will be held at the office of the Company, No. 6 Leidesdorff street, Hayward's Building, San Francisco, California, on Monday, January 5th, 1874, at one o'clock P. M., of that day. Said meeting is called for the purpose of adopting a Code of By-Laws for the government of said Corporation

S. SKERRITT, Acting President.

San Francisco, December 18th, 1873

Bunker Hill Quartz Mining Company—

Location of works, Amador County, California. Location of principal place of husiness, No. 19 First street, San Francisco, California.

NOTICE.—There are delinquent upon ths following described stock, on account of assessment (No. 12), levied on the Twelfth (12th) day of Novemher, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shsres.	Amount.
Wales L Palmer	138	5	$50 00
Wales L Palmer	123	20	200 00
Wales L Palmer	140	100	1,000 00
Wales L Palmer	107	100	1,000 00
Wales L Palmer	114	20	200 00

And in accordance with law, and an order of the Board of Directors, made on the 12th day of Novemher, 1873, so many shares of each parcel of said stock as may he necessary, will he sold at public auction, at the office of the Company, No. 19 First street, San Francisco, Cal., on Monday, the Twelfth (12th) day of Jannary, 1874, at the hour of 12 o'clock M. of said day, to pay said delinqnent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, California. de27

Consolidated Washoe Mining Company—

Location of works, Gold Hill Mining District, Storey County, Nevada.

NOTICE OF STOCKHOLDERS' MEETING.—Notice is hereby given, that a meeting of the stockholders of the Consolidated Washoe Mining Company, will be held at the office of the Company, No. 6 Leidesdorff street, Hayward's Building, San Francisco, California, on Tuesday, January 6th, 1874, at one o'clock P. M., of that day. Said meeting is called for the purpose of adopting a Code of By-Laws for the government of said Corporation. MARTIN WHITE, Acting President.

San Francisco, December 18th, 1873.

Mina Rica Silver Mining Company---Location of principal place of business, San Francisco. Location of works, Auburn, Placer county, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the twenty-third day of December, 1873, an assessment (No. 10) of Twenty-five cents per share was levied upon the capital stock of the corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 320 California street, room No. 5, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the twenty-third day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the sixteenth day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

GEO. R. SPINNEY, Secretary.

Office, No. 320 California street, room No. 5, San Francisco, Cal. de27

Black Mountain Coal Mining Company—

Location of principal place of business, City and County of San Francisco, Cal.

NOTICE.—There sre delinquent upon ths following described stock, on account of assessment levied on the 8th day of October, 1873, the several amounts set opposite the names of the respectivs shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cass, Iham	24	100	$2 50
Cropper, (not issued)	29	100	2 50
Flanigan, Thomas	28	100	2 50
Hurgston, Jos.	27	100	2 50
Hughes, John (not issued)	40	2764	69 00

And in accordance with law, and an order of the Board of Directors, made on the Eighth day of Octoher, 1873, so many shares of each parcel of said stock aa may be necessary, will be sold at public auction, at the office of the said Company, No. 602 Montgomery street, Room No. 23, San Francisco, on the 29th day of Decemher, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. H. PARSHLEY, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13

Commercial Coal Mining Company, of San Francisco. Principal place of business, City and County of San Francisco, State of California. Location of works, Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 16th day of December, 1873, an assessment of fifty (50) cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 402 Montgomery street, room No. 23, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 26th day of Jannary, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 23d day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

S. B. HANSON, Secretary.

Office, No. 402 Montgomery street, room No. 23, San Francisco, California. de20

Cupel and Tiger Silver Mining Company.

Principal place of business, San Francisco, Cal. Location of works, Wallapai Mining District, Mohave County, Arizona Territory.

NOTICE.—Thors are delinquent upon the following described stock, on account of assessment levied on the 25th day of October, 1873, the several amounts set opposite ths names of ths respectivs shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J P Ridgeway	86	1000	$200 00
J P Ridgeway	87	1000	200 00
J P Ridgeway	88	1000	200 00
J P Ridgeway	89	1000	200 00
J P Ridgeway	90	1000	200 00
J P Ridgeway	91	100	20 00
J P Ridgeway	92	100	20 00
J P Ridgeway	94	100	20 00
J P Ridgeway	95	100	20 00
J P Ridgeway	96	100	20 00
J P Ridgeway	97	100	20 00
J P Ridgeway	98	100	20 00
J P Ridgeway	99	100	20 00
J P Ridgeway	100	100	20 00
William Miller	49	500	100 00
William Miller	50	500	100 00
William Miller	51	500	100 00
William Miller	52	500	100 00
William Miller	53	500	100 00
William Miller	55	500	100 00
William Miller	56	500	100 00
William Miller	57	500	100 00
William Miller	58	500	100 00
William Miller	59	500	100 00
William Miller	61	100	20 00
William Miller	145	50	10 00
William Miller	146	100	20 00
William Miller	147	100	20 00
William Miller	148	100	20 00
William Miller	149	100	20 00
W H Smith	24	25	5 00
W H Smith	25	25	5 00
W H Smith	28	20	4 00
W H Smith	29	20	4 00
W H Smith	30	20	4 00
W H Smith	31	20	4 00
W H Smith	32	20	4 00
W H Smith	140	1000	200 00
W H Smith	142	25	5 00
W H Smith	143	50	10 00
W H Smith	177	1200	240 00
Henry Raymond	13	200	40 00
W H Raymond	65	500	100 00
W H Raymond	66	500	100 00
W H Raymond	67	500	100 00
W H Raymond	68	375	75 00
T E Jewell, Trustee	33	500	100 00
T E Jewell, Trustee	34	500	100 00
T E Jewell, Trustee	35	500	100 00
T E Jewell, Trustee	36	500	100 00
T E Jewell, Trustes	37	160	32 00
E Martin Smith, Trustee	38	1000	200 00
E Martin Smith, Trustee	39	500	100 00
Augustus Laver	9	200	40 00
Augustus Laver	139	1000	200 00
Julius Renault	85	100	20 00
Julius Renault	133	100	20 00
Julius Renault	134	100	20 00
Julius Renault	179	500	100 00
Horatio McPherson	11	200	40 00
Engene Chenot	46	50	10 00
Honore Lacoste	48	100	20 00
A Noel	74	25	5 00
L M Gautier	75	50	10 00
Jossph Vernet	76	50	10 00
George Reiter	79	50	10 00
George Reiter	81	100	20 00
George Reiter	82	100	20 00
George Reiter	83	75	15 00
George W Drake	136	50	10 00
James R Martin	137	50	10 00
J C Warren	161	50	10 00
J C Warren	162	50	10 00
J C Warren	163	50	10 00
J C Warren	160	50	10 00
W O Sleeper	164	25	5 00
John M Murphy	165	100	20 00
M Kraszynski	167	30	6 00
M Kraszynski	168	30	6 00
M Kraszynski	169	30	6 00
Charles Spencer	17	100	20 00
Charles Spencer	40	100	20 00
Charles Spencer	42	100	20 00
Charles Spencer	43	100	20 00
Charles Spencer	101	1000	200 00
Charles Spencer	102	1000	200 00
Charles Spencer	103	1000	200 00
Charles Spencer	104	1000	200 00
Charles Spencer	105	1000	200 00
Charles Spencer	106	100	20 00
Charles Spencer	107	100	20 00
Charles Spencer	108	100	20 00
Charles Spencer	109	100	20 00
Charles Spencer	110	100	20 00
Charles Spencer	111	100	20 00
Charles Spencer	112	100	20 00
Charles Spencer	113	100	20 00
Charles Spencer	116	1000	200 00
Charles Spencer	117	1000	200 00
Charles Spencer	118	1000	200 00
Charles Spencer	119	1000	200 00
Charles Spencer	120	1000	200 00
Charles Spencer	121	100	20 00
Charles Spencer	122	100	20 00
Charles Spencer	123	100	20 00
Charles Spencer	124	100	20 00
Charles Spencer	125	100	20 00
Charles Spencer	126	100	20 00
Charles Spencer	127	100	20 00
Charles Spencer	128	100	20 00
Charles Spencer	129	100	20 00
Charles Spencer	130	100	20 00

And in accordance with law, and an order of ths Board of Directors, made on the twenty-fifth day of October, A. D., 1873, so many shares of sach parcel of said stock as may he necessary, will be sold at public auction, at the office of ths Company, room No. 12 Express Building, San Francisco, California, on Saturday, the twentieth day of Decemher, A. D., 1873, at ths hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sals.

C. J. EATON, Secretary.

Office, room No. 12 Expross Building, San Francisco, California. oc29

POSTPONEMENT.—The ahove sale is hereby postponed until Saturday, Jannary 17th, 1874, at the sams hour and place. By order of the Board of Trnstees.

C. J. EATON, Secretsry.

Forest Coal Mining Company—Principal place of business, City and County of San Frsncisco. Location of works, Santa Crnz County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the Eighth day of December, 1873, an assessment of 33½ cents per share was levied upon the capital stock of the Corporation, payable immediately in United States gold and silver coin, to the Secretary, at his office, No. 402 Montgomery srcet, Room No. 23, San Francisco.

Any stock upon which this assessment shall remain unpaid on the Fifth day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 26th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

CHARLES B. BURROUGHS, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13-4w

Great Blue Gravel Range Company—

Location of principal plsce of business, San Francisco, State of California. Location of works, Placer County, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 4) levied on the 20th day of Novemher, 1873, the soveral amounts set opposite the names of the rsspective shareholders, as follows:

Nsmes.	No. Certificats.	No. Shares.	Amount.
Alexander, W T	397	100	$10 00
Alexander, W T	398	100	10 00
Babcox, J T	147	25	2 50
Babcox, J T	388	100	10 00
Babcox, J T	446	100	10 00
Bowers, D L	283	50	5 00
Bowers, D L	284	50	5 00
Bowers, D L	285	50	5 00
Bowers, D L	286	50	5 00
Bowers, D L	287	50	5 00
Bowers, D L	288	50	5 00
Bowers, D L	289	50	5 00
Bowers, D L	290	50	5 00
Bowers, D L	291	50	5 00
Bowers, D L	292	50	5 00
Bowers, D L	293	50	5 00
Bowers, D L	294	50	5 00
Bowers, D L	295	50	5 00
Bowers, D L	296	50	5 00
Bowers, D L	297	50	5 00
Bowers, D L	298	50	5 00
Bowers, D L	299	50	5 00
Bowers, D L	300	50	5 00
Bowers, D L	301	50	5 00
Bowers, D L	302	50	5 00
Hunt, C A	233	100	10 00
Hunt, C A	234	100	10 00
Hnnt, C A	236	100	10 00
Highy, Mrs Ella M	188	100	10 00
Kahn, Paul	367	733	73 30
Lsrne, James	83	500	50 00
Laruo, James	229	1000	100 00
Larue, James	448	700	70 00
Murphy, M A	163	20	2 00
Murphy, M A	223	100	10 00
Murphy, Mrs M A	168	85	8 50
Powell, Peyton	2	10	1 00
Powell, Peyton	3	10	1 00
Powell, Peyton	4	10	1 00
Powell, Peyten	5	10	1 00
Powell, Peyton	6	10	1 00
Powell, Peyton	7	10	1 00
Powell, Peyton	8	10	1 00
Powelt, Peyton	9	10	1 00
Powell, Peyton	10	10	1 00
Powell, Peyton	11	10	1 00
Powell, Peyton	12	20	2 00
Powell, Peyton	13	20	2 00
Powell, Pepton	14	20	2 00
Powell, Heyton	15	20	2 00
Powell, Peyton	16	20	2 00
Powell, Peyton	17	20	2 00
Powell, Peyton	18	20	2 00
Powell, Peyton	19	20	2 00
Powell, Peyton	20	20	2 00
Powell, Peyton	21	20	2 00
Powell, Peyton	22	50	5 00
Powell, Peyton	23	50	5 00
Powell, Peyton	24	50	5 00
Powell, Peyton	25	50	5 00
Powell, Peyton	26	50	5 00
Powell, Peyton	27	50	5 00
Powell, Peyton	28	50	5 00
Powell, Peyton	29	50	5 00
Powell, Peyton	30	50	5 00
Powell, Pepton	31	50	5 00
Powell, Peyton	32	100	10 00
Powell, Peyton	33	100	10 00
Powell, Peyton	34	100	10 00
Powell, Peyton	35	100	10 00
Powell, Peyton	36	100	10 00
Powell, Peyton	330	7000	700 00
Peck, E S	43	20	2 00
Peck, E T	47	200	20 00
Watson, Geo P J, Trustee	366	500	50 00
Watson, Geo P J, Trustee	386	50	5 00
Watson. Geo P J, Trustes	396	200	20 00
Watson, Geo P J, Trustee	453	3300	330 00
Wheelright, S	462	50	5 00
Wheelright, Mrs S	385	50	5 00
Williams, A	409	1000	100 09

And in accordance with law, and an order of the Board of Directors, made on the 20th day of November, 1873, so many shares of each parcel of snch stock as may he necessary, will he sold at public auction at the office of the company, rooms 5 and 6, No. 302 Montgomery street, San Francisco, California, on Monday, the 12th day of January, 1874, at the hour of two o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of the sale.

W. H. WATSON, Secretary.

Office—Rooms 5 and 6, No. 302 Montgomery street, San Francisco, California. de27

Great Blue Gravel Range Mining Company—Location of Principal Place of Business, San Francisco, California. Location of Works, Placer County, State of California.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 20th day of November, 1873, an assessment of Ten cents (10c.) per share was levied upon the capital stock of the Corporation, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Rooms 5 and 6, No. 302 Montgomery street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on Monday the 22d day of December, 1873, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 12th day of January, 1874, to pay the delinquent assess-

ment, together with costs of advertising and expenses of sale. By order of the Directors.

WM. H. WATSON, Sec'y.

Office, Rooms 5 & 6, No. 302 Montgomery street.

Gold Mountain Mining Company—Location

of principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 31st day of October, 1873, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W A Knapp, Trustee	13	500	$325 00
W A Knapp, Trustee	15	300	75 00
W A Knapp, Trustee	16	100	25 00
W A Knapp, Trustee	18	100	25 00
W A Knapp, Trustee	19	100	25 00
W A Knapp, Trustee	25	100	25 00
D M Hoamer, Trustee	49	400	100 00
D M Hoamer	54	33	8 25
Thos Bennett	9	2500	025 00
G D Roberts	29	2000	500 00

And in accordance with law and an order of the Board of Directors, made on the 31st day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the company's office, No. 110 Leidesdorff street, San Francisco, California, on the 5th day of January, 1874, at the hour of one o'clock P. M., of said day, to pay said delinquent assessment thereon, toge her with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Sec'y.

Office—116 Leidesdorff St., cor. of Halleck, San Francisco, Cal. dc20

Hayden Hill Mining Company—Location

of principal place of business, San Francisco, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 20th day of September, 1873, the several amounts set oppeaite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Geo M Pinney, Trustee	10	500	$75 00
Geo M Pinney, Trustee	12	500	75 00
Geo M Pinney, Trustee	13	500	75 00
Geo M Pinney, Trustee	15	500	75 00
Geo M Pinney, Trustee	17	500	75 00
Geo M Pinney, Trustee	18	500	76 00
Geo M Pinney, Trustee	3	100	15 00
Geo M Pinney, Trustee	4	100	15 00
Geo M Pinney, Trustee	129	40	6 00
S A Raymond	1	100	15 00
D S Brown, Trustee	100	20	3 00
W H Gawley	19	500	75 00
W H Gawley	20	500	75 00
A W Blair, Trustee	38	50	7 50
A W Blair, Trustee	44	50	7 50
A W Blair, Trustee	46	100	15 00
A W Blair, Trustee	47	100	15 00
A W Blair, Trustee	48	100	15 00
A W Blair, Trustee	49	100	15 00
A W Blair, Trustee	51	500	75 00
A W Blair, Trustee	52	500	75 00
A W Blair, Trustee	64	500	75 00
A W Blair, Trustee	55	500	75 00
A W Blair, Trustee	66	500	75 00
A W Blair, Trustee	67	100	15 00
A W Blair, Trustee	68	100	15 00
A W Blair, Trustee	69	100	15 00
S A Raymond, Trustee	77	250	37 50
S A Raymond, Trustee	78	250	37 50
S A Raymond, Trustee	79	250	37 50
S A Raymond, Trustee	80	250	37 50
S A Raymond, Trustee	81	100	15 00
S A Raymond, Trustee	82	100	15 00
S A Raymond, Trustee	83	100	15 00
S A Raymond, Trustee	84	100	15 00
S A Raymond, Trustee	85	100	15 00
S A Raymond, Trustee	86	100	15 00
S A Raymond, Trustee	87	100	15 00
S A Raymond, Trustee	88	100	15 00
S A Raymond, Trustee	89	100	15 00
S A Raymond, Trustee	91	3000	450 00
S A Raymond, Trustee	93	50	7 50
S A Raymond, Trustee	99	560	99 00
Louis R Lull	73	100	15 00
W F Dorrance	132	50	7 50
W H Knight	75	100	15 00
A F Brown, Trustee	101	100	15 00
A F Brown, Trustee	102	100	15 00
A F Brown, Trustee	103	100	15 00
A F Brown, Trustee	104	100	15 00
A F Brown, Trustee	105	100	15 00
A F Brown, Trustee	106	100	15 00
A F Brown, Trustee	107	100	15 00
A F Brown, Trustee	108	100	15 00
A F Brown, Trustee	109	100	15 00
A F Brown, Trustee	110	100	15 00
A F Brown, Trustee	111	100	15 00
A F Brown, Trustee	112	100	15 00
A F Brown, Trustee	113	100	15 00
A F Brown, Trustee	114	100	15 00
A F Brown, Trustee	115	100	15 00
A F Brown, Trustee	116	100	15 00
A F Brown, Trustee	117	100	15 00
A F Brown, Trustee	118	100	15 00
A F Brown, Trustee	110	100	15 00
A F Brown, Trustee	120	100	15 00
A F Brown, Trustee	121	500	75 00
A F Brown, Trustee	122	500	76 00
A F Brown, Trustee	123	500	75 00
A F Brown, Trustee	124	500	75 00
A F Brown, Trustee	125	500	75 00
A F Brown, Trustee	126	500	75 00
A F Brown, Trustee	127	200	30 00
A F Brown, Trustee	128	50	9 00
Jas A Pritchard, Trustee	130	5250	937 50
O P Warren	131	50	7 50
W H Knight, Trustee	134	24920	3738 00

And in accordance with law, and an order of the Board of Directors, made on the 29th day of September, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction at the office of the Secretary, No. 331 Montgomery street, room 18, San Francisco, Cal., on the 15th day of December, 1873, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. H. KNIGHT, Secretary.

Office—331 Montgomery street, San Francisco, California. no29

POSTPONEMENT.—The above sale is hereby postponed until the 14th day of January, 1874, at the same hour and place. By order of the Board of Trustees.

WM. H. KNIGHT, Secretary.

de20-4w

Ida and Rhoda Lewis Consolidated Mining Company.

Principal place of business, San Francisco, California. Location of works, Wallapai Mining District, Mohave county, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the seventy-seventh day of October, A. D., 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Eugene Pardini	292	20	$2 00
E D Dement	303	25	2 50
E D Dement	304	25	2 50
E D Dement	305	25	2 50
E D Dement	306	25	2 50
T B Wingard	313	200	20 00
L Eleecr	314	50	5 00
L Eleecr	315	50	5 00
L Eleser	310	50	5 00
L Eleser	317	60	5 00
L Eleser	318	60	5 00
L Eleser	319	50	5 00
J E Slinkey	341	20	2 00
Joseph Sharon	342	250	25 00
Joseph Sharon	343	250	2500
Joseph Sharon	344	250	25 00
Joseph Sharon	345	250	25 00
F Chappellet	348	1000	100 00
F Chappellt	349	100	10 00
N Stelner	350	100	10 00
John Clarcsy, Trustee	73	200	20 00
John Clarcsy, Trustee	77	200	20 00
John Clarcsy, Trustee	78	100	10 00
John Clarcsy, Trustee	85	50	5 00
John Clarcsy, Trustee	86	50	5 00
John Clarcsy, Trustee	90	50	5 00
John Clarcsy, Trustee	91	50	5 00
John Clarcsy, Trustee	92	25	2 50
John Clarcsy, Trustee	93	25	2 50
John Clarcsy, Trustee	90	25	2 50
John Clarcsy, Trustee	97	25	2 50
John Clarcsy, Trustee	360	20	2 00
John Clarcsy, Trustee	362	25	2 50
John Cody, Trustee	147	50	5 00
G P Martinoni, Trustee	262	100	10 00
G P Martinoni, Trustee	263	25	2 50
G P Martinoni, Trustee	264	25	2 50
G P Martinoni, Trustee	265	25	2 50
G P Martinoni, Trustee	266	25	2 50
J Cohn, Trustee	357	1000	100 00
J Cohn, Trustee	358	1000	100 00
J Cohn, Trustee	359	1000	100 00
J Cohn, Trustee	360	500	50 00
J Cohn, Trustee	361	313	31 30
M J McDonald	268	200	20 00
William Welsh	362	367	36 70
J T Bradley	363	133	13 30
J T Bradley	364	37	3 70
J M Thompson	365	100	10 00
J M Thompson	366	97	0 70
L A Johnson, Trustee	132	100	10 00
L A Johnson, Trustee	133	100	10 00
L A Johnson, Trustee	134	100	10 00
L A Johnsou, Trustee	152	100	10 00
L A Johnson, Trustee	276	25	2 50
L A Johnson, Trustee	278	25	2 50
L A Johnson, Trustee	279	25	2 50
L A Johnson, Trustee	280	25	2 50
L A Johnson, Trustee	281	25	2 50
L A Johnson, Trustee	284	50	5 00
L A Johnson, Trustee	285	50	5 00
L A Johnson, Trustee	286	50	5 00
L A Johnson, Trustee	287	50	5 00
L A Johnsen, Trustee	288	50	5 00
L A Johnson, Trustee	289	50	5 00
L A Johnson, Trustee	290	50	5 00
L A Johnson	269	187	18 76
J A Lakin, Trustee	295	100	10 00
F R Lewis, Trustee	158	100	10 00
F R Lewis, Trustee	161	100	10 00
F R Lewis, Trustee	163	50	5 00
F R Lewis, Trustee	164	50	5 00
F R Lewis, Trustee	168	25	2 50
F R Lewis, Trustee	169	25	2 50
F R Lewis, Trustee	170	25	2 50
F R Lewis, Trustee	171	25	2 50
F R Lewis, Trustee	172	25	2 50
F R Lewis, Trustee	173	20	2 00
F R Lewis, Trustee	174	20	2 00
F R Lewis, Trustee	175	20	2 00
F R Lewis, Trustee	176	20	2 00
F R Lewis, Trustee	177	20	2 00
J de Sta Marina, Trustee	31	500	50 00
J de Sta Marina, Trustee	32	500	50 00
J de Sta Marina, Trustee	33	500	60 00
J de Sta Merina, Trustee	40	100	10 00
J de Sta Marina, Trustee	42	100	10 00
J de Sta Marina, Trustee	43	100	10 00
J de Sta Marina, Trustee	45	100	10 00
J de Sta Marina, Trustee	53	50	5 00
J de Sta Marina, Trustee	205	20	2 00
J de Sta Marina, Trustee	217	100	10 00
J de Sta Marina, Trustee	221	1000	100 00
A C Morec, Trustee	187	20	2 00
A C Morse, Trustee	198	500	50 00
F R Lewis	370	6000	500 000
Charles Spencer	230	100	10 00
Charlee Spencer	244	500	50 00
Charlee Spencer	245	500	50 00
Charlee Spencer	246	334	33 40
Ambrose Sorha	104	400	40 00
Ambrose Sorha	111	100	10 00
Ambrose Sorha	112	100	10 00
Ambrose Sorha	116	100	10 00
Ambrose Sorha	117	50	5 00
Ambrose Sorha	118	50	5 00
Ambrose Sorha	121	50	5 00
Ambrose Sorha	126	25	2 50
Wm. H. Sharp	367	10,000	1,000 00
P. C. Lander, Trustee	371	3,500	350 00

And in accordance with law, and an order of the Board of Trustees made on the twenty-seventh day of October, 1873, so many shares of each parcel of such stock as may be necessary, will be sold at public auction at the office of the Company, Room No. 12 Expresa Building San Francisco, California, on Wednesday the twenty-fourth day of December, 1873, at the hour of 12 M., of said day, to pay delinquent assessments thereon, together with costs of advertising and expenses of the sale.

O. J. EATON, Secretary.

Office, Room No. 12, Expresa Building, San Francisco, California.

POSTPONEMENT.—The above sale is hereby postponed until Monday, January 26th, 1874, at the same hour and place. By order of the Board of Trustees.

O. J. EATON, Secretary.

de27

Land Purchasers' Association—Office No. 425 Kearny street.

There are delinquent upon the following described stock, on account of assessment (Installment No. 38) levied on the 19th day of Novcmber, A. D. 1873, the several sums set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
Boyae J. E	9	1	$10
Bosford, J. K., Jr	63, 64, 65	3	30
Bayla, J. L	72	1	10
Eckey, J. W	175, 176	2	20
Darby, Thos	12	1	10
Day, T. H	32, 33	2	20
Dickey, Geo. S	157	1	10
Ohevallier, V	93	1	10
Huntley, C. P	78	1	10
Hoyt, S. W	138	1	10
Knight, W. H	81, 86	2	20
Mayhew, W. E	23, 24, 157	3	30
Weuzell, J. L	25	1	10

And in accordance with the law and an order of the Board of Directors, made on the 10th day of November, A. D., 1873, so many shares of each parcel of said stock as may be neeceaary, will be sold at Public Auction at the office of the Secretary, 425 Kearny street (up staire), San Francisco, Cal., on Tuesday, the 13th day of January, 1874, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.

Office No. 425 Kearuy street, (up stairs), San Francieco, Cal.

Land Purchasers Association—Office, No. 425 Kearny street, San Francisco, Cal.

Notice is hereby given, that at a meeting of the Directors, or Trustees of this corporation, held on the 19th day of November, 1873, an assessment of ten dollars per share (being the 38th monthly installment on the subscription to the stock) was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at No. 425 Kearny street, San Francisco, Cal.

Any stock upon which this assessment shall remain unpaid on the 23d day of December, 1873, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on the 13th day of January, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

C. S. WRIGHT, Secretary.

Office, No. 425 Kearny street, San Francisco, California.

Moreau Machine Manufacturing Company.

Principal place of business, San Francisco, California.

Notice is hereby given that at a meeting of the Directors of said company, held on the third day of December, 1873, an assessment (No 4) of fifty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the office of the company, No 301 Pine street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on Saturday, the 10th day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the ninth day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

Office, 301 Pine street, San Francisco, Cal. de6

C. S. WRIGHT, Secretary.

Mina Rica Mining Company—Office of the Mina Rica Mining Company, No. 320 California Street, Room No. 5, San Francisco, California. San Francisco, Nov. 26th, 1873.

In accordance with a resolution adopted at a meeting of the Board of Trustees of the Mina Rica Mining Company, held this day, a special meeting of the Stockholders of said Company is hereby called; the same to be held at the office of the Company, No. 320 California street, Room No. 5, San Francisco, California, on Monday, the 29th day of December, 1873, at two o'clock P. M., of said day, to take into consideration and decide upon the proposition to increase the Capital Stock of said Company, from one million dollars, ($1,000,000) divided into ten thousand shares, of the par value of one hundred (100) dollars each, the present Capital Stock, to Two Million ($2,000,000) Dollars, divided into twenty thousand (20,000) shares, of the par value of one hundred (100) dollars each.

O. F. GIFFIN,
J. H. WILLIAMS, } Trustees.

North San Francisco Homestead and Railroad Association—Principal place of business, City and County of San Francisco, State of California. Location of works, City and County of San Francisco, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 1st day of December, 1873, an assessment of Two Dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at his office, 314 California street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 3d day of January, 1874, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 26th day of January, 1874, to pay the delquent assessment, together with costs of advertising and expenses of the sale.

A. D. SMITH, Secretary.

Office, 314 California street, San Francisco, Cal.

Ohio Consolidated Gold Mining Company.

Principal place of business, San Francisco, Cal. Location of works, West Point, Calaveras County, Cal.

Notice is hereby given, that at a meeting of the Board of Directors, held on the 17th day of December, 1873, an assessment of twenty cents per share was levied upon the capital stock of the corporation, payable immediately, in United States gold and silver coin, to the Secretary, No. 115 Leidesdorff street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid on the 17th day of January, 1874, will be delinquent, and advertised for sale at public auction, and unless payment is made before, will be sold on Monday, the 9th day of February, 1874, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

W. AUGS. KNAPP, Secretary

Office, 115 Leidesdorff street, San Francisco, Cal. de20

Ophir Copper, Silver and Gold Mining Company.

Location of principal place of business, San Francisco, California. Location of works, Ophir, Placer County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the 12th day of Novemher, 1873, the several amounts set opposite the names of the respective shareholders as follows:

OLD STOCK.

Names.	No. Certificate.	No. Shares.	Amount.
Brandt, Mre E	315	50	$15 00
Baumn, Chas	316	100	30 00
Coggeshall, F C	87	100	30 00
Coggeshall, F C	180	12	3 60
Swain, H O	318	50	15 00

NEW STOCK.

Allen, M W	24	75	7 50
Bogart, C H, Trustee	78	3500	350 00
Brush, R G	63	1	10
Brown, Chas F, Trustee	80	22½	2 25
Brown, Chas F, Trustee	54	200	20 00
Brown, Chas F, Trustee	66	100	10 00
Brown, Chas F, Trustee	66	100	10 00
Brown, Chas F, Trustee	67	100	10 00
Brown, Chas F, Trustee	68	50	5 00
Brown, Chas F, Trustee	69	50	5 00
Brown, Chas F, Trustee	70	35	3 50
Brown, Chas F, Trustee	71	25	2 50
Brandt, Mre E	34	150	15 00
Brandt, Mre E	35	300	30 00
Everson, Wallace, Trustee	29	600	60 00
Gibbs, Chas E	14	500	50 00
Gibbs, Chas E	15	500	50 00
Gibbs, Chas E	16	186	18 50
Gibbs, Chas E	36	100	10 00
Gibbs, Chas E	37	100	10 00
Gibbs, Chas E	38	100	10 00
Gibbs, Chas E	39	100	10 00
Gibbs, Chas E	40	100	10 00
Hoyt, L A, Trustee	77	74	7 40
Garniee, Jamee R	26	300	30 00
Higgins, W W	41	10	1 00
Higgins, W W	42	10	1 00
Higgins, W W	43	10	1 00
Higgins, W W	44	10	1 00
Higgins, W W	45	10	1 00
Higgins, W W	46	10	1 00
Higgins, W W	47	10	1 00
Higgins, W W	48	10	1 00
Higgins, W W	49	10	1 00
Higgins, W W	50	10	1 00
Higgins, W W	51	10	1 00
Higgins, W W	52	10	1 00
Higgins, W W	53	10	1 00
Higgins, W W	54	10	1 00
Higgins, W W	55	10	1 00
Kity, W J, Jr	59	1	10
Pardy, G W	56	150	15 00
Rogers, G P	61	1	10
Stackpole, Thomas	25	75	7 50
Swain, H C, Trustee	75	500	50 00
Swain, H C, Trustee	78	500	50 00
Swain, H C, Trustee	74	302	30 20
Treadwell, A, Trustee	75	499	49 90
Treadwell, J B, Trustee	76	999	99 90
Wightman, James	17	1200	120 00

And in accordance with law, and an order of the Board of Directors, made on the 12th day of November, 1873, so many shares of each parcel of said stock as may be neccesary, will be sold at public auction, at the office of the Company, room 4, Duncan'e building, No. 411½ California street, San Francisco, California, on Monday, the 5th day of January, 1874, at the hour of 1 o'clock P. M. of such day, to pay said delinquent assessment thereon, together with costs of advertieing and expenses of the sale.

O. H. BOGART, Secretary.

Office, room 4, Duncan'e building, No. 411½ California street, San Francisco, Cal. de20

The Phelps Manufacturing Company—

The stockholders of the Phelps Manufacturing Company are hereby notified that a meeting of said stockholders will be held on Saturday, the 10th day of January, A. D. 1874, at 3 o'clock P M., for the purpose of adopting a code of By-Lawe for the government of the corporation. The meeting will be held at the office of the company, No. 17 Drumm street, San Francisco.

de27 W. S. PHELPS, Acting President.

Pacific Asbestos Mining and Manufacturing Company.

Principal place of business, San Francisco, California. Location of works, Placer county, Cal.

NOTICE.—There are delinquent upon the following described Stock, on account of Assessment levied on the 17th day of November, 1873, the several amounts set opposite the names of the respective Shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
James M Allen	95	100	$0 00
James M Allen	97	100	0 00
James M Allen	98	100	6 00
Janies M Allen	99	100	5 00
James M Allen	100	100	6 00
James M Allen	101	100	0 00
S B Farnham	119	100	6 00
S B Farnham	120	100	6 00
S B Farnham	121	100	6 00
S B Farnham	122	100	6 00
G W Blake	55	100	6 00
G W Blake	56	100	5 00
G W Blake	57	100	6 00
G W Blake	81	100	0 00
G W Blake	82	100	6 00
G W Blake	83	100	5 00
G W Blake	84	100	6 00
G W Blake	63	100	6 00
G W Blake	54	100	0 00
G W Blake	85	100	0 00
G W Blake	85	100	5 00
G W Blake	86	100	6 00
G W Blake	87	100	6 00
G W Blake	88	100	6 00
E Chamberlin, Balance	135	100	3 50
E Chamberlin, Balance	136	100	3 50
E Chamberlin, Balance	137	100	3 50
E Chamberlin, Balance	138	100	3 50
P E Hughson	115	100	5 00
P E Hughson	116	100	8 00
P E Hughson	117	100	6 00
P E Hughson	118	100	0 00
Charles E Wehn	131	100	0 00
Charles E Wehn	132	100	0 00
Charlee E Wehn	133	100	0 00
Charles E Wohn	134	100	6 00
W T Robinson	31	100	6 00
W T Robineon	32	100	0 00
W T Robineon, (not issued)	155	100	0 00
W T Robinson, (not issued)	156	100	6 00
H A Benjemin	102	100	6 00
H A Benjemin	103	100	6 00
P Edwd. Connor	107	100	6 00
P Edwd. Connor	108	100	6 00
P Edwd. Connor	109	100	6 00
P Edwd. Connor	110	100	6 00
H L Miller	41	100	6 00
H L Miller	42	100	0 00
H L Miller, (not issued)	159	100	6 00
H L Miller, (not issued)	160	100	6 00
J F Brown, (not issued)	165	100	6 00
J F Brown, (not issued)	166	100	0 00
J F Brown	47	100	6 00
J F Brown	48	100	0 00
W J Cady, Balance	89	100	3 50
W J Cady, Balance	90	100	3 50
W J Cady, Balance	91	100	3 50
W J Cady, Balance	92	100	3 50
A Lewthwaite, Trustee	143	200	12 00
A Lewthwaite, Trustee	144	195	11 70
A Sloane	111	100	6 00
A Sloeno	112	100	5 00
A Sloane	113	100	6 00
A Sloane	114	100	6 00
Chas Platt	5	100	0 00
Chas Platt	71	100	6 00
Chas Platt	72	100	6 00
Chas Platt	73	100	6 00
Chas Platt	93	100	6 00
Chas Platt	94	100	6 00
Chas Platt	95	100	0 00
Chas Platt, (not issued)	152	100	6 00

And in accordance with law, and an order of the Board of Directors, made on the 17th day of Novemher, 1873, so many shares of each parcel of said Stock as may be necessary, will be sold at public auction at the auction sales room of John Middleton & Son, 310 Montgomery street, San Francisco, Cal., on the 12th day of January, 1874, at the hour of 1 o'clock P. M., of said day, to pay said Delinquent Assessment thereon, together with costs of advertieing and expenses of sale.

H. B. CONGDON, Secretary.

Office—No. 306 Montgomery street, San Francisco, Cal. de27

Thompson Coal Mining Company—Location of principal place of business, city and county of San Francisco.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the Eighth day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Crocker, A E	163, 154	50	$1 25
Crocker, A E	155, 170	50	1 50
Crocker, A E	171, 172	40	1 00
Crocker, A E	175	50	1 25
Crocker, A E	170, 181	600	15 00
Crocker, A E	258	1000	25 00
Crocker, A T	111, 115, 121	75	1 87½
Crocker, A T	123, 124	200	5 00
Crocker, A T	125, 127	200	5 00
Crocker, A T	129	50	1 25
Luecombe, Robert	183, 184	50	1 25

And in accordance with law, and an order of the Board of Directors, made on the Eighth day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the said Company, No. 402 Montgomery street, Room No. 23, San Francisco, on the 29th day of December, 1873, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertieing and expenses of sale.

W. H. PARSHLEY, Secretary.

Office—No. 402 Montgomery street, Room No. 23, San Francisco, Cal. de13

Washington Mining Company—Location of principal place of business, San Francisco, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 30th day of October, 1873, the several amounts set opposite the names of the respective shareholders as follows:

Name.	No. Certificate.	No. Shares.	Amount.
J W Gashwiler	82	700	$700 00

And in accordance with law and an order of the Board of Directors, made on the 30th day of October, 1873, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 317 Montgomery street, San Francieco, Cal., on the 31st day of December, 1873, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertieing and expenses of sale.

T. B. WINGARD, Secretary.

Office, No. 318 California street, room No. 13, San Francieco, Cal. de13

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First and Fremont streets,

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24v17-qy

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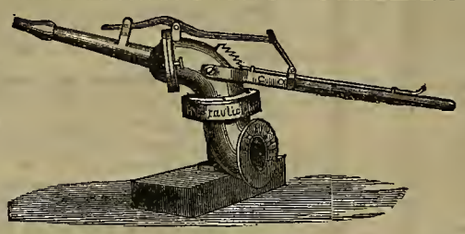

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9v23-tf Address F. H. FISHER, Nevada, Cal.

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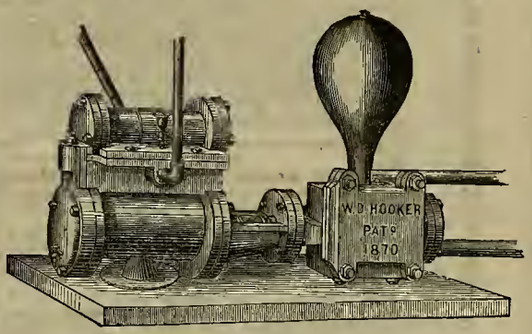

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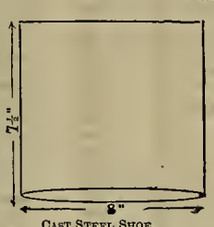
SAN FRANCISCO.



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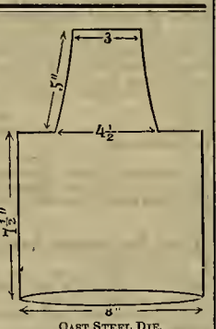

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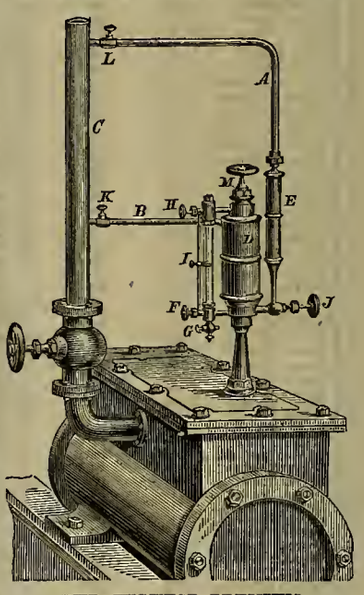

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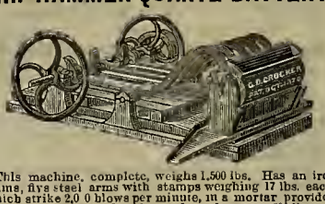

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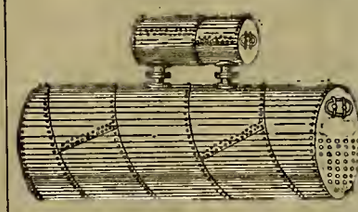

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INDEX
— TO —
VOLUME XXVII
— OF THE —
MINING AND
Scientific Press
From July, 1873, to January, 1874.

A PAGE

Abandoned Mines.....50, 262
Academy of Sciences, 24, 49, 39, 145, 164, 233, 265, 297, 322, 358, 392, 408
Accidents, Remedies for..182
Acclimatizing Animals....225
Agassiz's Plan of Teaching 163
Agues, Death of.....392, 408
Air, Wholesome.....219
Alaska Mines, 18, 70, 178, 182, 378.
Alcohol in Bread.....375
Alcynoid Polyp, New Species.....88
Alkali, Manufacture of...371
Alloys, Manufacture of...291
Alpine County Mines.....386
*Alta City.....329
Altitude at which Men Live.....275
Aluminium.....211, 403
Amador Canal.....402
Amador County Mines, 278 294, 312, 370, 391
Amalgamation, Chilian Method.....346
Amalgamation, Chemical a in (See Pan Amalgamation.)
*Amalgamator, Rickard's 17
*American Cowslips.....70
American Mining Co.....278
Ammonia, Use of.....327
Animals, Variation in.....175
Annealing.....176
Antimony.....115
Anvil, Largest 179
Appetite, Abuse of.....275
Appetite, Natural.....343
*Aquarium at Woodward's 86
*Arctic Adventure.....1
Arizona Indians.....186
Arlington District.....86
Arts and Sciences.....99
Asiatic Tools.....387
Assays, Specimen.....322
Asphalte Paper.....151
Asthma.....151
Astronomical, 35, 51, 163, 179, 186, 211, 227, 355.
Australian Mines.....202, 394
Augsberg, Web Process... 98

B

Bathing.....23, 199
Battle Mountain Mines...283
Baldwin Expedition.....390
Bear River Tunael, 136, 194 226 258.
Beds and Health.....215
Bees, Instincts of.....135
Beer, Root.....22
Beet Sugar.....120, 147
Belmont Mines.....242, 386
Belts, Slipping of.....67
Bingham Canon District.....194
Blasting.....89, 227, 373
Blasting, Submarine.....227
Blow Pipe, Use of.....56, 73
Blow Pipe, Analysis...73, 230
Blushing.....87
*B as Detaching Apparatus 393
Body, Carriage of 135
Boiler, A Mammoth.....171
Boiler, Cork Jackets on...147
Boiler Explosions.....115
Boiler Incrustation, 35, 83, 291 329
Borax Mines 122
Brain, Experiments on.....11
Brain Work.....23
Bread.....23, 87, 215, 279.
Brick, Enameled.....3
Bridge, the Largest.....163
Bridge, Niagara.....163
Bridge, St. Louis.....195
*Bridge, Truss.....19
British Columbia Mines...291
Building Matter.....280
Building Stone and Fire.329
Bullion Product of Comstock.....356
Bullion, Refining.....121, 390
Bullion Shipments, 106, 145, 153 248, 260, 288, 265.
Butte County Mines.....122
Butter, Artificial.....22

C

Cables, Breaks in.....275
Calaveras County Mines, 2, 10 220, 246, 293, 314, 385
California Affairs...54, 193, 394
California, Natural Curiosities.....20
Calistoga Gold Mines...184
Camp Floyd Mill...130, 390, 418
*Cam and Tappet, Hammers 225
Canals in Egypt.....131
Canal, Iowa Hill.....354
Canals, Steam on.....328
Carbonic Acid.....3, 35, 388
Carbolic Acid.....243
Carbonic Acid in Air 243
Carlhou District.....202, 370
Carson River.....10, 42, 53, 122
Car Lubricator.....135
*Car Coupling, Howard's..409
Castor Oil, Value of.....247
Catarrh 39
*Cattle and Vaqueros in Cal.....249
Cedar Creek Mines.....234
Celery as a Nervine.....245
Cements, Philosophy.....135, 375
Charcoal at Eureka.....123
Charcoal, Medical use of...135
Charcoal, Purification of...227
Chasm on the Colorado..310
Cheek.....85, 123
Chemicals in Amalgamat'n (see Pan Amalgamation)
Chemical Prizes in France 83
Cherry Creek Mines, 18, 353 360.
Chest, Expanding the.....39
Chinese Miners.....202
*Chinese Temple.....243
Chloral Hydrate.....131, 343
Cholera.....119, 327
Chollar Potosi Mine.....41
Circlers, Utilizing.....163
*City Front of S F.....361, 378
*City Hall of S F.....81
Civil Damages Act.....90
*Clay St R R.....200, 201
Clock Time Recording.....227
*Clothes Line Reel.....379
Clothing.....263, 295
Coal in California, 50, 54, 314 331.
Coal in China.....6
Coal Fields of Coos Bay...182
Coal Mining.....1, 394
*Coal Screen and Chute....141
Coal in Utah.....242, 379
Coal in Washoe.....122, 285
Coinage, 26, 34, 154, 217, 226, 282 324, 326, 338, 370.
Gold.....227, 259, 407
Colorado Mines.....34, 262, 282

* Illustrated.

Comstock Mines.....2, 118
Comstock Mines, Product of 356
Comstock's Financial Operations.....
Concentration of Ores, 9, 10 33, 168, 214, 317, 353, 390
Concentration at Star Canon.....163, 214
*Concentrating Jigger...337
*Concentrator, Krom's, 163, 257
*Concentrator, Peer & Landquist's.....274
*Concentrator, Utsch's.....33
*Concentrator, Wren's.....9
Condenser, Fiedsler's...305
Construction, Ancient.....19
Consets.....179
Consumption 7
Cooking, as an Art.....7, 55
Cooling of.....24
Copper Ores.....248
Copper Process.....360
Coppery Bullion, Refining.....121
Cordage Works.....104
Cork, Production of.....170
Cornucopia District, 85, 101, 124, 152, 184, 202, 390.
Correz District.....58
Cost of Materials.....362
Coupling, Self Acting.....259
Crown Point Mine Report.104
Crown Point Ore Body.....118
Crown Point Production...387
Crucible Furnace.....57
Cuyamaca Grant Suit.365, 393

D

Dank's Puddler.....163
Darwinism.....115
Death, Painless.....103
Death Valley.....331
Dentistry, Perfection in Art of.....337
Desert, Flooding a.....403
Diamonds in Hydraulic Diggings.....40
Diet.....55, 103, 151, 311, 407
Digestion, Aids to.....183
Dividends (See Mining Dividends)
Dividend Paying Mines...284
Domestic Economy (See 7th Page Weekly)
Dreer, Bally.....377
Drills, Hardening.....151
*Drill, Ingersoll's.....241
Drinking at Meals.....55
Dry Crushing Batteries...243
Dumbering Mine.....250
Dutch Flat Mines.....342, 386
Dye Stuff, a New.....275
Dyspepsia.....5

E

Earth, Solidity of 323
Eating When Exhausted, 183
Egan Canon Mines.....358
Electricity, Decomposition of...19
Egyptian Mines.....234
El Dorado Co. Pioneers...378
Electric Currents.....259
Electricity and Heat.....83
Electricity and Life...163, 214
Electric Light 403
Electricity, Positive.....99
Electric Toxometry.....387
Elkhorn Mine.....19
*Ellipsograph.....193
Emma Mine.....40, 42
Engine, Largest in World.194
*Engineering, Hydraulic 376
Engineering at Sutro Tunnel.....290
English Language.....230
English Patents.....73
Engraving, Photo-facsimile 271
Eureka Cons Mine.....58, 241
Eureka Mines, 18, 31, 50, 66, 241, 284.
Eureka Mine Report.....284
Explorer's Miner's and Metallurgist's Companion.....312
Explosives, New Class of.119
Eyes.....39
Eye of Eagle.....7

F

Farmers' Health.....167
Farmers' Movement.....164
Fat and Lean.....55
Fat Men.....135
Feet of Men.....407
*Feet of Horses.....246
Fence Posts, Everlasting.248
Fertilizer, a New.....19
Fibrine, Artificial as Food 263
*Filter, Huenie's Self Cleaning.....177
Financial Panic in New York.....273
Fires.....7, 358
Fire Detector.....387
Fish Commissioner Cassin 233
Fish Culture.....39, 225, 362
Flannel.....7
*Flume Rifle.....213
Flying, Possibility of.....161
Food, Preparation of.....311
Foods not all Dead Yet...165
Fossil Man of Montone....299
Foundry Work in S F.....314
Fountain Table.....249
Fruits, Conservation of...215
Fruits as Diet.....311
Fruits Without Flowers..339
Fumes, Philosophy.....135, 375
Furnace, Dank's.....163
*Furnace, Fiedeler's.....305
*Furnace, McGlew's...10, 65, 73
*Furnace, Rustless.....249
Furnaces in Salt Lake.....198
Furnace Slag, Use of.178, 199
Furniture.....71, 311

G

Gas Burners.....359
Gas Burning Locomotives.37
Gas, Natural.....202
Gas Propelled Boats.....195
Gas from Water.....275
Gases, Percolation of.....3
Geological Survey Report 328 385, 379
Giant Powder..24, 65, 193, 330
Giant Powder for Fishing 362, 380.
Giant Powder Gases.....396
Glass Cloth.....339, 371
Glass, Soluble.....19, 243
Glass Stoppers, Removing 247
Glass Works in S F.....169
Gold in Alaska..70, 178, 193, 378
Gold in Australia.....202, 266
Gold Bar, Largest, 225, 275, 290 369.
Gold from California in East.....170
Gold in Indian Ashes.....241
Gold in Germany.....232
Gold Mountain Mines.....250
Gold in Napa County.....184
Gold in New Scotia.....74
Gold Pen Points.....195
Gold, Production of World 237 266.

Gold in San Francisco.....153
Gold, Value of.....306
Gold, Vein Geology of.....280
Gold on Yellowstone...74, 370
Golden Smelting Works..282
Good Health (See 7th Page Weekly)
Grangers and Mechanics..291
Grapes, to Preserve.....359
*Grape Vine, Santa Barbara.....22
Grapes, Use of.....39
Grass Valley Mines.....310, 408
Gravel Mines, 8, 34, 40, 42, 56, 67, 86, 122, 130, 136, 170, 244, 246, 278, 342, 346, 360, 401 402.
Greasing Wagons.....247
Great Western Quicksilver Mine.....152, 328
Grecian Gardens.....103
*Gum Plants.....13
Gun, the Gatling.....223
Gun, Krupp's.....131
Guns, Use of.....23

H

Hair.....87
Hard Times.....106, 273
*Harrow, The California...238
*Head Block for Saw Mills.....345
Health, Philosophy of.....183
Health, Rules for.....263
Health and Study.....247
Healthy City.....1
Hearing by the Teeth.....39
Heart Disease and Over-Work.....311
Heat.....87
*Heater, Mitchell's.....265
Home Manufacture, Build up.....122
Horse Power, Home Made 359
*Horse Shoe Attachment. 24
Household Economy.....295
Household Receipts (See 7th Page, Weekly)
Hunt & Douglass Process. 360
*Hydraulic Engineering on the Pacific Coast.....376
Hydraulic Mining, Advantages of.....346
Hydraulic Nozzles.....294
Hydro-Carbon Vapors.....228
Hydrophobia or Rabies.....170
Hydrogen in Compound Body.....307, 328
I

Ice, Artificial.....140, 179
Implements, Heavy and Light.....291
Indian Corn.....135
Indiana Mines.....84, 241
Indian Rubber in Burmah.394
India Rubber Stoppers...198
Indium.....83
Ink, Fire Proof.....339
Insect Life.....87
Insect School of Medicine.135
Inventions.....339
Inventions, American.....179
Invention, Wanted 295
Invention, Art of.....259
Inventors, Encouragement to..193, 195, 211, 280, 353
Inventors Among Kings...38
Inventors, Rights of.....338
Iron, American in England.....19
Iron in California.....66
Iron and Steel Trade.....131
Iron in Early Times...135, 180
Iron, Enameled.....195
Iron, Granulated.....131
Iron Handling.....115
Iron, Hot Blast.....195
Iron, Manufacture of.....166
Iron Mines, Locating.....88
Iron, Mineral Oils for.....315
Iron, Nickel.....199
Iron, Preservation of.....323
Iron, Purifying.....371
Iron Pyrites and Fire Arms.....90
Iron, Qualities of.....338
Iron Ships and Rust.....323
Iron Ships, Sheathing, 221, 323
Iron for Specific Purposes.119
Iron, Strength of.....115
Iron in Snow.....227
Iron in Utah.....232
Iron, Varnish for.....235
Iron Works, Globe.....374
Iron Works in Salt Lake..198
Irrigation.....38, 218, 230

J

Japanese Ware.....253
Jaksville Mines.....242
Joists, Fire Proof.....377
Jumping.....23
Jute Manufacture...230, 259

K

Kitchen Furniture.....7
Kustel's Furnace (See Furnace)

L

Lahor School Question 134, 186 393
Lake District.....278
*Lake Tahoe.....73
Lamps, Safety.....51
Lamp Wire Gauze.....193
Lancha Plana Mines.....314
Land Measurement.....327
Lands, Public.....90
Lathe Dogs.....339
Leaching Process.....86
Lead, Assay of.....122, 221
Lead, Impurities in.....19, 243
Lead Pencils.....215
Lead Poisoning.....311
Legislature, Meeting of..342
Lemons, for Health.....71
Lens Fire.....387
Letters, Writing of.....162
Leveling Rods for Surveyors.....153
Lick Observatory, 232, 261, 268 273, 286.
Lida Valley Mines.....266
Life, Prolonging.....102
Life, Zone of.....291
Light and Health.....199, 233
Lightning, Protection by.....131
Light Measuring.....131
Light, A Powerful.....387
Light, Velocity of.....115
Lincoln Mine Disaster.....115
Little Cottonwood Mines, 162 178, 300 323
Liquids, Rotation of.....3
Lockwood District.....183
Locomotives, American, 40 115, 211.
Locomotive Construction.115
Locomotive, Fireless.....211
Locomotive, Gas Burning.37
Lower California Mines 6, 321 377.
Loyola Scientific Academy.375
Lubricator, Parshall's.... 41
Lubricants, Testing.....243
Lumber, Supply of.....353

M

Machinery, American at Paris.....323
Machines, Construction of.24
Mad Dog, Bite of.....161
Magnets, Artificial.....67
Manufactures in Mining Towns.....248
Manufactures in U S.....230
Manufactures in S F...150, 362
Manganese and Nickel.....211
Map of California 261
Map of Mines.....241
Marble, Artificial.....171
Mechanical Movement, New.....35
Meetings and Elections, 32 48, 64, 85, 124, 136, 156, 176 192, 217, 252, 281, 300, 328 372, 396.
Mercury in the System...307
Metals, Casting.....227
Metals, Origin of 122
Metals, Supply of.....19, 106
Metals, Treatment of.....147
Metalliferous Mines of Wales.....314
Meteore.....179
Mexican Grants.....6, 369, 393

Mexican Mines.....6, 137, 338
Microscope, Test Plates for.....291
Microscopical Society.....121
Milk, Artificial.....162
*Milk, California in Europe.....353
*Mills, Dry Crushing.....153
Mill, the Richards...314, 354
Mill, the Franklin.....370
Mills, Good Work at.....216
Mill, International....332, 370
Mill Miners Owning..360, 392
*Mill Men, Suggestion to 161
Mill, Paul's.....72
Mill, Meadow Valley.....402
Mill, New Quartz.....338
Mill, Rose's Horizontal..146
Mines, Abandoned.....56, 262
Mines, American in London, 264, 266, 274, 360.
Miners' Association of Colorado.....313
Miners, Chinese.....202
Miners' Inch of Water.. 313
Mines and Foreign Owners 274
Mines, Mortgaging.....274
Mine, a Rich.....202
Mines, Security in.....216
Mineral King District. 265, 288 322
Mineral Lands in Cal..370, 394
Mineral Land Decision..84, 90
Mineral Oils for Iron.....315
Mineralogical Notes...132, 170
Mine, Value of a Good One.....273, 282, 313
Mines, Ventilation of.....147
Mining Appointments.....40
Mining Claims, Surv'ng 325 392.
Mining Commissioners' Report.....305
Mining Decisions (See Mining Suits)
Mining Discoveries, 9, 42, 31 72, 101, 161, 178, 185, 244, 346 378.
*Mining Districts of Utah..217
Mining Dividend..21, 37, 84, 132 164, 228, 244, 284, 308, 324, 356 372, 385, 3-8.
Mining Engineers.....65, 123
Mining Interests..214, 320, 354
Mining Interests, County Aid to.....354
Mining Laws of U S....353, 386
Mining Law Suits.....39
Mining, Lecitimate.....330
Mining and Occult Science.....185, 249
Mining, Romance in.....358
Mining Stocks.....250, 266, 354
*Mining Scene.....129
Mining School...8, 88, 130, 206
Mining Stock Decision, 196 310.
Mining Swindles in Utah, 161 177, 258, 376.
Mining Suits, 9, 40, 49, 88, 133 190, 213, 234, 295, 346, 355 363, 369, 393.
Mining Town, Manufactures in.....248
Mint in S F.....3
Mints, Making.....23
Montana Mines.....234, 322
Monopolies and the People 390
Moon, Heat of.....179
Motor, a Cheap.....259, 275
Mountain Kitchen.....191, 97
Mount Whitney, Altitude of.....97, 129
Mountain Lake District...178
Mountain Scenery of.....83
Mullins & Ryan Claim....170
Muncey Creek Mine.....122

N

*Napa Insane Asylum...321
Narcotics.....362
Narrow Gauge Roads...38, 154
Navigation in a Fog.....186
Nebular Hypothesis.....227
Nevada Bank Failure.....310
New Zealand Mines.....274
Nickel.....19, 101, 211, 321
Nickel Mine.....101
Nickeliferous Sand.....227
Nitro-Glycerine, Power of 195
Nitrous Oxide Gas.....35
North Bloomfield Mines...2, 4
North Star District.....178
Notes on Mining Claims in Mines, 18, 34, 50, 66, 82, 98 114, 130, 146, 162, 179, 194, 226 242, 258

O

*Oak, A Pertinacious
Oat Meal in Drinks...167, 215
Observatione at High Elevations.....296
Observatory, Lick.....311
Olive Oil.....23
Opium, Effects of.....211
Opium, New Variety.....119
Ores, Base at Virginia City 354
Ore Sampling Works.....364
*Ore Feeder, Marsh & Cusenbery.....91
Ores and Metals, Weight of.....311
Ores, Treatment of.....147
Oroville Mines.....322
Oxygen a Commercial Product.....131
Oxyhydrogen Light.....243
Ozone.....402

P

Paddle Wheels, Improved 13
Paint.....10, 343
Paint, Fireproof.....354
Panamint Mines 72, 137, 169, 326
Pan Amalgamation. Chemicals in.....266, 274, 290, 305
Paper in the Arts.....210, 295
Paper Decoration.....343
Paper for Greenhouses.....227
Paper Hangings, Cleaning 247
Paper Hangings, Metal.....370
Paper Pulp, Utilizing.....339
Paper Manufacture..275, 307
Paper from Wood Pulp...387
*Palmer's Power Spring Hammer.....401
Patent Congress.....145
Patent Decision.....328
Patents, Recent (See List of Patents)
Patents for Simple Things 361
Patent System of U S.....225
Patent, To Obtain 225
Patents, Value of Foreign.129
Persons of Industry, 280, 281, 296.
Paste for Wall Paper.....391
*Peare, California.....41
Peat.....239
Perfumes.....119, 263
Philadelphia District.....242
Phosphor Bronze.....211
Phosphorus.....7
Phosphorus as a Nerve Tonic.....359
Photographic Items..35, 387
Pen Machine.....261
Pioche Mines, 73, 146, 162, 282 370, 378.
Pioneers of El Dorado Co. 333
Placer Claim, History of...118
Placer Mines (See Gravel Mines)
*Plants, Beverage.....102
Plants as Doctors.....375
*Plants, Gum.....343
Plants in Rooms.....263, 274
Plants, Variation in.....3
Plants, Watering.....167
Platinum, Fusion of.....371
*Plow, Napa Gang.....291
Plumas County Mines, 130, 202 378.
Polson, a New.....24

Polaris Expedition...200, 282
*Polar Regions...195, 200, 289
*Pope Valley Quicksilver Mines.....89
Popular Science.....54, 78
Porter, Invention of.....210
Poultry, Cooking.....343
Power, Loss of.....83, 275
Prehistoric Remains.....299
Printing Press, Angsberg. 89
*Pulley, Self Adjusting..297
*Pump, Sluthour.....25
Pump Bucket Plunger....395

Q

Quicksilver.....6, 88, 152
*Quicksilver, Appliance for Saving.....161, 305
Quicksilver, Cleaning.....137
*Quicksilver Condenser, Fiedeler's.....305
Quicksilver Consumption.241
Quicksilver Discoveries. 42
149, 161, 166, 281, 282, 298, 342
Quicksilver Extraction, 120 154, 210, 226, 242, 243, 248, 262 271, 305.
Quicksilver in Sonoma Oo 152 166, 342.
Quicksilver in Colusa Co 281 326.
Quicksilver in Lake Co 152 328.
Quicksilver in Monterey Co.310
Quicksilver in Napa Co 152, 325
Quicksilver in San Bernardino Co.....166
Quicksilver in San Luis Obispo Co.....102
Quicksilver Monopoly....314

R

Railroad, Center Rail.....307
Railroads in Central Amer 330
*Railroad, Clay Street..200, 201
Railroad of the Future...181
Railroad, Narrow Gauge, 133 153.
Railroad, Nevada Central, 232
Railroad, San Joaquin Valley.....232, 250
Railroads in South Am....122
Railroad Speculators, Fall of.....200
Railroad Speed.....195
Railroad Ties.....131, 407
Rails, Teeting.....246
Railway Wheels.....163
Railway, Wooden.....246
Rainfall, Use of.....155
Resins.....55
Reese River Mines.....258
Retribution.....337
*Road Scraper, Blodgett's 81
Robinson District, 170, 326, 354 358.
Ropes.....23
Ruhy Hill Mine.....358, 394
Run, A Good.....216

S

Salmon River District....122
Salt Manufacture.....134
San Bernardino Mines..86, 166
San Diego Mines, 2, 124, 266 363, 402.
San Francisco and Int'or. 25
San Gabriel Mines.....293
San Jose Mine.....370
San Luis Obispo Mines....102
Saponification.....3
*Sash Holder, Sprague's..369
Savage Mine Report.....284
Saw, Diamond.....311
*Saw Mill, No Plus Ultra..210
Saws, Old.....55
Saw, Power Discoveries. 42
Saw, Velocity of.....103
Science, Dictionary of...105
Screws, Drawing.....315
Sedatives, Danger of.....327
Separating Wood Co.....254
Serainy Works in Belgium 262
Sewage Process.....99, 179
Sewer Gas, Suppression of 227 403
Sexes, Production of.....103
Shaping Machinery.....115
Sheba Mine.....386
*Side Board Adjustable...65
Sierra County Mines.....386
Sierra, Scenes in....374, 405
Sierras South of Mt Whitney.....305
Signal Service, 115, 146, 174, 225
Silk Worm Eggs.....417
Silver Bars.....210, 226, 290
Silver Lead.....250
Silver as a Legal Tender....298
Silver Mines.....242
Silver Product of World...234
Silver, Value of.....308
Skin Diseases.....183
Slang, Interesting Powers of 311
*Skull, Dissected.....313
Slag, Utilization of....179, 199
Slate, Liquid for Roofs...371
Sleep, 87, 167 183, 215, 247, 327
Smelting Works 6, 86, 178, 250 282, 358.
Smelting Works in Utah.. 86
Snow in S F.....361
Soaps.....3
Soda Gathering.....105, 338
Soil, Science of.....185
*Sonoma of California....345
Solar Heat.....51
South American Mines, 102 153, 322, 326.
Spain, Mineral Resources of.....342
Specialties.....231
Spectrum Analysis.....265, 268
*Spice Plants.....54
Spiritualism and Mining. 185 249.
Stammering.....343
Starches, Edible.....146
State Fair, 137, 163, 183, 204 210, 233, 236.
Steam Cars.....137
Steam as Auxiliary.....329
Steam as Fire Extinguisher.. 35
Steam Pipes, Covering....343
Steam by Solar Heat.....3
Steel.....4, 83
Steel Boilers.....387
Steel in Early Times. 135
Steel Iron.....307
Steel, New Process for Making.....307
Steel, Surface Hardening. 99
Steel, Tempering.....259
Steel Tires.....195, 307
Stickeen River Mines 346, 386 390
Stimulants.....362
Stock Broker.....310
Stoves, Cast Iron.....371
Stove, Fire Proof.....179
Stove for Railroads.....5
Straps, Punching Holes in 375
Study and Health.....215
St John's River.....310
Sugar Beet.....294, 358
Sugar, Cheap.....307
Sugar, Consumption of.....10
Sugar Trade of Cal 196, 252, 294
Sulphuric Acid and Weeds 279
Sulphur and Iron Pipes....35
Sun, Constitution of...67, 291
Sun Heat, Source of.....195, 307
Sun, Variable Size of.....83
Sutro Tunnel, 246, 282, 290, 296
Tailings Mill at White Pine, 322, 354.
*Tarantula and Nest.....281
Tea.....39, 119, 231
Tea Adulterating.....23
Tecumseh Co's Mines.....314
Teeth, Care of 119, 247, 279, 391
Telegraph, Atmospheric..243
Telegraphy, Inventions in 291
Telegraphing Maps and Plans.....373
Telescope Glasses.....307
*Telemeter, An Improved 13
Temperature of Earth....343
Temperature and Labor..327
Testing Machines.....371
Thanksgiving.....312, 344
Tidal Power.....131

Timber, Duration of.....394
Tin.....210
Tin in Australia.....179
Tin Swindle in Lake Superior.....104
*Timonsne, the California. 313
Transit of Venus.....211
Transportation, Charges of 181, 192, 278, 288
Treasure Hill Mines .162, 342
Trees, Measuring Height of 279
Trichinae.....343
Truckee District.....194
Trout Creek Mines.....234
Tunnel, The Diamond ..326
Tunnel Under English Channel.....403
Tunnel, the Hoosac....353, 411
Tunnel, The Sierra Madre 34
Tunnel, The Sutro (See Sutro Tunnel)
Tunnels of the World 338
Tuolumne Canon 214
Tuolumne Co Mines...101, 342
Typhoid Fever.....103, 231
Type Setting Machine.... 26

U

Umber.....74
University of Cal.....41
U S Quicksilver Mines....390
Useful Information, (See 7th page, weekly.)
Utah Mines, 40, 42, 87, 118, 120, 161, 162, 178, 194, 214, 277, 226 232, 294, 300, 326, 390, 395
Utah Silver and Lead Co...120

V

*Valve, Balanced Slide.... 57
Vapor Power.....153
Vaseline.....355
Vegetable Food.....71
Vegetable Glue.....279
Vein Formation 26, 74, 274, 280 291.
Vein Matter.....105, 152
Ventilation of Mines.....147
Vibrations in Machinery.. 51
Vienna Expedition, 2, 34, 57 82, 92, 93, 130, 193, 234
Vinegar, Cheap.....71
Virginia City Explosion. 9, 24
*Virginia and Gold Hill Water Works.....376
Virginia and Truckee R R. 54
Visalia Mines.....266

W

Wales, Mines in.....314
Wages in Australia.....394
Wall, A New Kind of.....323
Wall Paper, Poisonous....234
Washing and Bleaching..389
Washing Compounds.....182
Wasp Power.....23
Waste, Prevention of.....178
*Water Heater, Portable..137
Water, Excessive Use of..281
Water, Hygienic Properties of 359
Water Project.....42
Water, Purity of.....355
*Wharves in S F.....361, 378
Wheat and Health.....398
Wheat Measurement.....71
Wheat Production.....12, 297
White Lead Manufacture 215
White Pine Mines, 82, 87, 114 130, 162, 216, 262, 313, 314, 324 342
Whooping Cough.....7
Willow Creek Mines.....315
Wind, Force of.....23
Wind as Motor.....243
Wind Pipe, Human.....135
*Wind Mill, The Dexter...193
Wire Ropes.....
Wire Manufact of Nevada.182
Wood, Resistance to Strain 263
*Wooden Water Pipes....161
Wyoming Mine.....216

Y

Yakima Mines.....312, 326
Yellowstone Country, 73, 147 218, 378

List of Patents

And Trade Marks Issued to Inventors on the Pacific Coast.

Adding Attachment, G. Lindermoos.....25
Amalgamating Pan, Ira S. Parke.....23
Artificial Stone, Process of Manufacturing, E L Ransome.....412
Apparatus for Compressing Dust Certain Liquid to State, Horace W Barnum.....412
*Attachment for Horse Shoes, R K. Jordan.....25
Bed Bottom, C. V. B. Reeder.....41
Bee Hive, G. Muller.....252
Beer Drawing Attachment for Casks, W. Jobst.....124
Blow Pipe, J. E. McClure.336
Boats, Flexible Vertically Extensible Attachment for, J R Adams.....233
Boiler and Furnace, F. A. Huntington.....73
Bolt and Rivet Machine N. Beauregard.....169
Boots, Pegging Tacks for 73
Box Crimping Blocks, Bordner & Sullivan.....135
Bottle and Can Clamp, J. N. Carter.....9
Bottle Corking Machine, J. Armstrong.....231
Bourbon Whisky, E A Fargo & Co.....412
Box Former, C. W. Cowan.....233
Boxes, Machine for Making, G. W. Swan.....169
Brake, Reactionary Movement, H. H. Martin.. 9
BreastPlate for Blast Furnaces, R. A. Fisher.....89
*Bridge, Truss, Bannister 49
Brush and Broom Inserter, Van Laak & Gillespie.. 73
Burial Case, J. B. Cox....264 and 345.
Cam for Stamps, J. M. Thompson.....25
*Can and Faucet, Hammond & Mygatt.....225
Candlestick, S. D. Hill...169
Candle Guard, S. Morgan 59
Car Axle Box, W J L Moulton.....396
Car Coupling, R. B. Buckner.....137, 345
Car Coupling, M. Divney ..25
Car Coupling, Taylor & Withington.....220
Carpet Cleaner, J. Spaulding.....105
Catch Lock, A. M. Williams.....105
Cleaner & Crusher, Grain and Malt, Nicholas Thielan.....412
*Clothes Line Reel and Tightener, J. Brizee....105
*Coal Screen and Chute M. R. Roberts.....145
Cobble Stone Facing Machine, L. Dutertrs.....169
Oobble Stones, Machine for Cutting, Lombard, Terrell & Newell.....384
Compound for Cleaning Metels, W. Z. Moore....336
Compressing Air, Apparatus for, R. S. Pardee..231
Construction of Tunnels and Sewers, G. Knoll..313
Cooking Furnace (2), H. Engleman.....137
*Cooking Range, J. H. Mitchell.....37, 265
Coupling for Gas and Water Pipes, W. Kilburn....73
Dental Fillings, Charles E Blake.....412
Devloe for Detaching Horses, S. Sykes.....264
English Patents.....73
Engine, Steam and Air, Frank J Cronch.....412
Egg Carrier, F M Wade...396
Fastening for the Seating Rails or Sashes, M. Gee.137
*Feed Screws, Divided Nut for, F. A. Hunting-ton.....281, 345
*Filter, Prosper Huenie..177
Fly Trap, Packard & Standish.....380
Fruit Box, O. W. Weston 73
Fruit and Berry Basket G. W. Swan.....169
*Furnace, Mcgilew's..10, 65, 73
Gas, Manufacture of, W. H. Sterling.....220
Gate, E Hickman.....396
Glove Fastener, Letitia Ferris.....336
Governor Cut Off Gear, H. H. Meyer.....185
Governor for Engines, J. Hendy.....41
Grain Separator, S. Daw..380
Hand Wagon, S. D. Scott 169
Harness Attachment, Crowell, Tillman & Vandenburg.....169
Harrow, P. N. Woodworth 9
Harvester and Thresher J. H. Adamson.....41
Hay and Grain Unloader, W. J. Palmer.....137
Heater and Blower, W. M. Jackson.....185
Horse Hoy Fork, S. B. Ferris.....153
Horse Shoe, R K Jordan..396
Hose Coupling, W. Killburn.....261
Hydraulic Jack, A. F. Ojeda.....105, 152
Hydraulic Hoist, T Stehine.....73
Hydraulic Hoisting Apparatus, P. Hinkle...41, 494
Hydraulic Motor, W. Walter.....159
Incrustation, Preventing in Boilers, R. A. Fisher 25
Ingot Mould, John Fair..368
Kindling Wood Cutter, N. Sonnischen.....25
Kettle and Pan Scraper, E. J. Whitman.....204
Laundry Stove, J. H. Mitchell.....169, 265
Locking Latch for Doors, Machine Combined, J Hyde.....264
Lubricator, W. Burnett.. 73
Lubricator, J. M. L. Power.....281
Lubricating Device for Car Axle, W J L Moulton.....396
Machine for Clearing Streets and Sewers, W. F. Ballinger.....233
Manufacture of Copper Ingots for Alloying Gold and Silver, John Feix..380
Mechanical Key and Symbol for Telegraphs, D. L. Parkhurst.....242, 345
Medical Compound, P. H. Steenhergen.....153, 345
Medical Compound, W. H. White.....25
Metallic Foil for Dental Purposes, C B Blake....412
Mill Pick, M. N. Young..169 345.
Mitre Box, J. P. Tierney..220 345.
Mortising Machine, J. Driver.....25
Motive Power for Sewing Machines, Backus, Sawyer & Loryea.....73
Music, Apparatus for Teaching, L. A. Seward..31
Needle Threader for Sewing Machines, T Schofield.....233
Oil Cloth, Method of Printing, W E Worth....412
*Ore Concentrator, J. A. Peer.....204, 274
Ore Concentrator, Thomas Arstin.....9
*Ore Stamp Feeder, Cusenbary & Mars.....25, 97
Ore Stamp Feeder, Jamea Fair.....412
Ore Stamp, G. D. Crocker 121
Ore Stamp, L. D. Webb..264
Ore Washer, J. A. Peer...204
Paint Brush, S. Standish. 25
Paint, Fireproof, W. H. Devlin 369
Pavement, W. Kilburn. 73
Pan Holder, J. S. Orndorf.....169
Pipe Manufacture, C. L. Feegan.....185
Plow, J. C. Potter.....25
Plow, Subsoil Gang, Chrs. Myer.....124
Porter's Bar, J. Barman..220
Preserving Iron, W. H. Starling.....73
Printers' Leads, Apparatus for Cutting, W. Filmer..220
Process for Purifying Quicksilver, Randal & Wright.....330
Process for making Coke from Lignites, H. Engleman.....73
Process for Separating Silver from other metals T. Wiegand.....396
Process for Softening and Toughening Wood, G W Swan.....169
Pump and Plunger, N P Sheridan.....9
Pump, Rotary, Goodwin & West.....73
Reciprocating Engine, A Sinclair.....204
Refiner for Distilling Apparatus.....73
Road Scraper, R F Reed..289
Rotary Blower, C. Knox 41
Rotating Blanket Sluice for Washing Ores, W H Patton.....169
Saddle for Wire ways, J. Bleasdale.....233, 404
Screw Post for Electrical Purposes, S D Field.....64
Scroll Sawing Machine. M Bannister.....89
Scrubbing Brush, Mop and Wringer, J D Smith 64 404
Shaft Coupling, W J Silver.....169
Shank Laster, W H Hanna.....380
Sheep Shears, A S McWilliams.....25, 404
Shoe Fastening, Fitch & Jones.....264, 345
Shoemaker's Pincers, W H Hanna.....89
Shoe Uppers, Method of Laying off, C Glanville..313
Table Board, Adjustable, J Tish.....65
Smoke and Steam Burner, Kingman & Burgins.....105
Sole Bedstead, S M Winn..264
Solderine Pots, L Cailing 396
Spring Joint for Watch Cases, J Gordon.....89
Spring Power, T Ebeling.380
Stamp Mill, G S Olin.....169
Steam Engine, A Fraser..105
Steam Plow, J S Allen..380
Steam Plow, P J McDonald.....9, 404
Stirrups, N C Thompson..181
Stool for Offices and Counting Houses, A D Cartwright.....348
Table Leaf Supporter, E W Perrin.....153
Tap, Plug and Faucet, J F Kane.....368
Teeth, Artificial Crown for, J B Beers.....336
Tennoning Machine, W M Sack.....
Top Fuel Tower, N Joseph.....396
Trade Mark, Cons Tobacco Co.....380
Trade Mark, Livingstone & Co.....336
Trade Mark, Newton Bros & Co.....233
Transmitting Time Movement, D. Distant Dials, H J Wenzel.....64
Treating Brick for Pavements, W H De Valin...368
Truss Bridge, A Bannister 89
Tuck Marker, L S Flierton.....89
Tunneling, D C Hacklin.. 73
Type, Wm Shaw.....41, 73, 404
Teapot Keg, G W Swan...153 345, 369
Wagon Spring, E P McCarthy.....380
Washing Fluid, N W Lamb.....105, 345
Watch Chain, Markley & Mathieu.....220, 345
*Water Heater, J S Woolsey.....137
Water Power, W Barnett. 73
Water Wheel and Sewing Machine Combined, J Hyde.....264
Windmill (4) Geo Wood & Bodweel.....169, 220, 252, 368
Windmill, J Hong.....233
Windmill, P F Stewart.... 73
Winding and Fastening, Hawthorne & Scott.....121, 345
Wire Way, Elevated, C E W Bunsier.....137, 404
Wire Way, Elevated, Lanfear & Davis.....220, 345
Work Box, E Hinckley.....220

Incorporations.

Alameda Water Co.....316
Alden Fruit Preserving Co.....217
Amador Canal & M Co.....12
American Ice Co.....372
American Nevada M Co.. 64
Anaheim Trancor'r Co...136
Arcata Mining Co.....396
Antilles Mining Co.....396
Auburn, El Dorado & Forest Hill Road Co.... 32
Bodaretta G & S M Co.. 64
Benjamin M Co.....12
Berkeley Villa Ass.....176
Black Mt Coal Co.....2
Bridgett Road Scraper Co 64
California Butter Co.....372
California College of Dental Surgery.....48
California Olemargarine Co.....204
California Type Founury. 48
Challenge Cons M Co....343
Chariot M & M Co.....316
Clifton Cons Co.....12
Colombia Rive Salm Co.136
Colorado Commercial Ind Co.....272
Consolidated Washoe M Co 396